

The Changing Value of Food:
Localizing Modernity among the Tsimané Indians of Lowland Bolivia

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ABSTRACT

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This dissertation offers an ethnographic account of the contemporary relationships between livelihood practices and food among the Tsimané Indians of the Bolivian Amazon. Because of the multitudinous properties of food, I use it as both a tool and a metaphor to focus my discussion on how a history of development in the region coalesces into new constructions of identity, values, practices, and knowledge for the Tsimané. Through a framework of ‘localized’ modernity, I argue that food and food related processes are not only shaped by broad and indirect forms of development over time, but that they moderate them by formulating the ways in which they take root in everyday life. Understanding contemporary articulations of indigenous identity and cultural constructions is increasingly important to small lowland indigenous groups throughout Latin America, but particularly in Bolivia, where indigenous groups are engaging in new claims over autonomy, land, and resource rights as part of a new “plurinational” state. By offering insight into contemporary indigenous practices and knowledge, I draw attention to the ways politicized ideals of indigeneity in Bolivia can conflict with local ontologies.

Based on over a year of fieldwork, the dissertation is organized into two sections. The first section examines a century of regional shifts that transformed the landscape in which the Tsimané historically reside along with their ability to survive solely from subsistence activities. I situate contemporary forms of livelihood production, specifically logging, within this history in order to highlight how past experiences transform local articulations of the emerging national indigenous and environmental politics of *Vivir Bien*. The second section focuses specifically on livelihoods and food. I call attention to the ways global, national, and regional processes are

experienced, interpreted, and transformed on a local level and through time. I illustrate this in three ways: first, through a discussion of time allotment and the relationship between subsistence activities and cash accruing activities; second, through a comparison of how people think about the domain of food and how they consume food; and lastly, through a discussion of one of the most important cooked foods of the Tsimané, *Shocdye* (beer), and the ways in which changing livelihood activities, conceptions of dietary practice, and social relationships and roles coalesce through cooking and eating.

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CHAPTER 1

LOCALIZING MODERNITY THROUGH FOOD

Sitting in the shade of a palm thatch roof to escape the beating midday sun with Pilar, I asked what had changed in her diet since she was a child¹. Pilar, who is in her late 70s and the matriarch of the Tsimané community in Maraca, sucked the final bits of roasted fish from their bones before picking up a quarter of a roasted plantain. With a full mouth, she answered,

“When I was young there were lots of fruits. We ate *ibiqui* (achachairu, *Garcinia humilis*) and *tsocot* (ocoro, *Garcinia madruno*). There were lots of those trees. But now people cut them down. There is no respect for the trees. There were fish, lots of fish. We ate meat and fish often. But there are none now. We drank *shocdye* (fermented beer) from manioc and *shocdye* from maize. We ate manioc with meat and maize with fish. But we don’t have these things now.”

When I asked her why not, she answered, “There are too many people here.” When I asked her, “What people?” She responded, “*Napos* and *Kollas*”—referring to local Spanish speakers and to highland migrants, respectively. When Pilar speaks of diet change, she not only references a change in ingredients but also makes a connection between food and the presence of outsiders. This is not simply a discussion of demographic changes, but rather points to the larger social, economic, political, and environmental shifts that these “other” people represent. Although institutional development has never been directed at the Tsimané, over the last century, regional development has augmented the local population and brought with it an expanded market economy, the ranching and logging industries, labor opportunities, and changing local biodiversity. With more incentives to participate in the local market place and reside closer to

¹ With the exception of elected officials, all names are pseudonyms.

town, Tsimané settlement patterns have changed and permanent communities have emerged. A larger population made up of non-indigenous lowland residents, mestizos, highland migrants, and Tsimané now live within a more confined area. Changes in natural landscape as well as the social, political, and economic dynamics of the region have led to shifts in the cultural processes, such as the changes to diet that Pilar eludes to.

This dissertation looks at the ways in which broad and indirect forms of development are incorporated into the contemporary formulation of ideas, values, and practices of the Tsimané Indians of the Bolivian Amazon. Specifically, I examine the relationship between changing livelihoods and the conceptualization, production, and consumption of food among the Tsimané. Because of the multitudinous properties of food, I use it as both a tool and metaphor to focus my discussion of how a history of development in the region coalesces into new constructions of identity, practice, and knowledge for the Tsimané. I achieve this in three ways: first, by focusing on contemporary livelihood practices, I am able to show how the production of food and a desire for commodities are achieved through a dual economy that regularly includes both subsistence practices and cash accruing activities; secondly, by highlighting the ways in which Tsimané conceptions of food include a wide variety of forest produced foods as well as commodities purchased in the market, I reveal how a diet consisting of limited components continues to maintain significance through the preparation of particular dishes and the continuation of forest based activities; and lastly, through a discussion of *shocdye*, Tsimané beer, I demonstrate how new livelihood practices are ingratiated into the production and consumption of culturally important materials and how, despite changing ingredients, the cooking and consumption of particular dishes serves to maintain gender roles as well as inter and intra household relationships.

While other studies have focused on Tsimané food consumption in terms of nutrition and health (see for example Byron 2003; Godoy et al. 2005b; Hooper 2011; Marki 2012; Rosinger forthcoming), I illustrate how seemingly unrelated regional changes affect contemporary Tsimané life by examining the extensive social contexts through which contemporary Tsimané conceptualize food, produce food, and consume food. I argue that unfolding practices of “diet” are as much about available materials and production as they are about conceptions of food. Market commodities and cash crops heavily influence the components of the modern Tsimané diet. Yet ideas about diet reflect historical subsistence practices heavily grounded in forest resources and related customs, and continue to shape how food is processed, distributed and consumed.

Using the framework of a ‘Localized Modernity’ I call attention to the ways global, national and regional ideas and processes are experienced, interpreted, and transformed on a local level. I show that those on the periphery of national or international development initiatives feel the repercussions of these agendas over time through unanticipated avenues and are forced to deal with them in unexpected, often controversial ways. By addressing the ‘localized modernity’ of the Tsimané, I offer an ethnographic picture of what it means to be Tsimané today and contextualize contemporary practices within a long history of interactions with outsiders. Instead of binary oppositions between traditional and modern, this approach highlights what emerges through the new forms of resistance, negotiation, and interaction for survival in a threatened environment.

Understanding contemporary articulations of indigenous identity and cultural constructions is increasingly important to small lowland indigenous groups throughout Latin America, but particularly in Bolivia, where indigenous groups are engaging in new claims over

autonomy, land, and resource rights. By offering insight into contemporary indigenous practices and knowledge, I draw attention to the ways politicized ideals of indigeneity in Bolivia can conflict with local ontologies. In the context of a changing Bolivian forest landscape laden with political debates over the rights of indigenous peoples and the exploitation of natural resources, understanding how small lowland indigenous groups approach past knowledge and practices in relation to present can help to inform contemporary discussions of forest stewardship and livelihood activities.

In this chapter, I offer a brief introduction to the Tsimané. Then I review current debates over nature and indigenous identity in Bolivia and highlight the contradictions experienced by lowland indigenous groups such as the Tsimané. I make a case for using ‘localized modernity’ as a framework for analysis by demonstrating the importance of understanding how contemporary values and practices for indigenous peoples are formulated. Subsequently, I discuss how food, in the broadest sense, provides a useful lens for articulating the ‘localized modernity’ of the Tsimané. Finally, I briefly describe the methodological approach to the dissertation and outline the following chapters.

THE TSIMANÉ: A BRIEF INTRODUCTION

Early scholars describe the Tsimané as a population of between 2,000 and 3,000 people that is comparably more isolated than their neighbors, the Tacana, Yuracare, Moxeño and Movima groups (Metraux 1948; Nordenskiöld 1924). These ethnographies describe the Tsimané

as hunters, fisherman, and agriculturalists with a rich mythological and shamanistic tradition.² As agriculturalists, they demonstrated high diversity in cultivation by raising sweet potatoes, papaya, cayenne pepper, watermelon, *hualusa* (*Colocasia esculenta*), cotton, tobacco, gourds, *binca* (*Passiflora tribola*), and *chi papaj* (*Mikania sp.*), in addition to their staple foods manioc, maize, and banana (Metraux 1948). The Tsimané are also described as avid fishermen and spend significant amounts of time fishing and using a variety of tools and techniques including hooks, nets, bows and arrows, and poisonous roots (Metraux 1948). This relationship with fishing links the Tsimané inextricably to the Maniqui, Apere, and Quiquebey Rivers, near which they settled and relied on for subsistence and travel. Within the larger population, individual households resided in their own homes and were clustered in small groups throughout the territory, each governed by its own family leader. As small bands, these extended families practiced semi-nomadism by moving during the wet season to visit other families and look for better hunting and fishing.

Today, there are about 10,000 Tsimané living in approximately 125 communities (Luz 2012).^{3,4} Many of these permanent settlements have ten or more households, government sponsored schools, access to health care, and/or are located close to the road or to town. These communities are located in the Yucuma, Ballivian, and Moxos provinces of the western Department of Beni. In addition to their traditional lands, the Tsimané have begun colonizing

² In recent years, two large anthropological projects continue to function in the region. The first is the Tsimané Amazonian Panel Study (TAPS), which from 2002 to 2010, TAPS carried out a multi village panel study looking longitudinally at a wide range of factors in Tsimané life. The second is the Tsimané Health and Anthropology Project Sometimes referred to as the Tsimané Health and Life History project examines aging, health and disease. In addition to research, both projects have an applied/ development component.

³ According to the national census of 2001, the Tsimané number about 8,000 people (Census 2001).

⁴ There is no third party verification for this number, it is estimated based on population growth patterns. I suspect in the current political climate it is advantageous to claim larger populations for indigenous groups.

new areas in the eastern part of the department of La Paz because of better hunting and foraging lands (Huanca 2006). The department of Beni reaches from the border of the department of La Paz in the tropical Yungas Mountains to the Bolivian border with Brazil. After Santa Cruz, it is the second largest province in Bolivia. Dense rainforest, savannas, and extensive cattle ranches characterize the department's landscape. Tsimané live in protected forests (*Forestall Chimane*), indigenous areas known as *Tierra Communaria de Origen* or TCOs, and non-designated areas. These areas include the *Territorio Indígena Tsimané- Chimane (TICH)* most commonly known as the TCO Tsimané, *Territorio Indígena Parque Nacional Isiboro Sécuré (TIPNIS)*, *Territorio Indígena Multiétnico (TIM)*, *Territorio Indígena Pílon-Lajas* and the *Estacion Biologica del Beni*. Most Tsimané live in the TCO Tsimané (Ringhofer 2010). The TCO Tsimané is over 401,300 hectares of land and was granted to the Tsimané in 1996.

Tsimané groups living up and down the Maniqui River (where this research is based) participate, or do not participate, in market-oriented activities in different ways. As Luz points out, in some remote Tsimané areas small communities have limited or no access to cash or barter and continue to live in small kin groups (2012). Godoy reports that 16 percent of Tsimané households have no monetary income at all (2010). Most Tsimané continue to rely on agriculture, fishing, hunting, and gathering for subsistence but many now also regularly engage in day labor and other forms of cash accruing activities. Those in communities that not only have greater access to the market, but also have felt the impacts of larger development initiatives in the region, are turning more frequently to the commodification of forest resources and cash cropping as regular forms of livelihood procurement. However, some forms of forest commodification such as logging, are often met with opposition from Tsimané, local, and

national authorities. Idealized conceptions of what it means to be indigenous in lowland Bolivia and specifically how lowland populations should use the forest dominate these criticisms.

MAP 1.1- MAP OF BOLIVIA



NATURE AND INDIGENEITY IN BOLIVIA

In 2005, Evo Morales was elected president of Bolivia. Morales's election marked the first election of an indigenous person in Bolivia, but it also ended two decades of neoliberal policies. These neoliberal policies had privatized national industries and encouraged foreign investment in natural resource extraction and exportation, which led to widespread inequalities in wealth and poverty (see Healy and Paulson 2000). Beyond the neoliberal regimes, Bolivia's wealth of natural resources, particularly gold and silver, have been exploited by foreign markets for centuries. Morales's victory brought with it promises of state sovereignty, social inclusion for indigenous peoples, new forms of wealth distribution, and control over the futures of natural resources such as silver, lithium, iron ore, gas and forests (Gustafson and Fabricant 2011).

In Morales's "post-neoliberal" Bolivia, a new constitution was ratified in 2009, which officially changed the name of the state to the *Estado Plurinacional de Bolivia* (The Plurinational State of Bolivia). As part of this plurinational state, the constitution recognizes the autonomy of 36 indigenous groups and languages by allowing them to apply for tribal funds and represent their interests in political debates. New forms of state governance and education promise to decolonize state practice and ideologies that are the results of centuries of racism and marginalization. Historically marginalized indigenous groups as well as *campesinos* and *originarios* (a term used to distinguish groups from past notions of indigenous or *campesino* but also as a way to make territorial claims throughout Bolivia) are included in decision making within the state. New funding initiative and political programs, including regional expansion of utilities, target indigenous groups and indigenous areas previously isolated from national development (Gudynas and Acosta 2011).

Through constitutional reform, the concept of *Vivir Bien*, broadly meaning to live well, was institutionalized (see *Artículo 8, Nueva Constitución Política del Estado*). *Vivir Bien* is a criticism emerging from Latin America, particularly Ecuador, of classical Western development theory. *Vivir Bien* aims to decolonize Latin American states from exploitative neo-liberal development models by offering alternatives to development that reflect an Andean and indigenous cosmo-vision of the world (Gudynas 2011). In Bolivia, three of the ways it achieves this are: by formulating a stronger sense of citizenship and political participation from the 36 indigenous groups, most of which are located in the Amazonian lowlands; by promoting sustainable interactions between the people and nature—*Vivir Bien* understands a communal and balanced relationship between people and the earth, specifically *pachamama* (the Andean concept of mother earth) (De Angelis 2011). For example, through the Law 071, called the Law of Mother Earth, nature is given rights. These rights are about maintaining ecosystems through communities, not about individual gain and exploitation (Acosta 2010); And lastly, by nationalizing natural resources. As a way to equally distribute national wealth among different areas of society, state control of natural resources lies at the center of Morales's *Vivir Bien* program. It is in the intersection of indigenous autonomy, respect for nature, and the nationalization of natural resources that the contradictions have arisen. Postero points out that the blending of these ideologies and strategies sometimes has contradictory results. There is a tension between indigenous groups pushing for rural development and members of the economic ministry pushing for hydrocarbon exploitation and industrialization (2010).

This relationship between indigenous peoples and state controlled natural resource management shapes contemporary political debates within Bolivia. But as Perreault and Green argue, contemporary claims of indigeneity increasingly express political claims and positions

that are not ethnically confined. They assert, “Indigeneity in contemporary Bolivia is not *only* an ethnic marker but it intersects with, and is mutually constitutive of, socioeconomic class and geographic region, serving to articulate diverse subjectivities and political claims” (2013: 48). These multiple forms of articulating and manipulating indigeneity lead to what Tsing describes as “friction: the awkward, unequal, unstable, and creative qualities of interconnection across difference” (Tsing 2005:3). As Postero explained, these new claims of indigeneity restructure racism towards white or mestizo lowlanders and have continued towards lowland indigenous groups (n.p.).

After the 1952 revolution, the words “indian” or “indigenous” were abolished and were replaced with *campesino* to refer primarily to highland peasants. As a result, for almost half a century, *indigena* largely referred to lowland indigenous groups living primarily subsistence based lifestyles. The mobilization of indigenous peoples increased in the 1990s following neoliberal reforms. Indigenous peoples from across the lowlands made claims for cultural recognition and territorial rights. Albo avers that although these protests were directly related to the emergence of a new ethnic awareness for lowland indigenous peoples, these politics also stressed the importance of generalized rights and recognition for all indigenous peoples (1994). This emphasis on indigenous visibility and rights for the lowland dwelling peoples also resonated with indigenous peoples from the highlands and generated broad national support (Roper 2003). As lowland and highland ethnic movements cooperated with each other, the term “indigenous” became more widely circulated (Weber 2012). Protests led to multiple reforms to the constitution, including the expansion of citizenship to all Bolivians, including indigenous peoples, through the declaration that Bolivia is a multiethnic state that includes all ethnic groups. Subsequently, in the 2001 census, 62 percent of adults in Bolivia self identified as being

indigenous, 66 percent if one included children (Canessa 2007). Until the 2001 census, the primary measure for indigeneity was the ability to speak an indigenous language. But in the 2001 election, the category of *mestizo*, referring to people of mixed race but those not considered Indian or white, was eliminated (Canessa 2007).

Despite these multicultural advances, ethnic inequality has persisted and has even been augmented by neoliberal reforms and thus led to further protests. In the wake of these inequalities, demographic differences and histories within state politics engaged indigenous peoples from the highlands and the lowlands in different types of political battles (Canessa 2012; Postero and Zamosc 2004). Demands of the highlanders and the lowlanders were different; the former are interested in their political and economic rights as citizens, and the latter are concerned with rights to territory and land (Canessa 2007). Postero argues that the droves of indigenous peoples who protested the 2003 gas wars in the highland city of El Alto were not protesting for rights of indigenous peoples, but rather were protesting as citizens of Bolivia (2007). However, this shift in the highlands, in which large groups of indigenous peoples moved from being on the margins of politics to being at the center of political changes, proved vital to the election of Morales, who as Canessa argues, “Developed a rhetoric positioning indigenous people as the moral guardians of the nation state, best able to defend its natural resources” (2012:13). Morales further positioned indigenous issues against globalization and neoliberal discourse (Weber 2012).

Canessa argues that the indigenous people have been placed in a position where they function as the best defenders of the nation’s natural resources and best advocates for social justice (2006). Indigeneity has become a new form of nationalism because it politically stands for both anti-globalization measures and the rights of indigenous peoples (Canessa 2006, 2012).

Although Morales and the MAS (*Movimiento al Socialismo*) government promote a broad form of indigeneity, there are differences in how various indigenous groups approach nature, capitalist activities, and one another. As I have pointed out, the needs of lowland Indigenous groups are different from those of highland indigenous groups. As a result, there is tension between the social and economic needs of the country as a whole—needs that can be met through extractive industries and the specific social and environmental demands of *campesinos* and indigenous peoples (Farthing 2009). This is particularly poignant in the lowlands where there are continued attempts to extract natural resources without the support of the lowland groups who inhabit those territories. Additionally, these two groups continue to find themselves at odds with each other because highland colonizers are settling in the lowlands. These continued practices create an environment in which the new Morales government is simply recreating forms of colonization and marginalization not dissimilar from those of the past (Laing 2012).

Although MAS is not an ethnic political party, much of its rhetoric builds on Andean scholarship. Although these emerging ideals of *Vivir Bien* would decolonize the lowlands as well as the highlands, there is a continued linguistic and ideological colonization fueled by support for colonizing settlement programs in the lowlands. Indigenous peoples in the lowlands find themselves enmeshed in a variety of contradictory processes. They have been offered political recognition and autonomy, but they also remain under the control of national development trajectories that silence their voices in the name of statewide benefits. Two formulations of these contradictions have emerged in the lowlands. One contradiction rests in the simultaneous ideas of environmental protection and the exploitation of natural resources through gas and oil exploration or the building of roads to facilitate trade (Farthing 2009). One example is in the highly publicized TIPNIS case, where a projected highway would cut through the Territorio

Indigena Parque Nacional Isiboro Secure (Lorenzo 2011; Mendizabal, 2012; Ortiz 2011).

Sponsored by Brazil as part of the Initiative for the Regional Integration of South America, the highway would connect the cocoa-growing region of the Chapare to Brazil by cutting through the indigenous territory and park. Indigenous peoples vehemently oppose the road. Yuracare, Mosen, and Tsimané have argued that a road would destroy wildlife, habitats, and their primary livelihood activities by allow highland colonists to cut further into their territory (Postero n.p.). The government argues that the road will integrate the region and provide transportation for goods. They accuse lowland indigenous groups of standing in the way of national development and the greater good. In 2011, after heavy protesting, Law 180, or the Protective Law of TIPNIS, halted the construction of the road in order to further investigate the matter by calling it an “intangible zone”. It is here that the second contradiction becomes clear. The second contradiction rests in what is considered acceptable national exploitation of natural resources and small scale uses of natural resources for market purposes. In this “intangible zone”, protection of nature takes precedence over all other non-subsistence uses of forest resources. Almost all cash and market driven economic activities, including eco tourism, nut and cocoa harvesting, have been suspended (Bjork-James 2013). In this second contradiction, the autonomy of lowland indigenous groups to practice livelihoods in a manner acceptable to them is deflated and replaced with a stringent definition of protection of natural resources. This approach voids a history of colonization and deforestation by outsiders in the region that has led to market uses of the forest by indigenous peoples to fulfill basic needs for survival. This further revisits the idea of indigenous peoples in lowland Bolivia as isolated or primitive forest dwelling Indians who can rely solely on subsistence based economy.

Gustofson and Fabricant assert that the history of the “Andeanization of Bolivia” in ethnological thinking has continued to marginalize the populations of the lowlands in questions of political, economic, and social discussions of the state (2011: 7-8). This dissertation sets out to contribute to the ethnological knowledge of indigenous peoples of the lowlands by drawing attention to past political, economic, and social engagement, and additionally the contemporary ways in which lowland indigenous groups negotiate and interpret contemporary processes. Although the TIPNIS case has received large amounts of national and worldwide media attention, it is a politically charged and large-scale example that relates to a major development project. Alternatively, the question of what is an acceptable use of indigenous resources by indigenous peoples is discussed not only in national forums, but also locally within indigenous groups. These political debates over indigenous autonomy, livelihoods, and nature are meaningful in the formulation of everyday life in less contentious arenas and not on a national scale. While many lowland Indians, including the Tsimané, continue to rely on the forest for survival, they also have long term interactions with outsiders and with market activities that have reshaped how they produce a livelihood. Understanding contemporary relationships between the forest and capitalist activities offers insight into the variety of ways that the contradictions embodied in philosophies like *Vivir Bien* are negotiated on a smaller scale.

Food accumulation has become a central issue in discussions over the tenability of logging along the Maniqui River. Tsimané approach logging as one type of activity within a larger economic system of livelihood production: logging offers an opportunity to earn cash to afford food and other coveted commodities, but it also assists the Tsimané in regaining control over their forest resources from highland migrants. Yet Tsimané authorities and authorities in town question the implications of the commodification of forest resources and small scale

extractive activities because they are concerned with both environmental sustainability and the significance of emerging national ideals of indigeniety. Similarly to Dove's (2011) discussion of the Kantu peoples in Borneo, in which he debunks the myth of an isolated forest dwelling Indian in order to demonstrate centuries of global market engagement and the ability to regulate it by simultaneously relying on food production, I show that ideas of the Tsimané as dependent only on the forest, not only negates their interest in the market but further negates their history of resistance to outsiders and certain forms of labor relations. Furthermore, to manage both the opportunities and the constraints of *Vivir Bien*, small lowland indigenous groups must fashion their own new public constructions of indigeniety. This discussion of the relationship between food and livelihoods in contemporary Tsimané life highlights how these emerging political forms of indigeniety and natural resource management are debated within small indigenous groups that are increasingly included in the nation in complex ways.

A CASE FOR THE FRAMEWORK OF A 'LOCALIZED MODERNITY'

Despite global connections, experiences on national and local levels define how development takes root (Appaduri 1996). In the case of Tsimané, emerging relationships between livelihoods and alimentary processes reflect formulations of development, with traces to distant worlds, as they are experienced through webs of value, knowledge, and practice related to the forest in which they are situated. This dissertation approaches modernity as a term to describe multiple processes, ideas, and phenomena that may or may not be related to each other, running through a place and time. The 'localized' modernity bypasses assumptions of global connections by looking closer at the local relationships that embody them and the resulting constructions that emerge from their interactions. Ideas of modernity have often assumed a fixed

moment in time in which globalized processes of the exchange of ideas, technologies, materials lead to universal outcomes; in turn, ethnic groups, cultural groups, and nation states look increasingly similar as they engage with what Appaduri refers to as the “megathetic of developmental modernization (economic growth, high technology, agribusiness, schooling, militarization)” (2001:10). Bauman, for example, considers modernity to be the ultimate homogenizing process, in which power structures of the nation state and the global economic system continue to de-territorialize and de-individualize by perpetuating a core and a periphery of power (1990, 2000). Alternatively, the approach of a ‘localized’ modernity points to the process in which broad flows are understood and negotiated by a group of people in a place. It is not a fixed depiction of a place in a moment of time, but instead points to the transitions that shape and are shaped by a group. Through this framework it becomes possible to ask: In what ways has the social history of a locale shaped contemporary relationships? And moreover, what role do historically central ontologies play in the formulation of present day ones?

Although discussions of modernity exploded in the mid 1980s and 1990s, unraveling the conditions of changing cultural forms has not been without precedence in anthropological discussion. Stemming from the Boasian tradition, the theory of acculturation dominated early discussions in the anthropology of indigenous populations and cultural change, specifically in the ethnographies of North American Native Americans (Ervin 1980). Acculturationists expanded empirical questions of the Diffusionists from questions of what results from contact between different Native American groups to questions related to contact between the Western world and Native Americans (Leal 2011). Redfield, Linton, and Herskovits defined acculturations as: “those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact with subsequent changes in the original patterns of either or both

groups” (1936:149). Studies of acculturation addressed a growing interest in anthropology related to peoples “whose modes of life are undergoing or have undergone, extensive change as a result of ascertainable historic contacts with alien cultures” (Herskovits 1937: 259). The goal of acculturation was to move away from ahistorical understandings of culture towards thinking about the dynamics of culture as they were in play. By analyzing culture through a temporal lens, one could draw out relationships between a particular culture, its participants, and other larger forces over time. This idea shattered the notion of studying “uncontaminated cultures” in a vacuum, and drew attention to the power of European nations and other forms of domination in terms of the well being of other populations (Herskovits 1937). As a theoretical paradigm, acculturation offered an explanation of how relationships beyond the confines of a bounded culture play a role in the formulation and reformulation of the materials, beliefs, and practices for both parties. But its critics pointed out that acculturation continued to rely on the idea of a bounded culture, pure and isolated in its original form, by ignoring the possibilities for continuous changes over time or cultural mechanisms for dealing with outsiders and change (Murphy 1964, 1967).

Despite its dislodgement from mainstream anthropology, acculturation continues to be used as a measuring tool to determine how much or how little individuals and groups are in contact with one another (Berry 2003; Dawson et al. 1996; Lopez-Class et al. 201; Sam and Berry 2010). Scholars of the Tsimané have found acculturation a useful framework for unraveling differences in measured variables related to hunting, local biodiversity, health, and market integration between and within different Tsimané groups (Byron 2003; Gueze 2011; Luz 2011; Tanner 2005). While acculturation is useful in measuring particular knowledge or behaviors, it cannot address wider flows of ideas or values. It assumes a baseline from which

actions, materials, or knowledge are decidedly either of the culture or of another culture. Further polarizing is the sliding scale assumption that an individual either is or is not taking part in practices not their own. These measurements can only be understood uni-directionally and only show how one group deals with the influence of another. Acculturation does not allow for the questions of why or how because it is by nature removed from questions of power, resistance, and negotiation.

Alternatively, anthropological theories of globalization, which is defined as “the increasing flow of trade, finance, culture, ideas, and people brought about by the sophisticated technology of communications and travel by the worldwide spread of neoliberal capitalism and it is the local and regional adaptations to and resistances against these flows”, have also addressed the processes of cultural change, but from a broader approach (Lewellen 2002: 8). Berry points out that globalization refers to a complex process that takes place when societies engage in acculturation (2008). Leal explains that while many of the questions inherent to globalization are the same as in acculturation (2011)—namely, how do cultures change as they come into contact with other culture—globalization offers discussions of “hybridization, hybrids and hybridity” as more flexible forms of outcomes. Explanations of this new production of culture and society have been described in a variety of ways. Herskovits developed the idea of “syncretism” to explain why and how some traits remain while others are lost as cultures interact with each other (1966). But just as in acculturation, syncretism assumes a bounded culture with defined characteristics that was moving, through syncretism, to assimilation. Levi-Strauss developed the term “bricolage” to explain how cultures might assemble and reassemble themselves using whatever components or tools they already have to accomplish tasks in new environments under new circumstances (1962). In this case, these components cannot be divorced from their

historical uses and limits their possibilities for recreating the future. “Creolization” is based on the linguistic framework and is used to refer a cultural continuum of interactions in which individuals and groups are trying to identify themselves through their relationships with others (Drummond 1980). Essentially, it is a mixing of cultures that can be assessed at many different points. However, the process of creolization occurs through the birth of a person into a culture along the spectrum and represents particular historical processes of interactions between groups. Creolization, therefore, might be very different for many different types of people (Hannerz 1987). Creolization is often used interchangeably with “mestizaje/mestizo” or “hybridity”. However, when hybridity is used in the contexts of globalization, it often refers to the uses of material or programmatic intentions and how they are reflexively and deliberately mixed with preexisting cultural forms. From the introduction of new processes, technologies, and items, new forms of identity are created (Kapchan and Turner 1999). In the context of Latin America, Cancilli points out that both biological and cultural hybridity have emerged and stem from centuries of colonialism. He argues that hybrid identities and forms of expression, both folk and highbrow art, help dissolve the discriminatory separations between old conceptions of indigenous and non-indigenous and the traditional and modern conceptions (1995). Arce and Long criticize the hybrid model by arguing that a definitive end to the translation of development, that of a ‘hybrid’ form, simply perpetuates the hegemonic idea of creating a definitive subject (2000). Instead, they offer a model of the “mutant” or “mutation” in which the new form of translation is able to recreate itself over time as it interacts with new circumstances and experiences.

As opposed to particular outcomes that can be split apart and deconstructed, for Appaduri, globalization is about what emerges through flows of objects, persons, images, and

discourses moving at different speeds, on different axes, and beginning and ending in different places (2001). Using the term “disjuncture” to describe the variety of flows, Appaduri points out that they can generate different issues in different locales. Alternatively, Tsing describes these disjunctures as “friction” by explaining that new objectives and outcomes are not created through the transfer of knowledge or technology, but rather they emerge from the resistance between the existing set of circumstances and objectives and those of the new (2005). Drawing on these approaches, modernity in this study does not emerge directly from the arrival of different ideas, technologies, commodities or practices, rather it is what emerges when they meet. In the case of the Tsimané, the ways in which they think about food, produce food, and consume food are what emerges as newer flows of people, commodities, politics, and economics intersect with historical flows of ecology and culture.

Modernity is often juxtaposed with tradition and they are assumed to be opposites on a spectrum of societal development. If a society is modern, it implies a break between the old and the new, as if with the emergence of modern society, traditional society disappears. In the late nineteenth century, evolutionary anthropologists and social philosophers understood this binary as a set of unilinear stages or evolutionary paths through which society progressed (see Morgan 1877/1978; Spencer 1883; Tylor 1913). Building on this scholastic course, modernization theory became the impetus for both political and economic development in the mid twentieth century. As an institutional paradigm, modernization theory was proposed by Rostow in the 1950s. Modernization theory laid out a universal evolutionary trajectory by which cultures that were considered “uncivilized” because of their use of tradition could modernize, or become “civilized” (Parsons 1964/1972, Rostow 1960). Rostow’s work proposed that there are five stages of growth that would move a society from traditional to modern. Although modernization

theory gave heed to the existence of cultural values, these valuables were dispensable as society moved lineally into a more structurally complex economy. Inevitably, economics and culture were pinned against each other as if one could not exist while the other survived.

Anthropologists used modernization theory as a paradigm to explain how culture changes, particularly in the global south, emphasizing the importance of cultural values and practices as major influences on economic development. In his work in Indonesia, Geertz uses modernization to explore how two different villages' socio-cultural structures impact the ways that new economic structures are adopted. Yet, the work still emphasizes an evolutionary model by asserting that societies will modernize through economics despite taking different paths (1963). The relationship between modernization theory and institutionalized development agendas has continued to link modernity with discourses of development. Alternatively, Shalins writes, "Tradition is not static, nor is it this way opposed to 'modernity'" (1992/2005: 34). He continues by pointing out that indigenous economies have not disappeared with political and economic development; rather it has risen to the surface. "Tradition," Shalins writes, "is precisely the way the people always cope with circumstances not of their doing and beyond their control, whether acts of nature or of other peoples. Hence tradition has changed in the past, and, by encompassing the goods and relations of the market in its own terms, it could continue to do so" (1992/2005: 34-35).

The conflation of modernization theory and modernity relates to a larger critique of the concept of modernity—that it is considered to be "Western" or "Eurocentric" through its relationship to enlightenment (see for example Habermas 1987). This has been particularly poignant in discussions of the relationship between capitalism and global homogeneity. Early social theorists concerned themselves with the spread of capitalism and wage labor as well as the

resulting unequal yet homogenizing impacts throughout the European world (see Durkheim 1933/1984, Marx 1991; Weber 2003). Through these approaches, money and commodities become disassociated from symbolic relationships between individuals. Dussel, However, refers to this as the “myth of modernity” and points out that forms of modernity have emerged elsewhere, particularly in Latin America, simultaneously with forms of European modernity (1993). Similarly, Wolf demonstrates that the world is made up of a set of interconnected links through which the spread of capitalism has perpetuated the creation of identities in Europe and in areas colonized by European expansionism (1982).

The question of territory, space, and place in the formation of modernity has become central to these debates. Some scholars continue to understand capitalism as such a powerful and homogenizing force of modernity that it is able to remove the idea of place from space. For example, Harvey downplays the importance of cultural values as a threat to the homogenizing impacts of global capitalism by approaching cultural developments as the outcome of economic and political forces (1989). These forces are so powerful that they deterritorialize social groups through the global spread of capitalism (Kearney 1995). Similarly, Giddens (1990, 1991) approaches modernity as global in scope. Through capitalist pressures of production, a centralized state, and media-based communications, modern relations are disembedded from physical spaces. Instead, individuals engage in impersonal social relationships in which cultural values and symbolic influences play little role in identity formation. Alternatively, Taylor explains, “Modernity it is not specifically Western, even though it may have started in the West. It is rather that form of life toward which all cultures converge, as they go through, one after another, substantially the same changes” (1995:30). This means that modernity cannot just be reduced to economic determinism that impacts societies in the same ways globally—this

approach projects ethnocentrism onto everyone else. Instead, material forces, including commodities and economic processes, play a role in modernity but are reformulated differently in different spaces.

In reaction to the deterritorializing of the global approach to modernity, Escobar argues, “There is a need for a corrective theory that neutralizes this erasure of place, the asymmetry that arises from giving far too much importance to ‘the global’ and far too little value to ‘place’” (2008:7). How is place important to modernity? What role does the territory play in how flows of capital, labor, ideas, and commodities move? For many scholars, discussions grounded in place offer a move away from the homogenization of capitalism, globalization, and modernity. The idea of pluralism in modernity offers the ability for different modernities to exist in different places and thus, offer notions of variation in power, agency, resistance, and negotiation. For example, Jean and John Comaroff offer examples of how contemporary rituals and sorcery in Africa are spaces in which modernity can be negotiated and transformed (1993). Phillips offers examples from Latin America that demonstrate the unique relationships between the global and the local through neoliberal policies, which she considers to be the contemporary modernizing force in Latin America (1998). Larkin describes how Hausa people interact with Indian films by engaging them in non-Western conceptions of modernity (1997).

Plural modernities, or micro level ethnographies, have served to move away from the broad and global approach to modernity. Although shifting away from the idea that there is homogeneity in modernity and acknowledging the idea of “multiple modernities”, some still reference Western patterns of modernity as having historical precedence or as basic reference points for these cases (Eisenstadt 2002). Englund and Leach question how the meta-narrative of multiple modernities relates to the practice of ethnography itself as well as Western social

thought in presenting ethnographic examples (2000). By separating out modernities from each other, some scholarship becomes so place centric that it cannot address larger global flows that are experienced elsewhere (Foster 2002; Mitchell 2000). Dirlik critiques this pluralism as a new form ethnocentrism, one in which cultural differences are fetishized (1999). Instead, he argues that modernity is intrinsically linked to Eurocentrism because of capitalism—“the globalization and universalization of Eurocentrism would have been inconceivable without the dynamism it acquired through capitalism, imperialism, and cultural domination” (Dirlik 1999:14).

Furthermore, Quijano argues that in the case of Latin America, these experiences of colonial dominance, conflict and economic exploitation are what inform contemporary practices and sensibilities, but they have lead to something entirely new – a contemporary experience that cannot be compared with the European one (1993).

From this approach there appear to be two extremes in approaching modernity: first, it can be analyzed on a global level where powerful systems depose local diversity (Appaduri 1996; Giddens 1990, 1991; Harvey 1989) and secondly, there are depictions of local modernities, so specific that they serve as reminders of cultural relativism. By acknowledging the importance of capitalism and colonialism, we can understand how these views and approaches are interpreted in various places. So the question remains: how can modernity be described locally, while simultaneously acknowledging larger regional or national processes of change?

Through a framework of a ‘localized modernity’, this dissertation asks what we can learn about larger forms of power and influence through local articulations of modernity? And more specifically, in what ways do contemporary forms of livelihood and related food practices reflect broad and robust forms of regional development? The concept of localized modernity draws upon work by Arce and Long (2000)—work in which they argue that development does not

produce a singular type of modern subject, instead it is contested, negotiated, and reassessed through local sets of socio-cultural values and various forms of engagement to create a ‘localized’ modernity (Arce & Long 2000: 3). Gudyas argues that thinking about alternative modernities in a way that breaks from “Western” concepts of modernity must disengage from development entirely (2011). While Arce and Long’s ‘localized’ modernity centers on institutional and direct development initiatives, I argue that this framework can be applied to areas where change is occurring through indirect development or without development (see Counihan 1984). I propose that the ‘localized modernity’ framework acts as a bridge between the broad global approach to modernity and the micro approach to multiple modernities without being limited by institutional development.

Instead of falling victim to a “local” modernity or a “global” modernity, the ‘localized modernity’ implies a process of modernity in which broad economic and national and international political systems flow through a place by interacting with local agents continuously (Houben and Schremf 2008; Wolf 2001). While acknowledging that it is global flows of peoples, ideas, technology, and commodities that have led to contemporary figurations and identities, this dissertation understands modernity to be a dynamic state of contemporary being that configures and reconfigures ideologies, practices, and values as they interact with each other in a local context. As Knauft puts it: “The alternatively modern engages the global with the local and the impact of political economy with cultural orientations and subjective dispositions.” (2002:24). Through distinct understandings of these flows, modernity plays out differently among different social groups (nation states, ethnic groups, cultural groups) in different locales. I will demonstrate how the modernity of the Tsimané, the contemporary and dynamic forms of knowing, values, practices, and materials, involves the ‘disjunctures’ (Appaduri 2001) and

‘frictions’ (2005) between regional, national, and global forces (political, economic, social and environmental) and the specifics of local values and practices. This “localized modernity”, while situated within a particular Tsimané community, connects broader processes of regional development, market expansion land tenure, indigenous identity, and forest stewardship to everyday practices.

Broad forces of regional development, which have brought capitalism, migration, environmental degradation, and political ideologies, play a role in shaping the ‘localized’ modernity. Escobar argues that using development as a paradigm is limiting because institutional discourses of development create particular types of subjects (i.e. poor, under developed), by referring to the historical relationship between modernization and development (1995). Alternatively, I approach development not as a gage for ‘developing’, but as a way to describe the power of these global and national flows. Additionally, even if indirectly related, development offers a useful model for examining broad unanticipated outcomes of economic processes that stretch into environments located beyond their original scope. For example, deforestation in the Tsimané’s territory cannot be discussed without acknowledging the government resettlement programs of the 1950s, which aided highland migrants in the colonization of the lowlands. Using development processes to understand non-institutionalized activities of incorporation and identity-making accounts for broad regional shifts which impose new practices, values, and ideals on the subject, but it also allows subjects to draw on their own experiences to define themselves within shifting circumstances. I understand development as a force that not only reflects historical processes of national and international colonialism driven by economic expansion, but also one that is representative of the national *Vivir Bien* model. This dissertation moves away from considerations of development institutions and policies, away

from critiques of implementation, and away from the analysis of the direct effects of programs. Rather, it looks at development as an all-encompassing producer of change that emanates through economic interests, political movement, technology, and the exploitation of natural resources but is negotiated on local levels. In this sense development affects those it targets directly and those it doesn't but who find themselves, if only nominally, in its track.

MODERNITY AND FOOD

This dissertation examines the 'localized' modernity of the Tsimané through a variety of food related processes. Referred to by Holm et al. as a coordinated set of practices through which habits are normalized, food is not limited to its material qualities inherent to diet (i.e. nutritional values) (2012). Rijal explains that food traditions decode social systems and are linked to cultural, social, and ritual values (2011). In the Maussian sense, food is a 'total social phenomenon' that simultaneously includes multiple institutions (Mauss 1967). By its very nature, as a necessity for life, food shapes other processes including economics, environment, and politics through a constant demand for existence; for the Tsimané, food is linked with both the spiritual world and the human world. The embedded relationships and responsibilities of both humans and non-humans with food are extended, converted, and transformed through related processes including production, cooking, distribution, and consumption. But these relationships are not simply internal between members of the group. Ohnuki-Tierney explains, "Food tells not only how people live but also how they think of themselves in relation to others. A people's cuisine, or a particular food, often marks the boundary between the collective self and the other" (1993:3). Because of the elasticity of food as a focal point, I engage with it in two ways: first, I approach food, in its broadest senses, as a tool through which the Tsimané localize their

modernity. Then, I understand food as a metaphor in order to expose how flows that stem from regional and national political, economic, environmental and social processes interact with Tsimané ideas, knowledges, values, and practices.⁵

In early observations, the Tsimané Indians of the Bolivian Amazon are portrayed as the major regional food producers because they have significantly more food and variety thereof than neighboring mestizos and indigenous groups. Nordenskiöld noted during his South American explorations: “*Entre los chimane comimos realmente bien. Tienen huevos, pescado, caza y muchos productos de sus campos agricolas. Nos va estupendamente*” (1924/2001:158).⁶ Food was a defining element of Tsimané culture to both outsiders and insiders. Beyond its importance for sustenance, its production tied the Tsimané to their environment by linking livelihood production to social structures and ontological beliefs. But the Tsimané diet has changed dramatically since it was first described by Nordenskiöld in 1924. More recently, Tsimané eat with much less variety by teetering between just a couple of dishes with limited ingredients. Like Pilar, mentioned in the story at the beginning of the chapter, her daughter-in-law Mariela explained, “We don’t eat things like our grandfathers ate. Now we eat market things like sardines and *charkey* (dried beef). We eat like *napos* (local Spanish speakers).” By closely examining processes related to food, I extrapolate how the Tsimané experience modernity.

Food has been a popular topic in order to explore the relationship between societal change and diet (see Mintz and Dubois 2002), and has been used extensively to understand the interactions between broad global processes and local consumption (for example, Inglis and Gimlin 2009; Goody 1982; Weismantel 1989; Wilk 2006, 2008. See Phillips 2006). Cuisines,

⁵ For more on food as a metaphor and a tool see Wilson 2005.

⁶ “With the Tsimané we eat well. They have eggs, fish, catch (from a hunt) and many products from their agricultural plots. We are doing great”- author’s translation

specific food items, or diet have been the focus of numerous scholarly pursuits related specifically to ‘modernity’ in change. For example, Counihan uses bread to discuss the effects of modernization on social relationships in Sardina and argues that capitalism causes individualization (1984). Pelto et al.’s pattern analysis offers an example of non-linear diet change in Finland (1981), and further, Miller’s offers an example of Coca-Cola in Trinidad, through which he demonstrates that although Coca-Cola became available, Trinidadians appropriated the drink into previously conceived categories of red drinks and black drinks and thus, forced Coca-Cola into competition with locally based soda companies (1998). Gvion’s study of Palestinian culinary practices explains that food is used as tool to protest status as second class citizens in Israel through the creation of both public and private modern identities (2009). Schortman’s describes the ways fast food consumption in Honduras acts as an arena for peri-urban dwellers to reconstruct and engage in global webs of trade (2010). Haukanes and Pine’s study of food consumption and preparation at weddings and wedding rituals in post communist locales elucidates the ways modernity is negotiated in relationship to historical processes (2003). And Cweirta analyzes modern Japanese food as a product of its long colonial and imperial history along with the country’s political strategy to “Westernize”, which has not only changed ingredients, cooking techniques, and eating patterns, but has homogenized Japanese cuisine throughout the country to form ideals of nationalism and identity (2006).

Because this dissertation is not about a specific food item, rather it is about the larger category of food, I approach the Tsimané’s ‘localized’ modernity by exploring the vast embedded importance of food in everyday practice by focusing on multiple perspectives, including cognition, production, consumption, and preparation. These varied approaches not only connect food to household life but also to larger systems of ecology, politics, society, and

economics in the region. For many Tsimané, producing a diet means including foods from beyond the forest by earning cash to pay for commodities. Exposure to markets and commodities have made other commodities like sugar, oil, flour, pasta, *charkey*, and salt indispensable. But this incorporation into the market is a disputed arena for lowland Indians. Recent political debates on a national level have questioned the types of activities that are considered “indigenous” and which are not. Resoundingly, capitalist activities of any sort are condemned in the face of nature. Understanding broad practices and values of food, gives insight not only into past processes of development, but also into current economic, environmental, social, and political systems in which the Tsimané are engaged.

METHODOLOGICAL APPROACH

To describe a ‘localized’ modernity it is necessary to return to ethnographic roots to offer a thick description and a broad concern for the topic at hand as well as to visit it from different temporal approaches. This dissertation is based on 14 months of research among the Tsimané Indians in the western Bolivian Amazon in the Department of Beni, near the town of San Borja. In 2007, I participated in the National Science Foundations Research Methods Course in Anthropological Methods in Bolivia with the Tsimané Amazonian Panel Study (TAPS), a group of anthropologists conducting longitudinal research in the area.⁷ During this course, I familiarized myself with the Tsimané, received training in research methods appropriate for rural and isolated regions, and I pilot tested the methodologies I planned to use in my dissertation-research project. In 2008, I returned to the area for two months to continue pilot testing my methodological tools and begin establishing the relationships necessary to begin my dissertation

⁷ TAPS continues to assist me with research logistics.

research. Finally, ten months were spent in the region between January 2010 and March 2011 conducting research for the dissertation. The dissertation focuses primarily on the activities of the community members in Maraca, but additional research was conducted in the neighboring community of Iuvasichi.

Tsimané is the primary language in Maraca. In 2008, I took two months of daily private language lessons with the resident teacher of the nearby community of Cara Cara. Additionally, for further instructions, I closely studied the grammar and vocabulary materials prepared by the New Tribes Mission. Although I achieved a conversational level of language fluency, I worked with a bilingual (Spanish and Tsimané) research assistant from the community to help me with translation during interviews.

I came to understand the past through previous ethnographic depictions of the Tsimané. These include dissertations, collections of oral histories, missionary memoirs, and explorers' notes. The early origins of the Tsimané are fairly unknown because there are few published records referencing Tsimané or Chimane prior to the publication of the 1924 expedition of Erland Nordenskiöld in South America. Explorations in the region between the middle of the nineteenth century to the middle of the 20th century yielded limited breadth in terms of descriptions and details (see Hissink and Halm 1989; Wegner 1931). Many researchers spent limited amounts of time with the Tsimané and relied heavily on informants from the neighboring populations the Mosesten or Yuracare to construct ideas of the Tsimané. For example, in the *Handbook of South American Indians*, the Tsimané are grouped with their regional neighbors, the Yuracare and the Mosesten (Metraux 1948). In contrast with older depictions of Tsimané, more recent studies are grounded in long-term ethnographic inquiry directly among the Tsimané and consider Tsimané practices through theoretical and analytic lenses. Anthropological

inquiries of Tsimané during the 1980s and 1990s explore themes of symbolism, mythology, kinship, social organization, subsistence, and agricultural production (Chicchon 1992; Daillant 1994; Ellis 1996; Huanca 1999, 2006; Perez Diez 1983; Piland 1991; Riestler 1993). As the regional market place and the local population ballooned, patterns in Tsimané ethnographies began to follow a comparative approach looking at the impact of the market on traditional ecological knowledge, consumption, and health—often between villages close to town and villages far from town (Byron 2003; Martinez 2009; Reyes- Garcia 2001; Ringhofer 2011).

Additionally, I collected thematic histories from key Tsimané informants. These histories chronicle dietary and labor patterns from youth until the present. Informants participated in semi-structured interviews where they were asked open-ended questions. Twenty-three informants were asked questions about food and diet and if/how either has changed since childhood. Nineteen informants were asked about the types of cash labor they have been involved in throughout their lives. These histories were augmented by data collected through informal conversations and semi-structured interviews, which took place throughout the research period.

To accumulate data on how people conceptualize culturally relevant topics, particularly food, I conducted a selection of methods typically associated with Cultural Domain Analysis. I conducted 53 free lists in which I asked informants to list all the foods that Tsimané eat. Forty-two items were then selected from the list based on the frequency of mention, frequency in general conversation, and presence as foods commonly consumed. A picture of each item was mounted on an 8x5 inch piece of cardboard and informants were asked to sort the cards into pile of items that were similar. Forty-four pile sorts were conducted and then informants were asked to explain and identify each pile and why those particular cards were grouped together. Finally, a

set of rankings related to frequency of *shocdye* (fermented beer) availability and preference were conducted.

In order to meet the goal of understanding contemporary practices related to labor and food, I relied heavily on participant observation and interviews. Participant observation is the method of observing while participating in various aspects of life. I achieved this by living in the village and by engaging in daily chores with other Tsimané and on my own. I spent time involved in all aspects of subsistence economy, particularly food production, consumption, and distribution as well as various forms of work intended for cash. Throughout this process I partook in informal interviews through idle conversations, unstructured interviews, and semi-structured interviews about particular topics and themes. Semi-structured interviews were also conducted in town with Tsimané officials and government officials.

Additionally, to gain a more in depth look at how people spend their time, I conducted direct observations. I combined spot sampling with continuous monitoring in a method that I refer to as scans. Scans were collected in all 17 households in Maraca on a weekly basis for six months, a period of time that overlapped with both the wet and dry periods. The day was divided into seven two-hour blocks of time—the household, day of the week and block of time scanned were randomly selected. I conducted 963 scans of 82 individuals and averaged 85 minutes per scan and noted the continuous activities of all members in the kitchen. Following each scan, a 24-hour dietary recall interview was conducted for each member of the kitchen. The matriarch of the cluster of households was typically the respondent for the entire extended family and provided information on both formal and informal eating. Other members filled in the blanks about foods consumed outside of the kitchen.

Finally, a cross-sectional survey made up of open-ended questions was conducted in 50 households in both Maraca and Iuvasichi to produce valuable data on both attitudes and behaviors.⁸ The survey inquired into agricultural production and diversity, cash labor, frequency of sale and cash value of agricultural crops, gender responsibilities, food consumption, and regional development initiatives.

RESEARCHER'S ROLE

I received permission from the Gran Consejo Tsimané to carry out my research in Tsimané territory in January of 2010. I then presented my research project to the *Corregidores* (community leaders) of Iuvasichi and Maraca to gain permission to carry out research in the villages. I held community wide meetings where I presented my project to residents and asked to carry out research in the village. Finally, I asked each household if they were willing to let me conduct research in their home. In the community meetings, members of both communities asked what they would receive in return for my stay. Gifts were decided on in collaboration with community members. For the survey work and the cultural domain research, which was less time consuming, households received: soap, a pairing knife, a lighter, fishing twine, and various fishing hooks. Additionally, each community received a large pot to make *shocdye* (beer) for community events. Because I lived in Maraca and it is where I conducted the majority of research, residents wanted more substantial gifts. We agreed upon machetes for the men, a knife for scaling fish, and three balls of yarn for the women.⁹ Each household received gifts regardless

⁸ I intended to include all 55 households in the survey. However, long-term absences and a safety concern led me to remove 5 households from survey collection.

⁹ Gifts for the men and the women were equal in monetary value, 30bs each, approximately \$4.50.

of whether they chose to participate or not.¹⁰ Additionally, both *corregidores* asked me to bring first aid kits with me with medication (which I restocked continuously during my stay), notebooks and pens for the students, and soccer balls. In addition to gifts, in Maraca, I was asked on multiple occasions to help the community prepare paperwork for government initiatives and applications. This included running and organizing multiple community meetings, carrying out and updating a community census, organizing community records, handling money, and trips to town to discuss the progress of paperwork and applications with government officials.¹¹

OUTLINE OF THE DISSERTATION

The dissertation is organized into two sections. The first section approaches the Tsimané broadly by offering an overview of the national, regional, and local processes affecting contemporary Tsimané life. In this section, I situate the Tsimané not only within a historical framework of change, but also within contemporary political, economic, social, and environmental debates. The second section focuses specifically on livelihoods and food in Maraca. In this section, I localize the broad histories and forms discussed in the first section in three ways: through the production of food, the conceptualization of food, and through cooking and consumption.

¹⁰ Every household did choose to participate.

¹¹ In addition to gifts and paperwork, I offered to teach a class in maraca to the adults. My original idea was to review the New Constitution and to offer a class on the “History of Bolivia”. The community members asked me instead to teach an English class. The class met three times, the first time with 15 students dropping to three in the final class, then it was cancelled when nobody wanted to participate.

Chapter two is an overview of the Tsimané offering a historical picture of regional development since the arrival of the Jesuits in the seventeenth century. This chapter demonstrates the close ties Tsimané have with food and how a long history of interaction with outsiders has affected their relationship to food and livelihood production in a multitude of ways. Finally, it highlights the ways broad forms of regional development and national politics have changed the forested landscape on which the Tsimané have historically relied for their livelihoods.

Chapter three discusses contemporary political debates related to national indigenous ideologies and forest stewardship. This chapter highlights differences between the Gran Consejo Tsimané, the Tsimané governing body, and Tsimané living along the middle Maniqui River and revolves around emerging logging initiatives. I demonstrate how these broad, politicized national ideals are localized through discussions of livelihood and subsistence within the larger Tsimané population.

Chapter four is an ethnographic picture of Maraca, the primary research community of the dissertation. In this chapter, I focus first on the organization of the community by pointing to the ways broad regional changes have materialized in the geographic and political organization of the community. Second, I highlight ways in which food remains central in Tsimané life. I discuss the relationship between food and livelihoods, cooking, eating, family life, religion, and the market place.

Chapter five discusses livelihood production and its relation to food production and consumption. Using time allotment scans, I demonstrate the complex ways Tsimané balance market activities, subsistence activities, and home life. I argue that Tsimané are engaged in a “dual economy” in which they spend time participating in both subsistence activities and cash accruing activities. I illustrate how although Tsimané are increasingly involved in labor, the

manner of their involvement reflects Tsimané ideals of extended familial networks, forest based activities, and the freedom to choose when and how they work with and for outsiders.

Additionally, this chapter discusses shifting gender roles related to food accumulation.

Chapter six explores the localization process through cognitive methods. This chapter explores the domain of food using data from free lists, pile sorts, dietary recalls, and dietary histories to compare what the Tsimané imagine their diet to be and what it actually is. This is contextualized within discussions of past diets and rationalizations for diet change. I demonstrate that, while conceptualizations of the Tsimané diet are deeply rooted in the forest, the reality of the diet is fairly restrictive and consists primarily of cash crops. However, I argue that these conceptions of diet continue to shape how commodity foods are incorporated into eating and food producing activities. Through a discussion of Jona, a typical stew, I show how Tsimané use cooking as a method to intergrate changing livelihood activities, the availability of forest foods, and new commodity ingredients into daily life in order to connect the past with the present.

Chapter seven looks closely at the ritual beer, *shocdye*, as one of the most commonly consumed Tsimané prepared dishes. This is the only prepared dish that has both ritual meaning and mundane importance. Through *shocdye*, I expose how changing patterns of work and historical conceptions of diet coalesce through food production, cooking, and the reimagining of particular dishes. I argue that shifts in the production of dishes realize larger changes in the surrounding ecology, work environments, and politics of the Tsimané and serves to localize larger forces of modernity.

The dissertation concludes with a look towards the future. I confer current discussions between the Gran Consejo Tsimané and Tsimané along the middle Maniqui that revolve around the potential for future development projects. Food and agricultural initiatives as well as the

potential to earn cash are at the center of the discussion, but larger questions of national funding initiatives for indigenous people loom on the fringes and influence possible outcomes.

CHAPTER 2

A HISTORY OF INTERACTIONS

To engage with the concept of a ‘localized’ modernity, it is important to tie the flows of economic, political, and social processes to the territories through which they pass. By demonstrating the dynamism of the Beni region, and specifically the area around the town of San Borja near which the Tsimané reside, I demonstrate a history of interactions that shape contemporary ideas, practices and values of the Tsimané. In this chapter, I briefly introduce the Tsimané territory before offering a historical depiction of interactions with outsiders. To situate the Tsimané within a broader socio-political and socio-economic context, I focus on eastern expansionism in Bolivia, the development of local markets, and subsequent forms of social and political organization. Next, I demonstrate how these changes have altered the forested landscape and the ways Tsimané are able to survive from it.

Through this discussion it becomes evident that Tsimané are not a static group; global, national, and regional influences are negotiated with local practices and ideas. These convergences have shaped and reshaped what it means to be Tsimané. The Tsimané have engaged and disengaged with the outside world, through interactions with other pre-Columbian indigenous groups and a then a steady flow of settlers, forest exploiters, and other contemporaries, resisting integration and redefining the terms of survival. Despite continuous contact with outsiders, the Tsimané have been fairly successful in defining the terms of their detachment, until recently when the growing regional population, a burgeoning economy and significant alterations to the landscape make it increasingly difficult to survive exclusively from

forest resources. Today, these histories continue to pervade contemporary debates over Tsimané indigenous politics, livelihoods and alimentary processes to provide context for modern terms of engagement.

GEOGRAPHIC OVERVIEW OF THE REGION

The natural environments of the TCO Tsimané and the greater traditional Tsimané territory include moist sub-tropical gallery forest and savanna (14°10' – 15°40'S, 66°20' – 67°20'W) (Gueze 2011; Reyes Garcia 2001). The greater Tsimané territory extends from the tropical rainforests of the *Marimono* and *Eva Eva* sierras ranges in the foothills of the Andes to the moist forests of the Moxos savanna region (Gueze 2011; Reyes Garcia 2001). The primary area in which the Tsimané reside is the pre-Andean Amazon Forest. This area includes gentle slopes, high alluvial terraces, hills, plains, and humid forests with tall (30-45m) evergreen trees, often with buttresses and large areas of Palm tree swamps (Ibisch and Merida 2004). Some Tsimané reside in the sub-Andean Amazon forests and the flooded Amazon forest. Sub-Andean Amazon Forests are at the foothills of the Andes and boast mountain ranges with deep valleys and steep summits. Altitudes in this region can reach up to 1000 meters, where tall (30-35m) evergreen humid forests are common (Ibisch and Merida 2004). The flooded Amazonian forests are located in the Northeast of Beni and are characterized by periods of extreme flooding on flat plains from the rise and fall of the rivers during the rainy season (Ibisch and Merida 2004). Forested islands, dikes and canals dot this area and can be attributed to the raised platforms of the settlements of early regional populations (Lombardo and Prümers 2010; Metraux 1948). The weather in the area is related to two seasons: a dry season from May to October with cold winds known as *suraza* arriving from the south and a wet season from December to March. Annual

average temperatures in the region range from 24°- 28° and the yearly average rainfall is 1,000 to 7,000 millimeters (Ibisch and Merida 2004).

Within the TCO Tsimané, most villages are located along the Maniqui and Apere rivers as well as smaller tributaries. The Maniqui River is commonly referred to as *Cojiru*, meaning “the river”, singling its importance over other rivers and tributaries in the region. The Maniqui River is considered the epicenter of Tsimané life—acting as an important spot for fishing and hunting and as the primary highway for travel. During the dry season, when water levels are low, Tsimané families walk along the banks to reach other communities or town. The river is the main access point for many to the nearby market towns of San Borja and Yucumo, particularly in the rainy season, where the dirt roads and highways become impassable by car or truck. Tsimané frequent these towns for entertainment, to buy goods and to look for work.

Jesuit missionaries established San Borja in the late seventeenth century (D’Orbigny 1945). Colonial migrants from the highlands established Yucumo more recently, in the 1980s. In recent years, vehicle travel has become more frequent and accessible and communities close to San Borja are able to access the main highway more easily and use it for travel more often than those from communities located further up river, who live a significant distance from the road. Recently, migration towards the market town of San Borja has increased and new communities are being formed in what I refer to as the Middle Maniqui, an area that remains moderately isolated but is within a day’s travel to town and is regularly targeted by traders.

EASTERN EXPANSION AND TSIMANÉ INTERACTIONS WITH OUTSIDERS

Jesuit Missionaries were successful in the late seventeenth century in contacting the Tsimané; and yet, they were unsuccessful in converting them. The Jesuit’s established their

mission, in what is now the major market town of San Borja, for the first time in 1693 and then a second time following the expulsion of the Jesuits from Bolivia in 1767, in 1780 (Altamirano 1979; Bogado Egüez 1993; Chicchon 1992; D'Orbigny 1945; Huanca 2006). In 1805, San Borja was reestablished for a third time along with two Franciscan missions southeast of San Borja. The mission of San Borja was still unable to convert the Tsimané and the other two missions were abandoned, the first because of small pox and the second because of a small uprising (allegedly of the Tsimané) in which the Missionary was murdered (Altamirano 1979; Bogado Egüez 1993; Chicchon 1992; D'Orbigny 1945; Huanca 2006). Missionaries faced difficulties keeping Tsimané in the missions for extended periods of time and therefore, were unable to convert them (Altamirano 1979). Multiple theories have been proposed to explain why the Jesuit missionaries were unable to settle the Tsimané in the mission. One presupposes that their small kin groups allowed them to be mobile and flee into the forest (Chicchon 1992; Huanca 2006); another that past epidemics were associated with white foreigners, so wary Tsimané maintained a distance from the missionaries (Huanca 2006). Yet another theory is that there was no predecessor for central organization—the shaman maintained a strong leadership role, but not in the formal structured manner of the church (Chicchon 1992; Huanca 2006). And finally in a similar vein to the first theory, the Tsimané's ability to survive from multiple forms of subsistence, including hunting and gathering as well as farming, made it possible to maintain mobility and remain deep in the forest to avoid interaction (Chicchon 1992; Stearman 1992).

Some scholars postulate that the Churimana (also known as the Churimani, Chomanos or Ramanos) were predecessors to the Tsimané and had early interactions with Jesuit missions in the seventeenth century (Chicchon 1992; Huanca 1999). Although today they are considered different ethnic groups, many contend that this group included the Mosen Indians (Aldazabal

1988; Altamirano 1979; Bogado Egüez 1993; Castillo 1988; D'Orbigny 1945; Huanca 2006; Perez-Diez 1989). The Jesuit's inability to convert the Tsimané seems to be a primary explanation for the separation of the Mosen group and the Tsimané group. The Tsimané and the Mosen share many cultural traits, including a language, and are regional neighbors. Tsimané and Mosen are the only two languages (or the same language) that make up the language family Mosenen (Sakal 2004, 2011; Gordon 2005). It has been proposed that the Mosen had interactions with the Inka Empire and Aymara groups which influenced their language skills and interactions with trade (Chicchon 1992; Metraux 1948). It is possible that these interactions with highland tribes might have separated a larger unified indigenous group into two smaller groups, with the Mosen more heavily involved with outsiders in trade and more successful conversion by missionaries compared to the Tsimané who maintained a more isolated lifestyle (p.c. Tomas Huanca). As Metraux noted, in the late eighteenth century many Mosen spoke the Aymara language (1948). It is possible that by the time the Jesuits arrived, the Mosen already had regular relationships with outsiders. But many contend that the only major difference between the Mosen and the Tsimané is that Jesuit missionaries had slightly more success concentrating the Mosen in missions during seventeenth century than the Tsimané (Aldazabal 1988; Castillo 1988; Ellis 1996; Perez-Diez 1989). Despite being concentrated around the missions, neither the Mosen nor the Tsimané were successfully converted.

Although the Jesuits supplied the Tsimané with occasional goods like axes and pots, it was not until traders arrived, in the mid-nineteenth century, that Tsimané began to trade with regularity. Following the establishment of the department of Beni in 1842, the economy of San Borja burgeoned and the town became the local center of commerce. Mestizo and wealthy, white Bolivians began to enter Tsimané territory more frequently in the late nineteenth century to

exploit local natural resources, including rubber, black caiman, peccaries and river otters (Chicchon 1992). Rubber tapping became popular in the region, and from 1880 to approximately 1910, rubber was the primary natural resource for the Bolivian export economy (Vallve 2010).¹² Rubber tapping required a massive workforce and many local indigenous groups were recruited to support the process.¹³ Although Tsimané were not heavily recruited to work in rubber because of their dispersed settlement patterns and their limited engagement with the market, this time period marks the beginning of an occupied forest, a time in which Tsimané began to share their resources with outsiders (Ringhofer 2010).

Following the collapse of the rubber industry in 1912, cattle ranching became the prominent industry of the region (Byron 2003; Jones 1980). San Borja became a major cattle center when Lebanese immigrants, Europeans and their mestizo descendants migrated from the department of Santa Cruz, south of Beni, to take advantage of the vast lowland savannas (Huanca 2006; Stearman 1992; Vallve 2010). Ranches in Beni, particularly in the areas surrounding San Borja, provided beef to La Paz and the mining centers of the Altiplano (GCT 2010). Since the 1930s cattle ranching has continued to grow and expand into forested areas and cows from Beni are the primary meat supply for the rest of the country. Because airstrips did not become common until the 1950s, ranchers dried the perishable beef into a product known as *charkey*, in order to ship it to other regions without spoiling. Tsimané were recruited to work as ranch hands and to prepare small agriculture fields for the ranch owners. Today, while the Tsimané occasionally find work on these ranches, their inability to use this transformed land for hunting, fishing, or agriculture affected how they maintain their livelihoods.

¹² Other important natural resources exploited during this period include quinine, tin and silver.

¹³ Indigenous groups like the Movina, Moxo and Tacana were recruited to work as rubber tappers. This work was reported as violent and abusive (Chicchon 1992; Ringhofer 2010; Vallve 2012)

While the relative isolation of the Tsimané in the forest prevented them from coercive labor in rubber, mining, or ranches, as San Borja expanded, the Tsimané were enticed by the changing dynamics of the region to engage more frequently in market transactions and occasional cash labor (Vallve 2010). Tsimané began to travel to town to trade with increasing regularity and traders traveled more often up river to trade with them (Huanca 2006). While Tsimané occasionally found work in the cattle ranches, they could not compete with the equestrian skills of the neighboring Moxos and Maropa indigenous groups (Vallve 2010). Instead, they began to trade agricultural and household goods like bananas, plantains, yuca, onions, coffee, cacao, eggs, and chickens and other goods with mestizos and other indigenous people who now inhabited the savanna (Nordenskiöld 1924/2001). Tsimané became the primary food supply for both the mestizo and other indigenous populations. In return for agricultural goods, Tsimané received iron made goods like axes as well as other goods like premade cotton string.

Nordenskiöld notes that the relationships between traders and the Tsimané were notoriously bad, and that the terms of exchange were very poor for the Tsimané. The mestizos, acting like “parasites” successfully persuaded the Tsimané to provide them with goods for ridiculously low compensation and sometimes nothing at all (1924/2001:158) In fact, he notes about the mestizo, “*si ustedes no tuvieran a los chimane, se morirían de hambre*” (Nordenskiöld 1924/2001:158).¹⁴ Often when disputes arose between the traders and the Tsimané they would retreat into the forest where people could live more peacefully. But as many Tsimané became dependent on the goods made from iron, which lasted significantly longer than goods made from forest materials, retreat into the forest became more difficult.

¹⁴ “If you wouldn’t have the Tsimané, you would die of hunger.”—author’s translation

In 1952, a national revolution prompted by an emerging political awareness of highland Aymara and Quechua indigenous peoples and peasants, led to the nationalization of tin mines and a series of land reforms in Bolivia. In the highlands, large land ownerships, *latifundias*, were dissolved and land was redistributed to peasant farmers and indigenous owners. These government sponsored resettlement programs began the colonizing process of moving people from the overpopulated highlands to the “uninhabited” lowland region (Eastwood and Pollard 1985). Initially, the major effect of these programs managed to evade Tsimané territory because of the difficulty accessing the land near San Borja. But in 1974, The National Colonization Institute was granted 275,000 acres of land in the Ballivian province to be allotted to miners and landless peasants from the highlands (Chicchon 1992). The migration program created communities of 40 households, allotting 25 hectares of land to each family plus access to common land (Robinson 1995). After 1976, when a new road was constructed connecting Beni’s capital city Trinidad to La Paz by cutting through the town of San Borja and Tsimané territory, colonists began to arrive (GCT 2010; Huanca 2006). However, it was not until a drought in 1983 in the highlands and the completion of another road between Yucumo and Rurrenabaque that rates of migration increased and more permanent colonization settlements were established (Reyes-Garcia 2001). The colonizers formed large settlements along the roads, which led the inexperienced agriculturalists to cause large amounts of forest degradation (Chicchon 1992). The colonization plan included the cultivation of rice for sale—rice from the area, however, was not competitive with rice from nearby towns and colonists turned to ranching and illegal logging for income (Chicchon 1992) Alternatively, many highland colonists found more success as merchants in the area, growing the commercial towns of San Borja and Yucumo even further. In addition to migrants, the roads brought logging concessions to the area. With a larger population,

the market towns grew and new villages were created to support the increase in demand for residences, goods and services. Today these settlers are involved in the marketplace and in logging initiatives, often acting as middlemen controlling contracts, between Tsimané laborers and wood buyers in the highlands.

Today, the greater municipality of San Borja has over 36,683 people, and the Tsimané make up 19 percent of it (GCT 2010:40). The population grew quickly from 4,613 people in 1976 (although this doesn't include the rural population) to 34,363 people in 2001 (Census 2001). Yet, few Tsimané live within the town limits; an overwhelming majority live in their own communities outside of town. The town of San Borja, which boasts a large market avenue in the center of town, contains the municipal leadership of the region as well as the headquarters for the Gran Consejo Tsimané, the current Tsimané authority. In San Borja there is the regional hospital, an airport, the headquarters for the Ministry of Education, the Authority for Forests and Land (ABT), and the National Institute for Agrarian Reform (INRA). During the dry season, you can reach major cities like La Paz, Santa Cruz or Trinidad within one day of travel by land or by air. In the rainy season, travel by any means becomes difficult.

Since the late 1980s there have also been Tsimané communities around the town of Yucumo (Huanca 2006). Yucumo is an active truck stop and market destination with bustling store fronts primarily run by migrants from the highlands (also resettled through the government colonization programs). Yucumo also boasts a weekly market where vendors come to sell fruits, vegetables, and other goods from the greater region. It plays an important role connecting trade from the lowlands to the highlands as it is situated at the primary road to La Paz. While San Borja is home to many wealthy mestizo and white landowners, Yucumo residents are primarily highland migrants who cater to the day laborers and residents of more rural communities. These

patrons often purchase supplies in bulk for their work or homes. Many Tsimané prefer to buy and sell in Yucumo because prices for commodities are slightly lower than in San Borja.

ORGANIZATION AND POLITICS OF THE GREATER TSIMANÉ POPULATION

While Tsimané avoided conversion by the Jesuits in the seventeenth century, more recent Catholic and Evangelical missionaries entered the region and encountered more success in the mid-20th century. Because of limited government presence in Beni, missionaries found opportunities to take on organizational leadership positions and arrived in the region to work with the Tsimané in a variety of capacities (Martinez 2010). Catholic missionaries arriving in the 1950s approached their work with a human rights framework, aiming to creating increased economic activity for the Tsimané. They hoped to facilitate more equitable economic relationships between the Tsimané and the ranchers and loggers in the region (Moreo 1999). The Catholic mission was restricted to the single village of Cara Cara, and then moved further up river to Mision Fatima in order to evade the direct interference of the ranchers as well as to have access to more Tsimané (Moreo 1999). While the mission is fairly successful in Mision Fatima, it did not spread its influence much further than the community boundaries. Alternatively, the New Tribes Mission, which arrived in the 1960s, took a different approach than the Catholic missionaries. While the Catholics concentrated on financial independence, the New Tribes Mission (NTM) concentrated on the religious studies, health, and education. They created agricultural and livestock initiatives. They set up a health care center near San Borja called Horeb, which offered the Tsimané much needed medical attention. In Horeb, NTM established a radio station whose signal reaches most Tsimané communities. The station, in addition to playing sermons and religious songs in Tsimané language, produces news programming and

reads messages that reach Tsimané across the territory. Most households tune into the radio station three times a day to listen to Tsimané programming, they pay special attention to the messages for news from their kinsman, the government, the *consejo* or from traders and potential employers. Finally, the NTM also created bilingual schools and enabled students to earn a high school diploma through religious education in mission centers. One major component to the bilingual education was a translation of the bible into Tsimané language.

As a result of their wide programming, the NTM successfully spread their influence over a large population, and many systematic changes ensued (GCT 2010; Martinez 2010). The creation of schools guided settlement patterns because the schools served as nuclei around which permanent communities arose. Tsimané—who historically were semi-nomadic and spent a significant part of the year visiting families in other areas, hunting and fishing—began to settle, not only around schools, but in communities closer to towns where the schools are located (Byron 2003). Permanent settlements led to a decline in local biodiversity and animal populations depleted surrounding the permanent settlements. In these settled communities various community political positions—such as that of the *Corregidor*, a community leader—reorganized the distribution of power in the community. Additionally, the NTM preached against aspects of Tsimané spiritual practices—particularly, they condemned the beliefs in spirits that moderate plants, animals and fish by equating them with demons (Huanca 2006). Tsimané shamans known as *cocojsi* traditionally acted as leaders and provided a connection with the supernatural world by moderating the animal, fish, and forest spirits. The *cocojsi* possessed a deep knowledge of forest spirits that not only regulated access to food but also caused ailments. But this combination of Western medicine, permanent settlements, and new community leadership, the use of the *cocojsi* began to erode. As previous hunting and fishing patterns

changed, Tsimané no longer needed the *cocojsi* to provide spiritual assistance and maintain relationships with the natural world. Further, Tsimané began to rely more heavily on medications from the West in lieu of forest based remedies, thus reducing the *cocojsi*'s role of traditional healer.

In 1989, the Gran Consejo Tsimané was established with the help of the NTM. The Gran Consejo Tsimané acts as the key leadership of the greater Tsimané tribe as well as the Tsimané forest and lands. They work directly with both the local and national governments and development agencies. The creation of the Gran Consejo Tsimané is a key moment signifying the connection between the Tsimané and larger Bolivia. The establishment of the Gran Consejo marked the first time the group organized in a manner recognizable to outsiders and the national government and thus, better positioned them to defend their population and land. For example, the TCO Chimane-Tsimané was established in 1996 through the Gran Consejo. However, the Gran Consejo also marked the creation of an elite group of Tsimané to receive privileged access to educational and financial resources—the first time such an extreme division of classes within the larger Tsimané population developed (Byron 2003). The makeup of the Gran Consejo is far from representative of the greater Tsimané population. Although there are official elections for the president of the Gran Consejo, they do not happen often. Jorge Añez, the original president, held his office for over ten years (Vadez and Reyes-Garcia et al. 2005). More recent presidents are technically elected through a voting process, but Tsimané often joke that they are simply pointed to and then become president. Furthermore, many of the officials are blood relatives. The Gran Consejo's officials and associates come overwhelmingly from communities close to San Borja, generally within an hour and a half drive (notably not places where canoe travel is necessary). These villages, because of their proximity to town, are fairly integrated into the

market and residents rely primarily on cash cropping and day labor for their livelihoods. There is continued criticism by Tsimané living further from town and up river on the Maniqui that the policies and interests of the Gran Consejo revolve around the needs of the communities close to where members of the Gran Consejo come from. This is a profound criticism as the majority of Tsimané live significantly more isolated upriver and rely more on the forest for survival. In 2010, Jorge Añez ran for the position of mayor of San Borja as a member of President Evo Morales's political party, *Movimiento al Socialismo* (MAS). When Añez assumed the position of mayor, the Tsimané intellectual and researcher, Felipe Meyer, took over the interim presidency of the Gran Consejo Tsimané. Because of this complex relationship, the Gran Consejo is intricately tied to both national and local politics in terms of funding and regulations.

In 2002, a Tsimané indigenous sub-municipality was created within the municipality of San Borja that depends on the allotment of government funds from the mayor's office. The TCO Tsimané is part of the sub-municipality of Tsimané. The creation of the sub-municipality was not a Tsimané initiative. Rather, it originated in the San Borja mayor's office to give Tsimané representation at the level of the municipality. The formation of a sub-municipality was a product of the Law of Popular Participation (Law 1551 passed in 1994), which decentralized the government and gave more power to community and ethnic governments to control local areas. As part of the law, the mayor's office reserves the right to decentralize the administration of the municipality further to include smaller districts including indigenous peoples (Roper 2003). As a sub-municipality, it receives direct funding from the mayoral office to support programs within the area. These are administered by a *sub-alcalde* (mayor) who works as a moderator between the Gran Consejo Tsimané and the San Borja mayor's office. A sub-mayor was democratically elected. Yet two major hurdles have prevented it from become politically powerful. The first is

that the Tsimané population had very little to do with the creation of the sub-municipality and the large political issues related to its origins. Secondly, the Tsimané representatives lack the political clout to demand their legal share of the municipal budget so they yield little power over their own development projects (Vadez and Reyes-Garcia 2005). Today, many Tsimané remain unaware about the political organization of the mayor's office, the sub-mayor's office, and the Gran Consejo Tsimané, but with new and emerging indigenous politics and funding, they are gaining increasing amounts of power in determining how to finance their own development initiatives. Current Tsimané authorities have applied to the local government and the national government to support programs in agriculture, clean water, medicine, and business development.

POLITICS AND PRACTICES RELATED TO TSIMANÉ LANDS AND FORESTS

The ability to use the land and forest freely and at their discretion is a particularly sensitive issue for the Tsimané, who have been disenfranchised since the early 20th century decline of the rubber industry and the expansion of cattle ranches as the primary industry of the Beni. The national land reforms in 1953 allowed ranchers to not only maintain claims to their extensive cattle ranches, but also to expand them and acquire the legal titles to preserve them (Eastwood and Pollard 1985; Jones 1980; Reyes-Garcia 2001). By 2004, cattle ranching occupied 53 percent of Beni's land, most of which was originally heavily forested or diversity rich grasslands (Aguilera Guzman 2005). The Ballivian province, in which San Borja and the majority of Tsimané communities are located, has the highest number of productive ranching units and 21 percent of the total Beni bovine population. (Aguilera Guzman 2005). Ranches transformed the landscape not only ecologically by converting forested and biodiversity rich

grasslands into pasture, but socially by excluding the Tsimané from using the land for migration, hunting and fishing. Much of Tsimané traditional migration and hunting patterns are included in the area currently dominated by large cattle ranches.

In 2006, to further the concept of *Vivir Bien*, and in an effort to repatriate unused lands from private holders and return them to the state or redistribute them to indigenous or rural communities, the government passed the *Ley 3545* referendum to the 1996 Land Reform. This referendum enforces the requirement that ranchers prove their land's economic or social function. Ranching on Beni's nutrient deficient soils has relied on a mix of genetically modified sod and natural grasses for many years. However, many ranchers must now increase their cattle count and plant more sod to meet government requirements to prove compliance with the social function doctrine.

In addition to ranching, the construction of new roads in the late 1970s and early 1980s transformed the forested landscape and enabled easier access to the region—thus paving the road for logging to become a major industry of the region. From the 1970' until Bolivia's era of decentralization in the mid 1990s, 89 percent of Bolivia's forests, including those around San Borja, were controlled by unregulated, privately held companies that heavily extracted exotic woods such as mahogany, cedar, and oak (Gullison et al. 1996; Taylor 2006). In 1978, the Bolivian government first attempted to curb the heavy deforestation and in collaboration with the International Tropical Timber Organization, designated an area for the Chimané Forest Reserve (Lehm 1994; Ringhofer 2010). The reserve encompassed 1.2 million hectares of land between San Borja and San Ignacio de Moxos, including the area surrounding the Maniqui River (Reyes-Garcia et al. Forthcoming). The reserve was meant to reduce unregulated deforestation, promote sustainable timber practices, and to include locals in the areas preservation. An 11 percent tax

was implemented for any timber extracted from the area (Ringhofer 2010). Although the Tsimané Forest was designed as a program to promote sustainable timber extraction that benefited the multiple ethnic groups in the area, there was very little funding allotted to enforce conservation practices, sustainable initiatives, or cordial processes that benefitted the local region (Ringhofer 2010; Vadez and Reyes-Garcia et al. 2005). Despite the reserve status of the forest, logging companies continued to extract wood and by 1987, the reserve became a Permanent Production Forest—almost 600,00 hectares were opened up to legally allow seven logging concessions to work in the area (Chicchon 1992; Lehm 1994; Reyes-Garcia et al. Forthcoming). Each concession agreed to conduct a feasibility study, which once completed, led to a ten to twenty year forest exploitation contract (Chicchon 1992). In the greater Tsimané territories, the Gran Consejo Tsimané also entered into numerous agreements with logging concessions hoping to benefit from their exploitation. The agreements entitled Tsimané to a percentage of the profits, which would support the Gran Consejo's activities (Ringhofer 2010). Unfortunately, this arrangement failed quickly and within a few years the Tsimané had very little control over the forestry concessions functioning in their territories. The entrance and continued presence of loggers and logging companies significantly expanded the road network in the area. Tsimané, who until this point lived in fairly isolated areas, now had easier access to cash, goods, markets, and outsiders (Alvarado 1996; Vadez and Reyes-Garcia et al. 2005).

In 1982, in reaction to the extensive logging practices, the Beni Biological Station (EEB) was set up by the National Academy of Science in the Tsimané Forest. It became part of Man in the Biosphere program in 1986 and was renamed the Beni Biosphere Reserve (BBR) by UNESCO. It received funding from Conservation International in a debt-for-nature swap, the first of its kind, in 1987 (Chicchon 1992; Miranda 1995). The United States agreed to cancel

\$650,000 of Bolivia's debt in exchange for establishing a protected status for the reserve. The reserve, which overlaps with 135,000 hectares of the Tsimané Forest Reserve, promotes conservation, economic development, and research by prohibiting all commercial extractive activities. Once again however, Tsimané and other colonists living in the area were largely ignored in the planning and implementation of the reserves management plans (Reyes- Garcia et al. Forthcoming).

In 1990, weary of the occupation and exploitation of their forests, indigenous tribes from across the lowlands organized a 600 kilometer march from Trinidad, the capital of Beni, to the State capital of La Paz, known as the "March for Land and Dignity". The march was chiefly organized by a group called the Confederación Indígena del Oriente Boliviano (CIDOB- the Indigenous Confederation of Eastern Bolivia) and demanded legal recognition of their lands; the marchers included the Mojenos, Sirionos, Yuracares, Movinas, and Tsimané (Jones 1993). Although very few Tsimané participated in this march, they were some of the first to benefit from its outcomes. Following the "March for Land and Dignity", the Supreme Court passed multiple decrees, which included granting land and forest rights to indigenous peoples through the Agrarian Reform Law (1996) and the Forestry Law (1996).

The Agrarian Reform Law (*el Ley 1715 del Servicio Nacional de Reforma Agraria*) recognized indigenous lands and created a legal status for indigenous territories known as *Tierras Comunitarias de Origen* (TCO). This law designated indigenous lands as collective properties where inhabitants have the right to the land's sustainable exploitation of natural resources (Roper 2003). The distribution of lands and resources for individuals and households is regulated by community norms (Roper 2003). The Gran Consejo Tsimané was able to successfully apply for TCO status for more than 401,000 hectares of traditional lands and created

the TCO Chimane-Tsimané—most commonly known as the TCO Tsimané (GCT 2010).¹⁵

However, as boundaries of the TCO and the ranches are not easily marked, public disputes amongst loggers, ranchers, and Tsimané are common. Most frequently the Tsimané accuse the ranchers of subtly moving into their territories. While the new law granted Tsimané control over a part of their territory, it is a limited portion of the forest that they traditionally use.

Furthermore, the law only moderately curbed the expansion of ranches or logging initiatives into Tsimané forested areas.¹⁶

A new forestry law, *el Ley Forestal 1700*, created regulations to control deforestation and the exploitation of non-timber forest resources. It allowed indigenous peoples to log commercially on collectively held lands with an approved contract (Roper 2003). It also allowed them to create contracts for outsiders to log within their boundaries. This law reduced the number of large forestry concessions working in the lowlands and required a tax be paid to the local government. This tax is meant to support the area around the timber site and to curb the volume of timber being extracted. A forestry superintendent office was created to regulate the exploitation of forest resources and to administer management plans. While the laws were successful in reducing the rate of deforestation by decreasing the number of forestry concessions, the concessionaires that remained functioned unregulated and were known for clandestinely pushing the boundaries of their concessional territories as well as exceeding the harvest limits of

¹⁵ In addition to the TCO Tsimané (TICH), Tsimané also live in the TCO Pilon Lajas, TIPNIS and TIM.

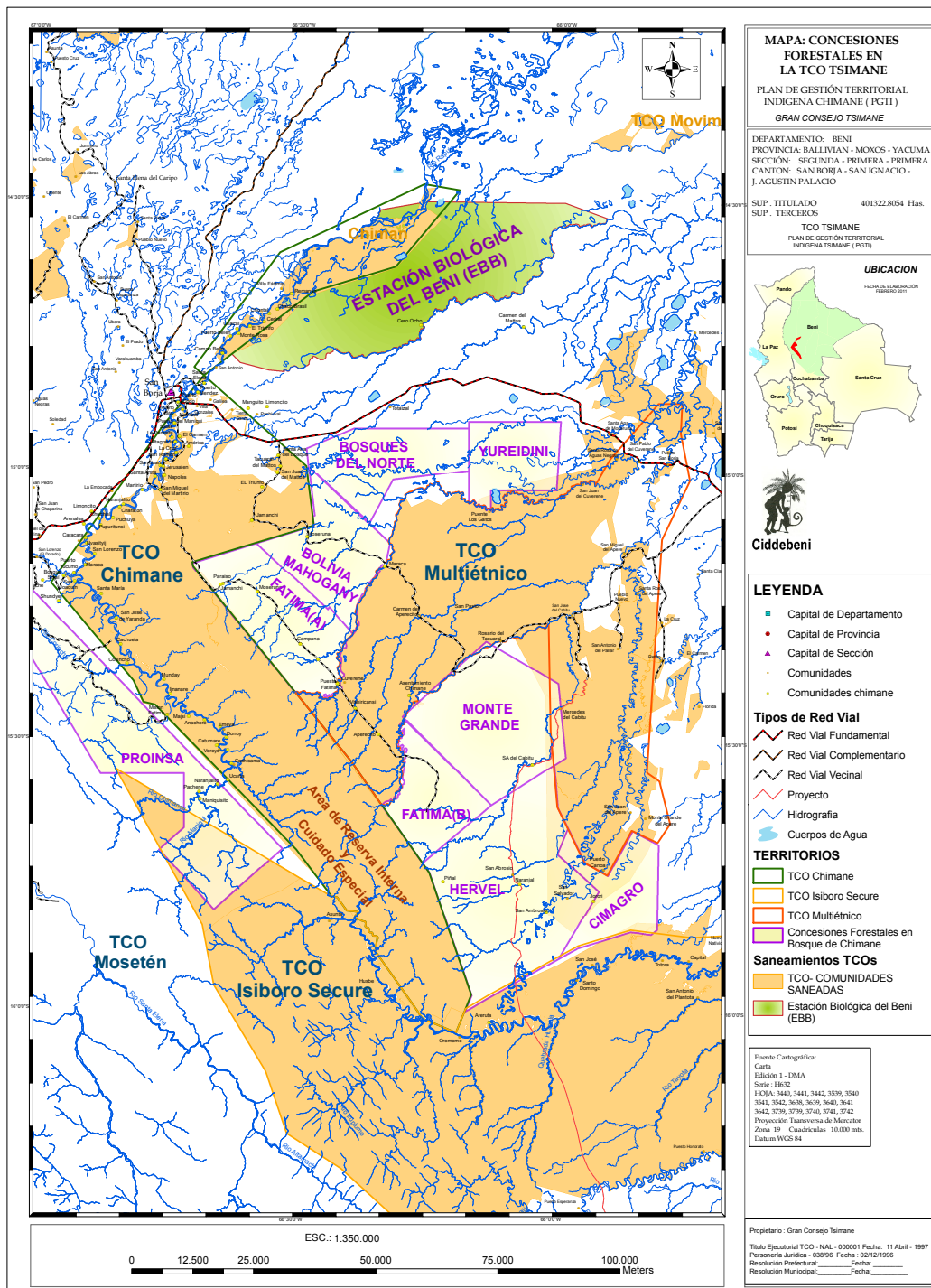
¹⁶ In 2010, TCOs were renamed Territorios Indígenas Originarios Campesinos (TIOC)- (see Decreto Supremo 727) allowing resettled colonizers to make stronger land claims. Many TIOC's overlap with different municipalities causing issues in land ownership and autonomy (see Chumacero 2011)

their management plans. Three large forestry concessions were able to maintain operations, until 2011, on the frontiers of the TCO Tsimané¹⁷.

After the building of roads to the region in the late 1980s, the subsequent influx of logging concessions, missionaries, and highland migrants altered the landscape and resulted in heavy deforestation, forest degradation, and a loss of local biodiversity. Before 1987 there was a low rate of deforestation in Beni (between 15 and 25 squared kilometers per year). After the major roads were built, a period from 1987 to 2004, the rate of deforestation jumped dramatically to 134 squared kilometers (Killeen et al. 2007). Much of this deforestation happened around the road to San Borja within traditional Tsimané territory. The close proximity of legal forestry concessions to Tsimané indigenous territories seems to have reshaped their social and ecological environments. Tsimané are acutely aware of the concessions in their vicinity and many are able to date the heaviest bout of deforestation in their immediate forest to the decade between 1990 and 2000. Many associate it with the arrival of large trucks, the cutting of logging roads, and the cacophony of chain saws. The Tsimané also associate the entrance of the loggers with a reduction of animals in the region. While there have been no scientific studies relating the logging to the changes in regional biodiversity, the Tsimané correlate the decline of animals, birds, fruits, and fish populations and the onset of the forestry operations in their territory.

¹⁷ Two forestry concessions came to the end of their contracts while I conducted my field work. As the land reverted back to government land holdings and was officially “up for grabs” peasant communities and the Tsimané fought for rights to it. Conflicts arose as both the peasant communities and the Tsimané attempted to demonstrate that they use the land regularly. Along with INRA officials, who administer land titles, representatives from both groups went to survey the land to demonstrate continued use and knowledge of the area. When I left the field, the Tsimané involved in the claims were fairly confident that they would be titled the land and would be able to expand the boundaries of the TCO, but there was no official verdict.

MAP 2.1 -THE TCO CHIMANE-TSIMANÉ AND SURROUNDING FORESTRY CONCESSIONS



Courtesy of CIDDEBEN

But logging did not just come from outside concessions. As part of the 1996 Forestry Law, new logging regulations were implemented and the Gran Consejo filed for several forestry management plans (*plan de manejo*) which legally allowed for commercial logging within the TCO. Their plans allowed them to log an area over 60,600 hectares within the TCO (Quevedo 2006). Additionally and within this area, the Gran Consejo signed numerous projects and agreements allowing loggers to extract wood from within the TCO (Reyes-Garcia et al. Forthcoming). In principle, the money that comes from selling the wood or from subcontracting the logging should go back into the communities. But rumors circulate that this money just stays in the Gran Consejo. There is no evidence of how the logging helps the communities from which the wood comes. Since the passing of the forestry law, illegal logging by highland migrants and local mestizos has continued. Often these illegal loggers are able to enter the protected indigenous lands by paying individual Tsimané and the Gran Consejo to sign off on permissions and forest management plans, or by presenting falsified documents at control points. Tsimané living in the TCO are allowed to use the forest for survival, but they are not allowed to log or sell in large quantities. If they would like to take the wood out of the TCO, it must be from less than five hectares and a *plan de desmonte* must be filed—however, Gran Consejo Tsimané's approval is prohibitively expensive. As a result, many highland immigrant wood buyers purchase the plans from the Gran Consejo for approximately 200bs (about \$29) and then contract Tsimané to do the actual labor.

CONCLUSION

In this chapter I present a historical account of the Tsimané's interactions with outsiders, which not only reshaped the political and ecological organization of the region, but altered the

natural landscape as well. Since the arrival of the Jesuits in the seventeenth century, Tsimané have actively kept a distance from others by nominally participating in market activities, labor and politics in ways that allowed them to keep a distance. However, since the mid 1950s, the region's dynamic shifted dramatically and made it increasingly difficult for Tsimané to maintain this distance. The expansion of the ranching and logging industries as well as other extractive and colonial processes changed the Tsimané's access to the land and its resources. Increased pressure on the land from a booming population, extensive ranching, and large scale logging activities compounded with new and permanent settlement patterns bounded by the TCO to greatly affect the local biodiversity; wild game became scarce in the immediate areas around the communities. Further, pollution by logging companies upstream and the popularity of dynamite fishing by outsiders in the region not only reduced the amount of fish, but also reduced them in size.

These interactions continue to influence contemporary debates over forest resources and indigenous uses of them, particularly the commodification of timber and cash cropping. As the supply of forest food resources dwindled, Tsimané found few other options but to engage in the cash economy through the purchase of foods. The Tsimané diet slowly and steadily began to rely regularly on food commodities like sugar, salt, oil, flour, pasta, and charkey, dried beef and to afford food commodities while remaining moderately isolated, Tsimané began to rely in cash cropping. Cash crops like plantains and rice became the primary sources of cash and Tsimané households began to produce them in larger quantities over larger areas. But more recently, in the wake of nation wide pro-indigenous politics, the Tsimané are diversifying their livelihoods even further by turning to logging as a way not only to regain control over their resources but also to participate in the market.

CHAPTER 3

THE PREROGATIVE TO LOG: CONTEMPORARY INDIGENOUS POLITICS AND FOREST EXPLOITATION

Around 1 p.m. on a Wednesday in early February 2011, I was sitting in the secretary's office of the Gran Consejo Tsimané headquarters, the governing Tsimané organization, waiting to see the interim president, Felipe Meyer. I was determined to catch him—it was my third day waiting for him and I had been there since 9 a.m. I had seen him earlier in the day and he told me to come back in a couple of hours because he planned to stop by the office in the afternoon before heading to Cochabamba where he was scheduled to attend a handful of meetings with other indigenous leaders. Sitting next to me in the secretary's office was a *cholita*. *Cholita* is an ethnically highland woman who wears traditional clothing: mainly a bowler hat, a large skirt with a petticoat, a shawl, and often two long braids. This *cholita* was not wearing a hat or a petticoat under her voluminous dark red velvet skirt. It was over 100 degrees Fahrenheit—too hot for all that extra clothing. As we shooed away flies and fanned ourselves with folded pieces of paper, she asked me if I was here to see Felipe. I replied that I was hoping to interview him about the current state of the Tsimané. She told me she needed Felipe to sign her *Plan de Manejo*, a logging permit, and she had to pay him the 200Bs (\$28.57) fee. I asked her why she needed Felipe to sign, why didn't she just go to the *Autoridad de Bosque y Tierra* who typically facilitate logging permits. She told me that she needed Felipe because the area she wanted to take wood from is within the TCO Tsimané, the protected Tsimané territory. I asked her how is it possible to take wood from within the TCO Tsimané if she is not Tsimané. Her demeanor changed abruptly from shy to defensive. She sighed deeply and rolled her eyes at me. She said,

“I am Bolivian. This is the land of indigenous peoples—everyone has a right to the wood, it is not only for the Tsimané. Everyone can benefit from it.”

In 2005, Evo Morales was elected president of Bolivia. His new government attempted to break the previous models of governance that marginalized indigenous sectors of society and extracted natural resources for the benefit of a few individuals. In 2009, through constitutional reform, the concept of *Vivir Bien* (broadly interpreted to mean “live well”) was institutionalized and the state name was changed to the Plurinational State of Bolivia. *Vivir Bien* aims to facilitate wider social benefits from natural resources through state control and formulate a stronger sense of citizenship and political participation from the approximately 36 indigenous groups, most of who are located in the Amazonian lowlands. New funding initiatives and political programs, including a regional expansion of utilities, targeted indigenous groups and indigenous areas previously isolated from national development (Gudynas and Acosta 2011). Another aspect of *Vivir Bien* is the promotion of a harmonious co-existence with nature—large scale private enterprise is replaced with government projects and nature is permitted to exist without management, which lends to policies not only to address human values, but nature’s values as well (De Angelis 2011).

The new Bolivian constitution extols the virtues of environmental protection, which can be achieved through community uses of natural resources (as opposed to private businesses), indigenous respect for nature, and development processes that are for the betterment of the greater society. One way this is achieved is through the recentralization of government offices, including those regulating land and forestry regulation. The forestry superintendent was dissolved and the land and forestry authorities were combined into one new agency called *Autoridad de Bosques y Tierra* (ABT). Although meant to offer closer government attention and

control over the extraction of materials from the resource-rich forest, in reality ABT resulted in more responsibility for fewer officials. While the forestry laws have remained intact, there are now fewer people to monitor illegal logging and to control the forestry sector. In effect, the restructuring of the forestry superintendent allows for greater direct control by the government in sponsored development or extraction initiatives, while there remains significantly less control over smaller forms of forest exploitation.

Local forest management is contested in a variety of ways and conflicts between and within various groups. The *cholita* wood buyer is a colonist who came to San Borja over ten years ago via a government resettlement program. She identifies as an Aymara Indian, but also as a resident of the lowland town of San Borja—especially since her children were born in San Borja. Referring discreetly to contemporary state politics and the philosophy of *Vivir Bien*, she sees Bolivia as one state belonging to all indigenous peoples, whether or not their ethnic group's origins are from that region or if they were born elsewhere. Canessa points out that there is a perpetuation of the idea that the lowlands are unoccupied, and the nationalized idea of an “indigenous person” allows highland indigenous people to make claims in all territories of Bolivia (2012). Although claiming a sense of indigenous unity with the Tsimané, the *cholita* has clear advantages over the Tsimané in terms of capital gain from the forest. The expansion of her rights as an indigenous person seems to perpetuate a history in which non-Tsimané have successfully occupied historically Tsimané territories and benefited from the extraction of their resources.

Similarly Felipe, the interim president of the Gran Consejo Tsimané, participates more often in national politics than previous leaders. His and other prominent Tsimané's attendance at indigenous congresses and meetings actively moves the Tsimané from a historically politically

isolated group to one with national clout. The emerging visibility of the group redefines the Tsimané as a strong autonomous ethnic group, but simultaneously it conflates Tsimané with broader, less defined, categories of indigeneity. On the one hand raising the national profile of Tsimané paves the way for better rights and ownership of land and forests traditionally belonging to the Tsimané, while on the other its concurrent conflation of Tsimané indigenous autonomy with broader forms of indigeneity allows others to also claim rights within Tsimané territory.

The voice distinctly absent from this story is that of the Tsimané living in the forest, on the middle or upper Maniqui River, away from town, and whose stake in the forest remains threatened. But these Tsimané are engaging in the discussions of *Vivir Bien* in their own non-explicit and controversial ways. Since 2009, Tsimané residing along the upper Maniqui River and who rely on the forest for their livelihood have significantly augmented the amount of trees harvested for timber sales. Harnessing rhetoric from the same anti-imperialist, pro-indigenous, and environmentally centric philosophy of *Vivir Bien* as the *cholita* and the Gran Consejo, Tsimané who reside upriver have turned to logging as a tool to regain control over their natural resources and limit the presence of outsiders in their forests—particularly highland migrants who controlled the timber trade in the Tsimané’s protected area. Additionally, logging provides opportunities to earn much needed cash for purchasing food and other commodities that have become staples in contemporary life.

The Gran Consejo, while also evoking rhetoric from *Vivir Bien*, worry about the ramifications of these practices. Specifically, they are concerned about the long term environmental impacts—as the national government’s conservation guidelines are not being enforced, the capitalist nature of these practices threaten the Tsimané’s credibility as an indigenous group in Bolivia by reducing their reliance on the forest as well as their previous

economic self-sufficiency in producing their own food. The resulting debates between Tsimané in town and Tsimané living upriver not only revolve around forest management, but also about the ability to be an indigenous Tsimané in Bolivia today. Ideas about livelihoods and particularly about the ability to access sufficient food lie at the crux of the discussion leading both groups to ask similar questions: how is access to food related to indigenous identity? And further, how does the manner in which the forest is exploited reflect indigenous autonomy?

The story above highlights the complexity of the social and ecological issues related to the commodification of wood in the Beni and exemplifies the ways in which contemporary indigenous and ecological policies are intertwined with historical debates over access to land and forest resources. These discussions formulate the questions: to which indigenous group does this land and resources belong? What constitutes a good life? And whose good life takes precedence? In this chapter I localize the concept of *Vivir Bien* through a discussion of Tsimané logging and by highlighting the conflicts emerging related to forest stewardship, livelihoods, and indigenous identity. I discuss recent Tsimané involvement in regional and national politics and the ways in which this influences contemporary ideas and values of logging. And lastly, I demonstrate how in practice philosophies like *Vivir Bien*—that aim to protect the environment and indigenous autonomy—can complicate notions of identity and livelihood even within the greater Tsimané population. While not explicitly linked, food is implicit to this discussion. For the Tsimané upriver, ideas of a subsistence economy based in forest food production disconnect them from their modern reality (specifically their desire for market goods) and prevent them from taking control of their landscape and its resources. For Tsimané in the Gran Consejo, by exploiting the forest, Tsimané upriver are relinquishing the very environment that has the potential to maintain their independence and support their cultural practices. The contradictory nature of these

philosophies emancipates small indigenous groups from centuries of marginalization and oppression yet simultaneously places limitation on livelihood production, which in turn, seems to continue to enforce a dominance of ideas and values about what it means to be indigenous in Bolivia.

LOCALIZING THE POLITICS OF VIVIR BIEN THROUGH LOGGING

In 2008, Bolivian President Evo Morales began preparing his reelection campaign. Morales set his sights on Beni, a lowland state typically unsupportive of Morales's politics.¹⁸ As part of his efforts to develop those areas of Bolivia that were largely occupied by small indigenous groups and historically ignored by past governments, Morales inaugurated a new electricity line running from the town of Caranavi in the state of La Paz through San Borja to the capital of the state, Trinidad. This electricity line would offer access to basic utilities and communications possibilities previously unavailable in this area of the country. Morales developed a strong relationship with Jorge Añez, the president of the Gran Consejo Tsimané at the time, to promote the development of the electricity line and link it with the active attempts to include previously ignored indigenous groups in the development of the country. To inaugurate the electricity line, Morales came to speak directly to the Tsimané. This was the first time in the history of the country that a president addressed the Tsimané directly and the Tsimané came out in droves to support him. The Gran Consejo supplied cattle cars from the river port to the electricity center to help Tsimané arriving by canoe from the upper and middle Maniqui River to

¹⁸ In addition to many indigenous groups, Beni is occupied non-indigenous residents from European or mestizo descent referred to as *Camba*. Parts of this population are cattle ranchers who hold large areas of land, much of the country's wealth, and historically wield national political power. To these lowlanders, Morales's policies are often interpreted as not equal for all Bolivians, and actively support indigenous rights over theirs. They are also threatened by the implementation of tighter land use and ownership laws, and fear that the government will take their land.

attend the rally. As they crowded into the trucks on their way to the rally, Tsimané flew MAS party flags and Whipalas and shouted “EVO! EVO! EVO!”¹⁹ I asked the person squished next to me what flags they were flying. Pointing to the MAS party flag, my neighbor said, “This is Evo’s flag.” Pointing to the Whipala, he said, “This is the indigenous flag.” The recent inclusion of these flags into Tsimané considerations speaks to the associations many Tsimané have with Morales and his government. These flags represent the new Tsimané position as a “known” and “visible” indigenous group in Bolivia joined together with other indigenous groups and supported by Evo Morales’s development initiatives. When we arrived at the rally, the crowd quieted down and despite many attempts by the M.C. to excite the crowd, the Tsimané were timid and apprehensive and mostly talked quietly amongst themselves. With Jorge Añez as his translator, Morales told the Tsimané that like all other Bolivians they would have access to electricity, cell phones, and other services. He said, “This is a state of the poor and the government will help and support them through development projects like this.” He also encouraged the Tsimané to take control of their land and their resources and to empower themselves as a nation.²⁰ Although the crowd was hushed before, they erupted into loud applause, happy to be addressed and excited about the prospect of having cell phone reception and electricity in their distant communities. They were also encouraged about taking control of their forests. The Tsimané were behind Morales.

Historically, the Tsimané have stayed away from politics. However, by supporting MAS, Tsimané were able to gain local political power and secure funding for their own agendas.

¹⁹ the MAS party flag is a blue, black and white stripe flag. The Whipala is a rainbow patchworked flag that stems from the Inca empire and traditionally represents the highland Indians of Bolivia and/ or Peru. The new Bolivian constitution names the Whipala a national flag, and it has become a national symbol of plurinational indigeneity throughout Bolivia.

²⁰ Taken of Morales’s speech on July 3, 2008.

Tsimané leaders report that during the first term of Evo Morales' presidency (2005-2010) there was little interaction between the Tsimané and the national government. But with the reelection campaigning underway in late 2008, the Tsimané became more involved with MAS. Following Morales's 2009 victory as a second term president, in the local elections of 2010, Jorge Añez ran and won the position of mayor of San Borja as a member of Morales's MAS. Since then, the relationship between the Tsimané and the national government has changed dramatically.

Tsimané leaders have been invited to national meetings of indigenous groups and have received funding for development projects. According to a long time executive Gran Consejo Tsimané official and current sub-mayoral official, their affiliation with MAS made it possible for the Tsimané to engage with the larger Bolivian nation and begin to harness more local power:

“Before MAS the Tsimané were excluded in the nation, we were used for campaigns but then the official in power would work for themselves and not the Tsimané... There are not many of us who have capacity as politicians; Jorge for example is the only leader, he is continuing in the political position. Then there are others following and becoming more capable in politics... we are continuing to grow in politics. We are staying here fighting, growing. We thought we would make our own political party as Tsimané. As Tsimané, we have tried other parties like *Cambio del Beni* but we weren't successful... we thought we could make our own party, but we realized that alone we could not gain anything because it's new, because of San Borja... because of the *campesinos* (farmers). In the end, because when Jorge was the president of the Gran Consejo Tsimané, he always coordinated with the Mayor's office and coordinated with other social organizations, and they supported him, a resolution was made with all the organizations that if they want to support his political campaign they have to go with MAS. It's a national-level solution. So when we made this resolution, on a national level, we weren't particularly MASistas, but because you could see their development, on the part of the politics, on the economic solutions... for these things we became involved in the party...”

Añez garnered support from across the Tsimané communities who came to vote in droves. He also gained popularity from local highland migrants who support MAS politics, and

in a surprise show of support, many non-indigenous, long-term lowlanders (known as *Cambas*) also voted for Añez out of frustration with the corruption of current San Borja politics.²¹

CONTESTED PURSUITS OF WOOD

In Añez's mayoral campaign, he encouraged the Tsimané to take back their forests from the *Kolla*, ethnically indigenous Andean highlanders, who are not only stealing their land but also their natural resources. He encouraged them to become their own bosses and not to rely on the *Kolla* for forest labor.²² Añez was referring to the highland migrants, particularly those in the market town of Yucumo, who control the exploitation of timber in the TCO Tsimané (most of which is illegally extracted). Representatives of Añez defend his overture by explaining that Jorge meant it as a big-picture approach to remove the *Kolla* from any role in timber exploitation within the TCO and particularly from controlling the trade of wood. The *sub-alcalde* elaborates:

“When we started to look for the power in the *Alcalde*, Jorge said that with the *Alcalde* he wanted to improve the lives of the Tsimané. Now the people are waiting for Jorge to help them. Jorge is looking for bigger projects but everyone is talking about wood, wood. He is looking for a big project about wood. You know that it can't last for a long time, Tsimané taking wood, because the people who take the wood are doing it illegally. They don't have the papers, and then the money and the wood is lost [when they get stopped and the wood gets confiscated]. It would be better if the Tsimané were in charge of everything. We need a big project that benefits everyone. But until we have one, they [other

²¹ The major issue at the time was electricity; there were city-wide nightly blackouts from 6pm until 6am followed by a seemingly random pattern of neighborhood blackouts. Locals blamed it on corruption in the administration of the existing electricity co-operation. Morales's plan to put a new electricity line from the town of Caranavi through San Borja to Trinidad seemed like an optimal way to improve the quality of life. It is particularly telling that the traditionally, anti-MAS Camba population of San Borja was not only willing to support MAS, but a Tsimané to be mayor. Historically, non-indigenous residents of San Borja have seen the Tsimané as “poor indians” useful for occasional laborer, but not much more.

²² I attended only one of Añez's campaign rallies and it was aimed at the general San Borja population including the Tsimane, but not the Tsimané specifically. I was, however, able to attend campaign meetings by some of Añez's representatives speaking to Tsimané on his behalf. As a result, these are second-hand accounts heard from multiple Tsimane sources. However, there is a high level of consistency in these accounts, which points to a uniformity in interpretations of Añez's speeches.

Tsimané] will continue working for the *kollas*. If we don't look for something else, I think they will continue and there will be more poverty.”

In this way, the mayor's office hoped that a big project would be able to provide sufficient benefits to the Tsimané so that they could stop illegal logging and stop the exploitation of the Tsimané forests resource by highlanders. However, many Tsimané upriver interpreted Añez's words in a different way, understanding them not as a call to move away from the *kolla* control altogether, but as a call to take more responsibility in business and to take control over their income. Many Tsimané credit Añez with encouraging them to become managers of logging contracts as opposed to day laborers. Marco, a Tsimané in the community of Maraca explained:

“Before people would not buy wood from Tsimané, and Tsimané did not want to work for *Kolla*. But now we work for ourselves. Two Years ago Tsimané started working [in wood]. They did it before too, but not as much because they would only get a small percentage of the money from the *kolla* or the *napo* who was working in the forests. The Tsimané were not the owners of the wood and were being taken advantage of. Two years ago, Jorge Añez encouraged the Tsimané not to work with *napos* or *kollas* and to work for themselves. And they did. And even though they still sell to *kolla*, they feel they are more in control now, so they do it more often.”

Since 2009, men from extended families engage together in a logging contract. One man holds the contract and stands to benefit the most from the deal. He is in charge of procuring the chainsaw and the gas, hiring day laborers (including one person to actually cut the wood, subsistence porters, and wood porters), and purchasing the foods for the process. Contracts can vary from 5,000 to 20,000 board feet of popular woods like *Cam* (Gabu- *Otoba parvifolia* (Markgraf) A.Gentry), *Macha* (Roble- *Amburana caerensis*) and *Siyamo'* (Ceder- *Cedrela odorata* L.). It takes anywhere from three weeks to three months to fill the order. During that time, men generally spend five consecutive days near their wood site, returning to the village on a Friday or Saturday and then going the next day to the market towns to restock. The following

Monday, they head out again. After the contract is filled, another family member sometimes procures a contract and then the roles of that family shift, but they continue to work together. If a family is not maintaining a contract, it is not unusual for the men to join another family cluster's team to help out as day laborers for a week at a time. Logging contracts mostly take place in the rainy season after the agricultural plots are planted. Increasingly, however, contract periods are encroaching into the dry season, during planting, and in the early harvest season when the rains are tapering off.

Before 2009, few Tsimané were heavily involved in logging. While occasionally acting as logging contractors or day laborers, participation was inconsistent from year to year. In Maraca, 36 percent of men above the age of 14 reported working in wood²³ in 2009. In 2010 and 2011, 76 percent of males above the age of 14 in Maraca (and two 13 year olds) worked as loggers— either as the contract holder or as a day labor for a relative. This trend is visible in other villages both up and down the river. Tsimané men confirmed their recent involvement in logging, explaining that they have only been doing it for a year or two, and that while they would not have worked for a *Napo* (a Spanish speaker), they would work for another *Chatidye* (family member, member of the Tsimané tribe).

Engineers at *Autoridad de Bosques y Tierra* (ABT), the current forest authority, estimate that along the Maniqui River, for the greater part of 2009, 2010 and 2011, the Tsimané illegally logged about 100,000 trees per week from within their TCO. Even within the TCO, cutting and selling this much wood requires permissions and conservation plans to be legal. Forestry officials in San Borja report that Tsimané in the TCO received 70 *planes de desmontes* in 2010, significantly more than the year before (ABT unpublished data). This increased logging activity

²³ This is the percentage of men who were 14 years old or older in 2009.

through legal channels is additional to an explosion of illegal logging by the Tsimané. On one hand this can be attributed to the Tsimané's recent interest in logging, but it is also related to the new national rhetoric emphasizing that the land is everyone's as well as an increased interest from outsiders in benefitting from the land. ABT authorities suspect that there are colonist highland backers behind many of these *planes de desmontes*. Additionally, two Tsimané communities situated directly outside of the TCO received *planes de manejo*, which doesn't allow them directly to take trees from the TCO but indirectly facilitates logging within the TCO as there is little other standing forest in the immediate region.

Just like Morales, Añez rose to local power by appealing to the state of disenfranchisement of his constituents. By promising Tsimané to hold logging contracts themselves, he offered a solution that allowed the Tsimané to take back their forests as well as the benefits from the forest. But now, however, he sees that logging is only a short-term solution and the community needs larger projects. Also, the Tsimané authorities think this logging is doing more harm than good by causing increased damage to the surrounding environment and perpetuating a reliance on outsiders' checkbooks. These interpretations of wood extraction and current timber activities upriver by the Tsimané in government are critical and approach the process as if "those" Tsimané are doing something wrong. It is insinuated that if the Tsimané upriver were not working in wood, they would have plenty to eat. But embedded in this approach is a misunderstanding of some larger processes of governance, finance, subsistence, and ecology that have impacted the forest and have made it difficult to survive solely on traditional subsistence practices.

As in the national predicaments between indigenous rights, conservation, and development, the Tsimané authority now see problems with the accelerated timber extraction by

their constituents within their own territories. In an interpretation of the activity that is quite the opposite of those doing the logging, Tsimané authorities see the logging as equally exploitative to the Tsimané as past timber relationships. They also worry about its longevity and sustainability. Finally, they believe that this type of market-oriented activity harms subsistence activities and the Tsimané's reliance on agriculture. A Sub-Mayoral official explains:

“Wood is a question for all of the communities on the upper Maniqui River. The Gran Consejo wants them to stop but people in the communities keep taking wood. They go straight to Yucumo and do business there. They still do this. But ABT doesn't say anything. It's difficult. They don't make any money. The people who buy wood make money, they have houses, but we don't make much. Those who work in wood don't have rice or plantains because they don't have time. They are dedicated to the wood. Those who are primarily dedicated to their agriculture have everything: papaya, manioc, maize, rice, sweet potato, pineapple. They don't lack in anything. The only thing they lack is the meat and the sugar. But if they sell some of their products they can buy these things. But those dedicated to wood don't have anything, only debt.”

Again, the assumptions that the Tsimané in the government have about the needs and aspirations of the upriver Tsimané or what *Vivir Bien* might mean to them are apparent. The Tsimané in government do not recognize the same politicized values in logging that the Tsimané upriver understand—they only see debt, poverty and destruction. Authorities worry that the continued deforestation of the Tsimané TCO only garners cash for individuals, maintains reliance on highlanders (as they are the ones who moderate the logging contracts), and degrades the forest on which the greater population depends.

Although Tsimané upriver credit Jorge Añez with the impetus to begin logging on their own, they now find the actions and reactions of the Gran Consejo Tsimané and the mayor's office as a threat to their livelihoods. In September 2010, the Gran Consejo proposed a 1000 Bs tax (\$143) on the road that Tsimané use to move their logs from the river to the main highway. The Gran Consejo claims that the road will ensure that non-Tsimané loggers will contribute

financially to Tsimané causes and that it will deter others from taking the wood. The mayor's office says that this tax is a way of curbing a variety of illegal activities and will allow the Gran Consejo and the communities who maintain the road to moderate the traffic. But Tsimané loggers upriver think this is a direct action against them and their ability to make money. These Tsimané, who make up the majority of Tsimané loggers, feel that they will ultimately be responsible for paying the tax and will lose significant portions of their overall contract income. Some Tsimané upriver blame the proposed tax on other Tsimané living along the road or outside of the TCO and claim that they are influencing the Gran Consejo. Others, responding both to the tax and the tension between the Tsimané, feel that the situation is regrettable, as the Tsimané are not protecting on another. A teacher in a neighboring village of Iuvasichi where many men are also involved in logging, said, "This wood issue is terrible. It's not good when Tsimané are fighting with each other." Many Tsimané involved in the logging feel that this is just another way the Gran Consejo is making money at the expense of other Tsimané.

The Tsimané support Evo Morales and MAS in elections because he exemplifies their struggles and facilitates their ability to voice their desires, retain ownership of their forests, and receive the types of financial benefits available elsewhere within the state. Ideally, Morales's government meets all of their needs. The Tsimané hope that through supporting one of their own in government, larger changes will take place to facilitate the maintenance of their lifestyle on their own terms. In practice, however, there is little knowledge of how these needs can be met and guaranteed through the government processes, and Tsimané upriver are frustrated by the Gran Consejo Tsimané's approaches to meeting their needs.

For many Tsimané, engaging in the contemporary processes of logging is a transformative process that allows them back into the forest and allows them to subsist from its

resources in a way that gives them more control than has been possible in the last 30 years. This independence and control is the localized embodiment of Morales's indigenous empowerment rhetoric. But the logging is also an unanticipated way that the Tsimané can reconnect with the forest and nature. Tsimané logging practices are the culmination of emerging indigenous politics in Bolivia, which have encouraged them to take ownership of their natural resources. It has also promoted a "decolonized" idea in which the Tsimané do not want outsiders regulating their forests. They want to maintain a lifestyle related to the forest, which also allows them to engage in the market economy on their own terms.

CONCLUSION

Since the early twentieth century, maintaining control of the forest has been a challenge for the Tsimané. The growth of the timber industry and the cattle industry coupled with the failure of relevant policies to control them changed the landscape of Tsimané territory by causing heavy deforestation, creating breaks in previously continuous forested areas, and by altering means of food production. Today, empowered through the emerging political framework of *Vivir Bien*, which promotes indigenous rights and the rights of nature, some Tsimané living along the middle and upper Maniqui River see an emerging opportunity to regain control over the forest through new forms of labor like logging. Logging not only facilitates time spent in the forest, but it also provides income to buy food commodities (a necessity for survival) and as well as commodities long desired but historically difficult to obtain.

Current government authorities from the Tsimané and local and national forest authorities worry about the impacts of this logging. They believe it eliminates subsistence agriculture, reduces plant and animal biodiversity, and makes people poorer. They frame the logging as

unsustainable and urge the Tsimané upriver to stop taking the trees for their own use. The Gran Consejo Tsimané understands logging as simply another way the highlanders are taking advantage of Tsimané resources after having already taken the land through migration. They see logging as another form of displacement that further deforests the land and puts money in the pockets of outsiders. Instead, the Gran Consejo proposes other means of earning cash by replacing logging with intensified cash agriculture. They see the new position of the Tsimané people in larger Bolivia as an answer and are looking for funding opportunities that facilitate a “healthier” lifestyle and agriculture intensification projects.

While Tsimané upriver are aware of the ecological impacts of their logging and often joke about what will happen when there are no more trees, they find the idea of intensified agriculture as a replacement for logging to be an erroneous assumption of their livelihood processes and to be based on the idea that they can survive solely from agriculture or forest goods. Over the last century, Tsimané have been continuously exposed to commodity goods and have been simultaneously pushed towards a cash economy that relies on cash cropping. To afford the goods that they want, diversifying types of labor seem to be a necessity. But they are torn between a desire for commodity goods and a desire to remain moderately isolated. They also know from experience that if they do not log, someone else will. Independent logging provides an outlet that can encompass this complexity.

The Tsimané upriver understand the Gran Consejo’s opposition to logging not as a mechanism to conserve the forest or protect them from further disenfranchisement, but rather as a mechanism to continue supporting their own causes. It’s a duality in which, on one hand, the Grand Consejo supports Tsimané communities and on the other they only support logging that fits their needs. After years of this skepticism towards the Gran Consejo, the Tsimané are

hedging their bets; for many, the logging represents a means to ensure they have cash now, with hopes that they will benefit from the government and the Gran Consejo in the future. Tsimané upriver are more focused on surviving in the present and on their own terms. For many, it is liberating to control your own logging contract. Many acknowledge that the wood is illegal and that they are still working for a highlander, but they insist that it is in a different capacity. For these it is a question of the freedom to work in the forest on their own terms.

However, logging grounds the Tsimané in ownership and management of their space in a way that does not satisfy the expectations of their leaders. Although encouraged to go in this direction by national and local politics, the Tsimané's overwhelming engagement in logging surpasses the expectation offered in Añez's campaign. The Tsimané are taking back their forests in order to subsist from both cash and traditional methods and in a way that exiles outsiders from actually working within their protected forest. This is movement away from the everyday presence of outsiders in their lands and a movement away from discursive discussions about conservation and forestry management that penetrate government regulations and provide another form of outsider control.

Contemporary politics in Bolivia place an emphasis on both indigenous well being and nature's well being. These politics promise increased rights for the Tsimané and other indigenous groups over their land, but for some the reality proves to be continued disenfranchisement. In the scene mentioned at the beginning of this chapter, the complex relationship between the Tsimané, different ethnic groups, and forest rights becomes increasingly meaningful. The position of each actor (present or not) becomes increasingly clear as each represents his or her own complex history of struggle. Contemporary settings for Tsimané diet and food production reflect histories of settlement and expansionism, land and forest exploitation, and what it means to lay claim as

indigenous in Bolivia today. These complex contradictions continue to be situated within longitudinal processes of colonization and exploitation as well as the social and environmental repercussions that they produce.

Although never directly addressing it, it can be argued that the Tsimané of the middle and upper Maniqui River have still been engaging with *Vivir Bien*—they have been influenced through emerging indigenous politics that encourage indigenous ownership of natural resources and promote a “decolonizing” idea. But at the same time they are resisting the idea of external models of forest conservation, state control of forest, and the idea of collective responsibility and benefit. By engaging in *Vivir Bien*, the Tsimané are participating in an alternative to neoliberalism—they are not looking to gain large amounts of capital or own the rights to natural resources extraction. But by engaging in individualist logging initiatives and augmenting the type of capitalist relations they manage, Tsimané are also practicing an alternative to *Vivir Bien*. Their use of the forest suits their need to survive, despite ideas by outsiders and officials that believe they continue to maintain an economy based in agriculture. Politically, ecologically and economically, Tsimané logging is a localized and small-scale alternative to the national approach based on the historical marginalization of a nation.

CHAPTER 4

MARACA: A COMMUNITY IN FLUX

At 9 a.m. on a dry Saturday morning at the end of November, Mariela and Alberto and five of their youngest children returned to Maraca after visiting Yucumo, where they had gone shopping after selling plantains. The family left town well before daybreak to make the arduous journey home. They traveled by canoe, paddling upriver for almost four hours to avoid having to carry the youngest two children on foot. Although exhausted, Mariela immediately began cooking. She started a fire and sent her son Daniel to fetch water from the nearby stream. Relieved that she did not have to do any major food preparation, Mariela boiled *charkey*, dried beef, with rice, both of which she purchased in town. She added a red onion and salt (also purchased in town) to make a dish known as *arrosh* (rice). She then picked ripe plantains from the bunch balancing on a long cord strapped from one corner of the kitchen to another and arranged them on the periphery of the fire. In the meantime, the children happily finished off a bottle of orange soda and then ripped open packages of hard candies they bought in town. Ten year-old Cristian led the group and dictated who could eat what and how many. I turned to Alberto and asked jokingly why Cristian was being so bossy today. Alberto explained that the candy belonged to Cristian because he had purchased it himself. “Where did he get the money?” I asked. Alberto explained that it was money that Cristian earned from attending school. Cristian and other school-aged children had recently received 200Bs (\$28.57) from the Ministry of Education as a cash transfer for school attendance. The national program is meant to help families purchase books, clothing, and food for the students. Alberto let his two school-aged children, Cristian and Daniel, keep their money, because as he put it, “They earned it. It is

theirs.” Cristian, interested in a conversation revolving around him came over and showed me the other bounty his cash transfer had purchased. In addition to candy and soda (approximately 10Bs or \$1.43), he spent 20Bs (\$2.85) on shin guards so he can play soccer with the older boys, and 12Bs (\$1.71) on a police toy set which included plastic walkie-talkies, handcuffs, a pistol, a knife, and a grenade.

This scene is increasingly common in Maraca—trips to the town of Yucumo, the sale of plantains, the consumption of commodity foods in the context of village life, government cash bonuses as well as the purchase of non-essential goods. An influx of cash has become a necessity as reliance on market commodities becomes increasingly commonplace. The demand for plantains in the broader region has been one way this cash accumulation has been facilitated. Most commonly, Tsimané in Maraca respond to radio calls from traders. In this circumstance, a trader came directly to Maraca on Thursday with cash in hand and offered to pay for plantains on the spot—if the plantains could be delivered on Friday to the port of Arenales down the river. Alberto, who had no prior intention of selling plantains this week, prepared 17 bunches and received what everyone in the community considered an excellent price: 20Bs (\$2.85) or 23Bs (\$3.28) per bunch (depending on the type). That week Alberto was one of eight families that prepared plantains. Early on Friday morning the men took the plantains down to Arenales, about half of them with their entire families in tow. Following the plantain drop-off, the families headed to Yucumo to spend their cash. While some returned on Friday afternoon, others, like Mariela and Alberto, returned on Saturday. But they all had one thing in common—after the trip everyone ate rice and charkey in *arros* for the next week or so.

In the previous chapters I described a history of development in the region that not only led to an increase in the population and the expansion of logging and ranching industries, but

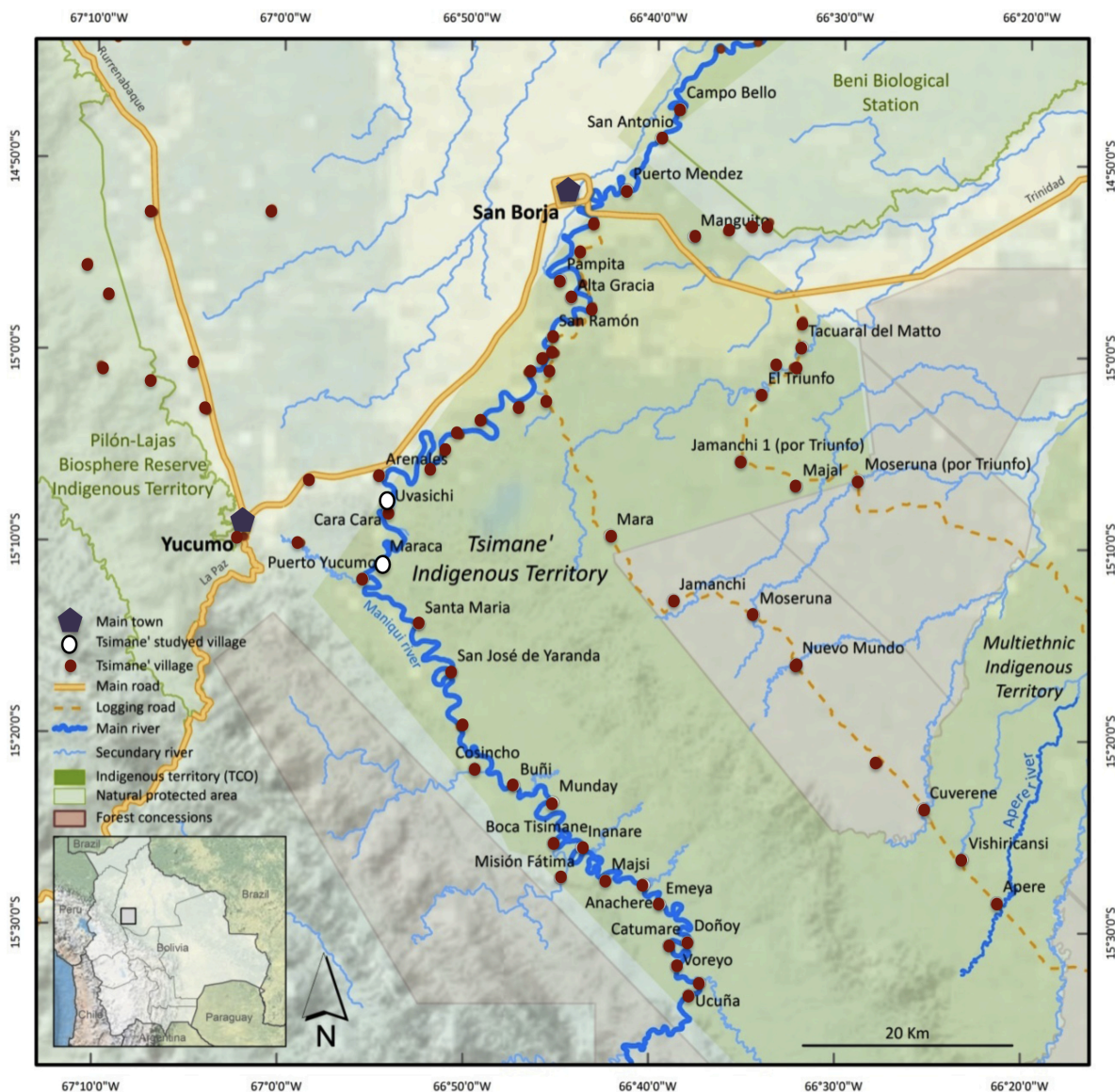
also changed the demographics, settlement patterns, and political organization of the greater Tsimané peoples. I discussed how this history changed and how the Tsimané were able to survive off the forest and this shaped current debates over contemporary forms of labor and forest. In this chapter, I offer a focused ethnographic description of contemporary Tsimané life in the community of Maraca, which highlights the ways everyday life embodies these larger political, economic, social, and environmental processes. I demonstrate that food was and continues to be central to the social formations of everyday Tsimané life. New patterns of livelihood procurement have emerged and food production and consumption have shifted to reflect them. I focus on the demographic and geographic make up of the community of Maraca, where research for this dissertation took place. I describe contemporary food related practices, the diversity of livelihood activities, and the relationship of Tsimané with the market.

OVERVIEW OF THE COMMUNITY OF MARACA

The primary research site for this dissertation is the community of Maraca. Maraca is located along the Maniqui River, about a half a day's worth of travel from the town of San Borja. Maraca was first settled between 1915 and 1925 when four families moved there together from further upriver to be closer to San Borja and to have more space for agriculture and hunting. The word *Maraca* refers to bitter oranges in the Tsimané language, a reference to the abundance of the citrus fruit in the area, which made it an attractive place to settle. Ellis who conducted research in the area in the early 1990s described Maraca less as a settled community, and more as a residential zone of the community of Puerto Yucumo where houses are dispersed along the Maniqui River and families have consanguineous relationships with each other (1996). Many of the families residing in the area during Ellis's research continue to be residents with their

children in contemporary Maraca. In 1994, the Gran Consejo Tsimané officially established the community. Subsequently, a teacher was sent to the community and a rustic school building erected. Between 2004 and 2008, the Gran Consejo facilitated the building of a concrete school building with funding from the national government.

MAP 4.1- MAP OF MANIQUI RIVER



Map courtesy of Ana Luz

Since Ellis's work, new communities have emerged in close vicinity and many have expanded and continue to expand to accommodate the rising population. Now, Maraca is part of a cluster of communities located within the TCO along the middle Maniqui river, which I describe as moderately isolated; these communities are all within a days journey to town and are frequented by traders through radio announcements directing residents to sell their goods at the nearby rivers ports. They are located upriver from San Borja in the middle Maniqui River—reaching town takes significantly more effort than those downriver along the lower Maniqui. For communities located along the middle and upper Maniqui River, these trips to town are time consuming, taxing, and costly. From town the trip to Maraca can take between four and eight hours and can cost up to 16 Bs (\$2.28) per person. To make the trip in four hours, it requires land transportation to the port in the community of Arenales and then a motorized canoe ride upstream, two hours by car and two by canoe. During the rainy season when cars cannot pass and canoe transportation is dangerous in the swollen river, you must hike between five to six hours from the highway to the community. Generally, people in these communities prefer to spend most of their time in the community. Community members remain dependent on subsistence production through swidden agriculture, hunting, fishing, and gathering, but are also involved in cash cropping and other forms of day labor. They are neither so close to town that most of their work is cash oriented nor do they maintain complete reliance on the forest. This balance allows for creativity in the ways that market practices and commodities fit into everyday life. Community members know they can rely on multiple forms of income, so they are able to engage with both subsistence and market practices on their own terms and not because of large distances from/or close proximities to the market. My focus on one community in the middle of the Maniqui River is a departure from previous research among the Tsimané which often

compared the impact of market engagement along a distance scale by comparing a community located closer to the town of San Borja with a community farther away (Byron 2003; Martinez 2010; Reyes-Garcia 2001). This area in the middle of the Maniqui River is experiencing a population boom of Tsimané and Maraca provides a good example of this boom as well as other broad transformations that are being experienced.

In addition to its location, I chose Maraca because of the hospitable nature of its residents. The first time I entered the community was in late July 2007. I was part of a group of students in the TAPS Research Methods course and we were traveling downstream by canoe from the community of Yaranda, four hours upriver, where we had been conducting fieldwork. We took a detour and stopped in Maraca to speak to the local elder. The canoe veered off of the river into a smaller stream that was shaded by overgrown palm trees leaning towards the water. Away from the rush of the river, it was quieter: one could hear the rustling of the leaves in the wind and the sound of birds in the nearby forest. The hot sun of the dry season beat through cracks in the forest cover, but it was a relief to escape its glare. We pulled into a small clearing on the stream's bank and got out of the canoe. Carefully we made our way across two makeshift log bridges balancing with our hands extended. One of the professors turned to me and said, "This is Maraca. The happiest Tsimané community." I looked at him skeptically, but was intrigued and asked him to elaborate. He told me that during the most recent panel study, the interviewers counted how many times each respondent smiled during the interview. He said that of the 13 communities surveyed in the study, the residents of Maraca smiled the most. I returned again to Maraca in 2008 for a week long visit. I found Maraca's families to be easy going, welcoming, and talkative, and so I decided that I would like to carry out my research in Maraca.

It met all my research criteria, and while the reasoning was not necessarily scientific, why not study in the happiest place I could?

In 2010, Maraca had 126 permanent residents: 27 men and 27 women over the age of 18 years old and 72 teenagers and children. Out of the total residential population, 26 women were married to 25 men. During my stay, four babies were born.²⁴ Tsimané is the primary language spoken in Maraca. While some men are bilingual and speak both Spanish and the Tsimané language, most community members are monolingual and exclusively speak the Tsimané language.

All community members in Maraca are kinsman with multiple generations stemming from the children of the community's founding families. Most of these families continue to practice Dravidian cross-cousin marriage (Daillant 1994). These community members make up 25 families and eat in 17 kitchens. As an important communal area, the kitchen is the unifying space of a household. Households generally include clusters of families that live together and share one kitchen. In Maraca, seven households are made up of more than two families and ten households were made up of single families. Households averaged 7.3 people. There is an important distinction to be made amongst individuals, the family, and the household. Tsimané individuals maintain ownership over durable objects, money, and commodity goods. Durable items are passed through matrilineal lines, but historically few items have lasted long enough to be passed down. One example of this is the *Mij musaquity*, a large grinding stone used to pulverize maize. Today, Tsimané also have metal tools such as axes, shovels, aluminum pots,

²⁴ Not included in the total number of residents are the four babies and three new families (fifteen individuals) who moved into the community in late January 2011, during my final two months of research in Maraca. Also not included among the community residents are the schoolteacher, her husband, her mother in law and two of their young sons. Although the teacher's family kept a *chaco*, they considered themselves to be residents of another community and San Borja and only spent a couple of days per week in the community while school was in session.

and shotguns that can be passed down. Alternatively, Tsimané families maintain the house, food stocks, and agricultural fields. Families are nuclear and on average consist of five people. In the household, family food stocks are pooled together and the members eat out of the same pot. Additionally, members of the household often work together to complete various tasks. In the kitchen, the restraints of individual and family ownership are muddled and pots and utensils are used freely. Rice, plantains, and other crops that have been harvested are shared once they are cooked. The multiple ways of dividing property and goods means that there are multiple measures of community demographics that need to be mentioned. As a result, units of analysis include individual, family, and household measures.

Generally, young couples settle near their parents or in-laws and more established couples with children live near married siblings and elderly couples with married children tend to live with or near their children. Most commonly, families in Maraca practice matrilineal settlement patterns where newlyweds live near the wife's parents and share a kitchen with them. Hooper demonstrates that males and females remain dependent on calories from kin until around the age of 17 and 23 respectively (2011). While living near his wife's parents, the son-in-law works with his father-in-law until the couple becomes more independent. However, there is no hard and fast rule to this and young families can settle close to either set of parents. As young couples become more independent, they might build a house and a kitchen in an adjacent patio. Independence is usually established with the birth of a second or third child and the expansion of familial agricultural plots.

Familial relationships extend further than the nuclear family and remain important for the production of livelihoods and everyday life. Sons often help their brothers and fathers (and vice versa) with the clearing of trees for the *chaco* and also work together as logging teams.

Daughters, sisters, and mothers help each other with the child care as well as gathering wild fruits in the forest. Although resources are not pooled, the wellbeing of one family in the household generally means more support for the extended family as a whole. Ellis asserts, “Relations of production are never constant because of the frequent rupturing and change of relations of co-residence” (1996:50). As young families move between parents’ patios and connect, reconnect, and distance themselves from their extended families, new patterns in the relationships of production, consumption, and sharing are formulated. New relationships emerge in which cash payments are made to young men in order to clear and plant the *chaco* by other men who are so involved in logging work that they do not have the time to clear a *chaco*.

Tsimané homes and kitchens are built on large cleared patios over raised dirt beds about a half a foot off the ground. Homes are walled with wooden boards or polls of *shuru* (*Gynerium sagittatum*). Earlier studies about the Tsimané mention that most homes did not have any walls, but homes closer to town were beginning to erect them (Byron 2003; Ellis 1996). Alternatively, all homes in Maraca not only have four walls, but residents also locked the doors with locks bought in town when they left the village. Although the theft of non-food items is extremely low, an increase in the purchase of technology and the storage of cash in the house makes many Tsimané more vigilant about security. Within their homes, Tsimané share platformed beds and store clothing, food, and other goods in colorful woven bags known as *sarai* or strung over ropes attached from one side of the house to the other. Only about 50 percent of kitchens in Maraca have walls. Most are open on the sides with a palm-thatched roof. Pots, plates, and utensils are stored on shelves that rest on top of the structural beams of the house. These shelves also keep the leftover food, extra roasted plantains, and other cooked foods away from animals. Long ropes

usually spanning the width of the kitchen carry multiple bunches of plantains and provide easy access to the staple food.

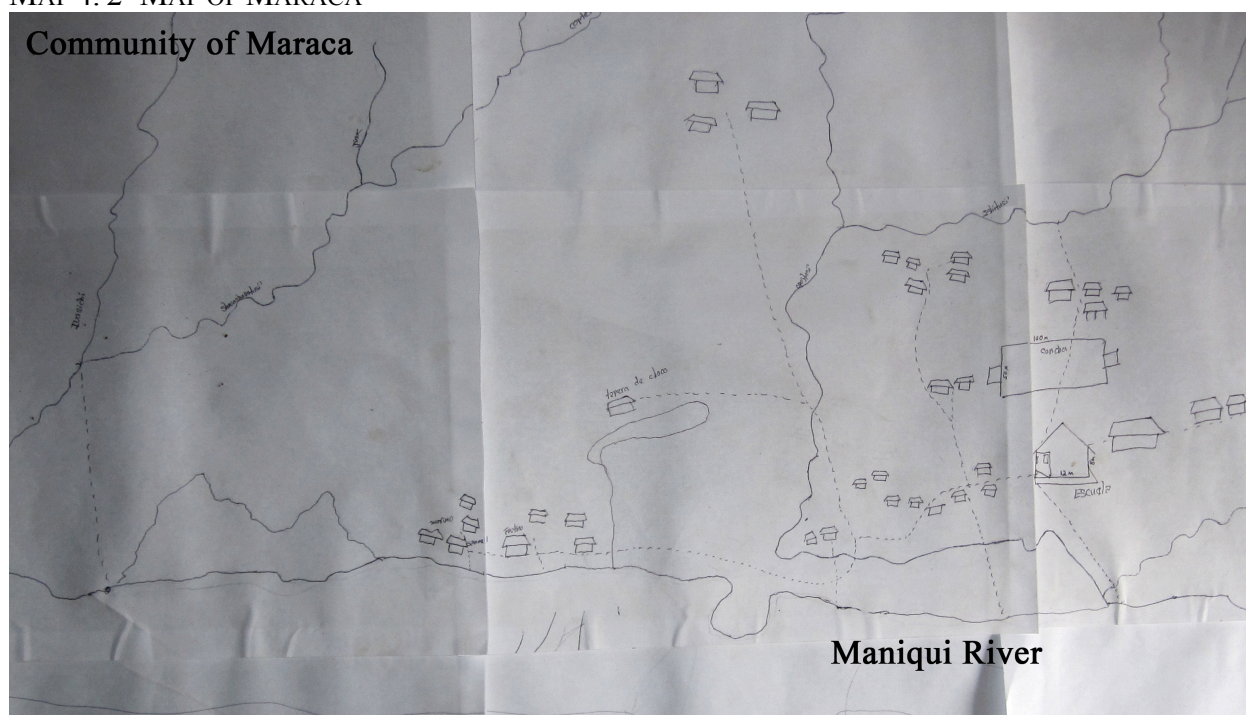
GEOGRAPHY OF THE COMMUNITY

Geographically, the community of Maraca is divided into three separate areas. The majority of homes are located close to the concrete school building. This area acts as the center of community life: people from all over the community use the school, young men play soccer in the field adjacent to the school at twilight, people watch movies on the school's television, and community meetings are held there. Sixteen families and the teacher live in this area. The second section of the community is a 45 minute walk from the center, down river. The original settlers of this area moved there ten years ago because the family was the first in the community to own pigs, which promptly destroyed their neighbors' gardens and caused tension.²⁵ Today, six families live in this area. Tensions exist between this area and the center of the community. Families in this area feel they are benefiting less from the school and from the government than other community members due to the distance. I found that children from this area came to school less and people did not watch television in the school at night. But in general, people were not opposed to the long walk and were happy to come to watch movies on the weekend and play soccer on clear afternoons. Although I visited these families regularly, during the rainy season it became a challenge to reach their homes and occasionally impossible to reach them for weeks at a time. The path was flooded so heavily that the water reached my chest and the rain was so strong that it was unsafe to travel by canoe down the river. At one point some of these families

²⁵ Today many families, on both sides of the community, own pigs. The pigs run freely causing havoc everywhere. As opposed to controlling the pigs directly, most Tsimané have resolved to build fences around their gardens and on paths near chacos to curb the pigs' destruction of crops.

threatened to secede from Maraca and toyed with the idea of either joining with a neighboring community or starting their own community altogether. At one point during the year, three out of six of the families were included in both the Maraca census and in the community of Puerto Yucumo's census. However, their complaints disappeared when three new families moved into Maraca between the center of the community and their area. Two families even rebuilt their homes during the rainy season implying they would stay in the community at least a little while longer. Finally, the third area of Maraca is located directly across from the central area of the community, on the other side of the river. This includes one household consisting of three families. The patriarch and matriarch explained that they moved there because they wanted more privacy and more space.

MAP 4. 2- MAP OF MARACA²⁶



Map Drawn by community members

²⁶ Missing from the map is the third group of houses, a single household across the river

In Maraca, I lived in the community house, which was built by the Tsimané Amazonian Panel Study in 2008 and then was subsequently gifted to the community. The house is located in the center of the village, near the school and adjacent to two household clusters. The house is used to provide shelter for visitors to the community as well as to hold community meetings.

Additionally, when the Panel Study was active, researchers were able to lodge in the house.

While I was a resident in Maraca, my house was always bustling with visitors and most community meetings were held in the house.

Maraca is heavily forested with both primary forest and secondary forest. Community members decided to preserve an area of the forest that still has a host of native trees, many extinct in other parts of the TCO, in order to teach the children how to identify them. Maraca has three streams that are used for fishing and also as paths for hunting. All three begin near the center of the community but extend into the dense forest. Homes are located inland from the river, but most are arranged parallel to it, so everyone has fairly easy access to the river.

Residents spend many hours per day at the river and use it for everything from drinking water to laundry, fishing, and play. Agricultural gardens are located close to the homes and are generally within a ten-minute walk. *Chacos*, large agricultural fields, are often located 30 to 40 minutes away by foot or by canoe. These fields are located on both sides of the river. Residents are able to clear as much land as desired within the “boundaries” of the community. Often men consult with their brothers and cousins about the placement of the space, but generally there is a first come, first serve policy applied to who gets to clear space. Swidden agriculture has expanded in the last few years as many residents have become invested in cash cropping plantains and rice. As a result, this has threatened the primary forest. During my stay, three individuals cleared their agricultural plots in primary forest, as opposed to forest at the end of the fallow cycle. Each one

explained to me that they did this for two reasons; first, because there was no more space close to the village, and secondly, because they needed extra space for their cash crops.

Maraca is on the smaller end of the average-sized village, so I augmented the number of respondents for some parts of the data collection (namely, the survey and the cultural domain analysis) by conducting additional research in the adjacent village of Iuvasichi. Iuvasichi is also located within the cluster of moderately isolated communities along the middle Maniqui River. Iuvasichi is located slightly down river from Maraca. Iuvasichi was chosen because it shares an important forested border with Maraca and as a result, community members from both villages interact constantly for timber exploitation and due to familial ties. Iuvasichi is slightly larger than Maraca and has 235 residents stemming from 30 families. All homes within the community are within an hour and a half walk from one another. The community has a cement school and a cement adult school building. Iuvasichi is one of very few villages that has schooling for children from grades one through eight and it hosts regional adult continuing education called SEPTA. Iuvasichi's environment includes an extensive forest, lagoon and large stock of valuable timber. Access to town from Iuvasichi is slightly easier and takes about two and a half hours, though in the rainy season when the dirt roads are muddy, it can take up to five hours.

COMMUNITY ORGANIZATION AND POLITICS

The political organization of Maraca reflects the geographic organization of the community—the families clustered near the school not only hold official positions, but voluntarily take leadership roles. While the community members do not recognize a single member as being the leader of the community, they assign tasks to officials recognized by the Gran Consejo Tsimané and the local and national governments. These officials are the

Corregidor (the town mayor) and the community teacher. The *Corregidor* is responsible for resolving conflicts within the community, granting permission to outsiders to enter the community, and acting as the representative of the community in official business. In addition to teaching children and adult classes, the teacher also acts as an intermediary between the community and various government ministries. Other positions include the *Junta Escolar* (school liaison) and the OTB (representative of the community for administrative issues). While the Ministry of Education and the Gran Consejo Tsimané assign the community teacher, the *Corregidor*, *Junta Escolar*, and the OTB are voted into the positions upon the official founding of the community. In Maraca, the *Corregidor* enjoyed being recognized as an important member of the community and liked to be asked permission for activities in the community. He was considered to be fairly lazy when it came to administrative issues, but he was well liked by other community members. Petitions and requests to the government were primarily prepared by a couple of motivated individuals who understood and recognized emerging opportunities when they were announced on the radio or that they heard about through word of mouth. While the *Corregidor* did turn in paperwork to the Gran Consejo, it was at the behest of two of his brother-in-laws, who wanted to apply for projects from the national government and from other community members who wanted to replace the teacher.

The teacher, a Tsimané from another community, was unpopular in the community for various reasons. Some thought she was a bad teacher and responsible for poor Spanish fluency amongst the children; others felt she spent too much time in San Borja and was not committed enough to the community; others simply did not like her husband or his sons. Tensions arose between the teacher and the community around two events that eventually led to heavy petitioning to the Gran Consejo Tsimané and the local Minister of Education for a replacement

teacher. The first was after the Gran Consejo requested an updated census from all the communities in the TCO as part of applications for the *Personaria Juridica*, a national registration that allows each community to apply for funding and legally engage in certain activities. The teacher held a meeting and offered to do it but asked each family to pay five Bs, (\$0.71). Many community members were outraged and thought it was part of her job to help them take care of this type of paper work. The second was when on a very windy day, the teacher's husband burned his *chaco* without forewarning the owners of neighboring *chacos*. His fire spread and accidentally burned three *chacos* surrounding his own. He offered no apology and those affected (as well as others who witnessed the fire) were enraged. As a result very few community members socialized with the teacher or showed her any respect.

While these official positions existed, within the every day life of the community there existed very little organized politics. In Maraca, households and families monitored their own business, but did get involved in community projects such as the mapping of the community as well as applying to the Gran Consejo for funding. Conflicts were resolved between those directly involved or by evading the topic all together. Although residents were mostly not interested in attending administrative meetings run by the teacher or by a visiting government minister, there was active participation when services, goods, medicine, or government cash entitlements were available. The political organizations in many communities were similar—with varying degrees of respect offered to the teacher or the *Corregidor*. For example, the teacher in Iuvasichi served as an authority figure—although his son was the *Corregidor*, the teacher took his role seriously and managed a great deal of the administrative paper work for the community.

It is possible that the reason these official positions wield limited power is because historically the Tsimané lack a centralized power structure, and because they historically

participate in a semi-nomadic lifestyle where the household maintains is responsible to itself and only interacts with others as deemed necessary. Historically, the *cocojsi* (the shaman) was the central leader for a group of families. But there were no singular authority figures such as the *Corregidor* or the Gran Consejo who are meant to organize social and political relationships within a bounded space. Although the community of Maraca was settled fairly early in the 20th century, the formality of a government recognized community centered around the permanent school building is fairly new. Slowly, aspects of the community are becoming normalized facets of daily life--sending children to school, adult education classes, community meetings, the evening soccer game, watching movies at night on government issued television, and a yearly celebration of the community's anniversary make the school building and the soccer field an increasingly important space in the community.

In Maraca, the most common community activity was watching movies. There were three working DVD players, two televisions in people's homes as well as the one in the school. One television and VHS/ DVD player (which was often broken) along with a solar panel and an electric breaker and a battery were donated to the community from the national government for a national adult literacy education program called "Yo Si Puedo".²⁷ A couple of evenings per week, a working DVD player appeared in the school and all the families living near the school gathered to watch movies. Mostly Tsimané enjoy C-grade action movies from the United States or China. Individuals (owners of DVD players and teenager boys) buy bootleg DVDs in town, which often contain three to five movies per disk. Tsimané enjoyed action movies where large

²⁷ The "Si Yo Puedo" is a Cuban education program that's implimentation was sponsored by the Bolivian, Venezuelan and Cuban governments. The program trained educator and also donated the hardware to facilitate the dissemination of the program (i.e. the DVD player and television). No one in Maraca was 100% sure when they received the program but estimations put it somewhere between 2008 and 2009.

explosions or Kung Fu tell the story rather than language.²⁸ Movies played until about 10 or 11 p.m. or until the solar panel powered battery in the school died or the generator ran out of gasoline. Then, people would find their way back to their homes and go to sleep. On nights when the battery was not charged in the school, people would gather at the home of a community member who had *shocdye* (fermented beer) and chat for a couple of hours before heading to bed.

Tsimané in Maraca participate in three government sponsored conditional cash transfer programs which are associated within the *Vivir Bien* National Development Plan. The funds for these programs come from the National Hydrocarbons Tax (*Impuesto Directo a los Hidrocarburos*) and delegate financial assistance for the following three demographics: the elderly (*la Renta Dignidad- DS 29400*), primary school attendance (*Juancito Pinto- DS 28899*), and pregnant women and new mothers (*Bono Juana Azurduy- DS0066*). Only recently established, these pensions offer money and services to help support individuals. The transfer for the elderly is deposited directly into the bank in town. Tsimané over 60 years of age travel to town once a month to pick up their pensions from the bank. The travel can be an arduous task, so the money will occasionally accumulate in the bank before being collected. Students collect their pensions at the end of the school year. While some parents invest the money in clothing, school materials, and food, some parents allow the students to handle the money and to purchase toys, games, and candy in town (see the story of Cristian in the opening of this chapter). The transfer for pregnant women and new mothers involves cash, but it also involves medical examination,

²⁸ Occasionally, a scary movie would send the entire community into bouts of sleepless or nightmare filled nights. For example, one night they watched “House of Wax”. Knowing that I hate horror movies, I went home instead of watching the movie. The next morning when I left the house, I found Marina, over tired and resting on a bench in her patio. Marina, who is generally very quiet, started to talk to me very quickly; She asked what wax was? Does it exist in Bolivia? Can real people get stuck in wax? And are there people who kill you if you come to their houses? I tried to calm her down and answered her questions, trying to let her know that the movie was not real, but she was noticeably upset for the next couple of days as she tried to forget the movie.

which is offered once a year in the community along with pre-natal vitamins, baby formula, and free identity cards and birth certificates.

FOOD PRODUCTION AND LIVELIHOODS

Tsimané in Maraca produce food through a variety of livelihood activities that either result in food directly or that produce cash with which food is purchased. In addition to providing access to food, these activities also serve multiple social functions, including the maintenance of relationships between household members and extended family members, the threading of cultural education between generations, and a continuous spiritual and material relationship with the natural world. The major activities Tsimané participate in to produce food include agriculture (and the production of both cash crops and food for consumption), fishing, hunting, and gathering. Other cash-generating activities (namely, logging and ranching) produce cash necessary to purchase food. The type of activity is mostly dictated by the season with the exception of logging, which for some is becoming a year round activity. In the dry season, fishing, agriculture, and ranching are the most common activities. At the end of the dry season and during the early rainy season, fruit ripens on the trees and gathering becomes possible. During the rainy season, logging is increasingly popular and at the end of the rainy season, hunting is most successful. Families raise domesticated animals including chickens, ducks and pigs year-round. One family owned two cows.

Although the primary work activity is usually undertaken as a singular goal, often it is intertwined with other activities. For example, one early morning in November, I accompanied Jose, his wife Dulce, and their youngest son Emilio to the *chaco* to plant rice. Jose brought a machete, a bottle of water, and a *sarai* filled with husked rice to plant. Emilio brought along two

packages of yupi (sugared drink mix) and Dulce carried her grandson Yaron in a *sarai* on her back (his parents were away in the forest logging). On the way Jose picked up his seeder, which he had hidden next to a tree. With a machete he cut down a thin tree and whittled a sharp point so I could use it as a tool to make holes in the ground to plant the rice. Emilio went into the forest to collect rotting *manaij* (urucuri palm-*Attalea phalerata*) seeds. When we arrived at the *chaco* Jose and I began planting. Jose used the seeder and the *sarai* and I used the stick and a cup of shucked rice. Dulce sat on a log in the shade with Yasmin and opened up the old *manaij* seeds that Emilio collected, removing grubs that Jose would use later as bait for fishing. With the seeder, Jose planted much faster than me. He filled the seeder up with the rice and then pressed the handles together as he walked up and down the length of the *chaco*. With the stick, I had to take two thrusts to make the hole, then I had to bend over to drop a couple of grains into the hole. For a while Emilio teamed up with me by dropping the grains into the holes, but after an hour he went to sit by his mother. We planted about two thirds of his *chaco* before leaving around 11:15, when the sun was too strong to bear. Although Jose and family went to plant a *chaco*, they also used the trip to gather fruit and prep for fishing later. On another visit to the *chaco* with Jose, he brought a shotgun and killed an armadillo. Although the trips revolved chiefly around agriculture, other forms of food production are nested within them.

Jose's story demonstrates that Tsimané food producing activities utilize both purchased commodity items and items produced within the household. The mixed use of materials parallels the mixed economy, which underscores the broad patterns of survival necessary in contemporary Tsimané life. To plant rice and corn, sticks and seeding machines are used. Machetes and shovels are used to dig holes for plantains and manioc. Tsimané weed their plots using machetes and by removing unwanted plants with their hands. To hunt, Tsimané use traditional tools like bows and

arrows and dogs as well as modern tools like shotguns, rifles, and machetes. Godoy et al. has suggested, that it is wealth to buy items like shotguns and rifles that puts increased pressure on wildlife (2010). Tsimané also use a variety of traditional and nontraditional materials to catch fish including bows and arrows, palm leaves, stalks, synthetic nets, and root poisons (Perez 2001). In some ways, the variety of materials used to hunt and fish allow the Tsimané to continue practicing subsistence activities under shifting circumstances. Bows and arrows are made using materials cultivated in agricultural fields, including *väij joijsi*, peach palm (*Batris gasipaes*), and *shuru* (*Gynerium sagittatum*) (Huanca 1999). Feathers hunted from the *fofor* (mountain hen, *Tinamus major*) are attached to the ends of the arrows. Materials bought in town like fishing nets are used to catch fish in large areas like the river and can be left overnight to supply breakfast the next morning. Old mosquito nets are also used to catch small fish in the shallow streams. These new materials prove to be invaluable for Tsimané to catch fish. At the end of the dry season, river fish become scarcer. I was chatting with Inocencio about a failed hunting trip he had just returned from, when he told me that he wanted to go fishing deep in the forest in one of the three streams that cuts through the community. He said that the streams were so shallow you can practically pull the fish out with your hand and added, “The water level is so low that the fish are going to die, so it is easy fishing.” The next morning, Inocencio and his son, Alejandro, my research assistant Marco, his wife, Marina, his brother Modesto, and brother-in-law, Alonso, set out into the forest. Marco and Inocencio both carried old mosquito nets and machetes. Inocencio also carried a shotgun. He told me he was hoping to catch an animal on the way. Alejandro, Marina and I carried *sarais* and small knives. Marco’s brother and brother in law trailed behind us with fishhooks, a machete, and bags. They abandoned the fishing party after they found a small black and white caiman (*alligatoridae caimaninae*) along the way, killed

it, and brought it home for dinner. The rest of the group continued into the forest occasionally dipping the mosquito nets into the shallow streams and pulling out a few small *cum* (small fish). After 45 minutes, we reached a deeper section of the stream; Inocencio and Marco found a wild intoxicant, most likely *vashi* (*Serjania sp. l sapindaceae*), growing wildly near by the stream and cut it into pieces. In the meantime Inocencio's son, Marina and I worked to collect branches to create a damn. Inocencio and Marco beat the *barbasco* with their machetes and we waited for a few minutes as the poison spread and the white foamy bubbles spread out over the water. Soon the small fish began to be visible as they rose to the top of the water paralyzed. Marco and Inocencio scooped the fish up in the nets collecting 20 at a time. Marina, Alejandro, and I hit the fish over the heads with our knives or picked them up with our hands. Within 30 minutes, we had filled our bag with hundreds of small fish and everyone headed home happy after a successful trip. After arriving back in the community, Inocencio went home and gave his wife Josefa and her mother Pilar portions of his share of the fish. Marina and I went straight to her kitchen to begin cleaning and gutting the fish to make lunch. We scaled the tiny, slippery silver fish and boiled them in a pot with water and salt and then added scrapped green plantains to make a *jona*.

AGRICULTURE: FOOD PRODUCTION AND CASH CROPPING

Tsimané in Maraca spend a large amount of time working in agricultural endeavors, some of which produce food for immediate consumption and some of which results in cash cropping. This includes not only cash crops and staple crops like rice and plantains, but also a host of other vegetables and fruits. Tsimané agriculture is cultivated in fallow plots and house gardens (Reyes-Garcia 2001). Agriculture is practiced in gardens plots close to the home and in larger areas known as *chacos*. In their cultivated plots, Tsimané practice swidden-fallow agriculture, which is

often referred to as “slash and burn” agriculture (Huanca 1999; Reyes-Garcia 2001). In this process, agricultural plots are prepared by cutting and burning the vegetative forest cover and then cultivating crops in their place by taking advantage of soils enriched by the burning process. Following one to three years of active management, the land is semi abandoned and begins a process of regeneration (Huanca 1999; Reyes-Garcia 2001). The agricultural cycle takes one year beginning at the end of the rainy season around May. In May, the land is cleared and dried. From September to October the land is burned, and then the land is planted (Reyes-Garcia 2001; Vadez 2004). During the work day in the *chaco*, activities include cutting down large trees, burning the field, planting seeds, weeding, harvesting, and carrying the harvest to another location for storage, consumption, or to prepare for sale. Occasionally, the family does not eat midday, but most often the extreme sun and heat forces people back to their homes where they can take shelter and rest. Agricultural plots are divided into three types: primary forest clearance, secondary forest clearance, and fallow plots (Huanca 1999). Plots are often found near rivers and roads to facilitate easier transportation of goods as well as access to firewood produced through the swidden stage (Huanca 1999). Huanca asserts that Tsimané fallows maintain crops and continue to provide nourishment through plants, perennial fruit trees, useful plant resources like fish poisons, and as hunting areas (Huanca 1999). Generally however, the Tsimané do not heavily manage their plots during fallow (Huanca 1999).

The cultivation of plants is staggered and polycropped and results in different harvestable products over time (Huanca 1999). Tsimané in Maraca plant a large number of edible plants (see Figure 4.1).

FIGURE 4.1 TYPICAL FOOD PLANTS CULTIVATED IN MARACA		
Tsimané Name	English Name	Scientific Name
Tara'	Maize	<i>Zea mays</i>
O'yi	Manioc	<i>Manihot esculenta</i>
Arrosh	Rice	<i>Oryza sativa</i>
Pere	Plantain	<i>Musa xbalbisiana</i>
Macha	Banana	<i>Musa xacuminata</i>
Caij	Sweet Potato	<i>Ipomoea batatas</i>
Cojco	jicama	<i>Pachyrhizus tuberosus</i>
Pofi	Papaya	<i>Carica papaya</i>
Vaij	Peach Palm	<i>Bactris gasipaes</i>
Shandia	Watermelon	<i>Citrullus lanatus</i>
Binca'	<i>Pachio Pata de Anta</i>	<i>Passiflora triloba</i>
Däbäj	Peanut	<i>Arachis hypogae</i>
Viroj	Sugar Cane	<i>Saccharum officinarum</i>
Shobo	Squash	<i>Cubertinum spp</i>
Chocorate	Chocolate/ cacao	<i>Theobroma cacao</i>
Coco	Coconut	<i>Cocos nucifera</i>
Maraca	Orange	<i>Citrus sinensis</i>
Macdarina	Mandarin	<i>Citrus reticulata</i>
Toronja	Grapefruit	<i>Citrus paradise</i>
Limonara	Sweet Lime	<i>Citrus limetta</i>
Ashasha	Giant lemon	<i>Citrusl limon L.burn</i>
Merique	Pineapple	<i>Ananas comosus</i>
Cebolla	White/ green onion- <i>cebolla</i> Tsimané	<i>Allium</i>
Ta'	Chili Pepper	<i>Capsicum annum</i>
Manco	Mango	<i>Mangifera indica</i>
Cu'na	Pacay	<i>Ina sp.</i>
Chi papaj		<i>Mikania sp.</i>

The average number of varieties of edible plants cultivated by a family is 28.6 (not including plants used for fishing or tobacco), with a range of two to 53 per family. For example, in Maraca, there were eight varieties of plantains, four varieties of maize, six varieties of manioc, and five varieties of rice. In cultivated plots, the Tsimané plant their main staple crops: rice, manioc, plantain, and maize. On the outskirts of the plots and in gardens, they plant other minor crops. Lastly, in gardens near the home and in fallow regenerating areas fruit trees are planted.

Tsimané most often sell cash crops like rice and plantains. Vadez et al. demonstrates that the Tsimané are intensifying their production of rice for sale, and for every hectare of rice cultivated, there is an increase of deforestation the following year (2004, 2008). Increasingly in Maraca, Tsimané families have separate plantain *chacos* that cultivate a continuous production of sellable plantains. This acts as a food bank and as a money bank—plantains can be harvested continuously for sale or for consumption. Recently, plantains have increased in importance as a cash and food crop. In the villages of Iuvasichi and Maraca, plantains were sold more frequently and by more people than rice. Alfonzo explained that he sells rice once a year after the harvest in April or May, but he runs out of rice by January or February and has to buy more. Alternatively, he always has plantains to eat and to sell in order to buy more rice. Tsimané farmers are expanding their plantain areas to meet the demand and maintain a steady flow of cash throughout the year. For example, Eduardo sells between 40 and 60 plantain bunches at a time several times per month. In the month of November, he earned around 2,000Bs (\$285) just from selling plantains. He says, “If we have plantains, we can always get money.”

Although traders come through the community on occasion, over the span of a year, only two traders came through with goods to trade. Others traders came to buy plantains with cash in hand or with the promise of cash upon plantain delivery at the port in the following days. In addition to those who came to the community directly, weekly messages over the radio requesting plantains, rice, or other goods enticed many Tsimané to harvest plantains a bimonthly. These traders usually included a line in their message which stipulated how much money they were planning to spend, but only occasionally said how much they would pay per bunch. Prices for plantains were not negotiable and ranged from 10Bs to 30Bs (\$1.43- \$4.28) per bunch, depending on the season and the type of plantain.

The patriarch and his eldest son, if there is one living at home or as part of the household, are responsible for clearing the plot of land. Axes, machetes, and chainsaws are used to clear the area. Often Tsimané will recruit other male family members to help plant. For example, Alberto and his son Hernando worked together to clear each other's plots, but both had expanded the size of their plots this year and needed extra labor. Alberto's teenage son Alonso, and son-in-laws Modesto and Marco were recruited to help. In return, Hernando and Alonso helped Modesto and Marco clear their plots by offering the use of their chain saw. More recently, some Tsimané are increasingly employing other young men from the extended community as paid day laborers for clearing and planting their plots. Miguel is heavily involved in timber extraction. His wife insists that they have some sort of *chaco*, but he is not very interested in working on it. He asked his father and younger brothers to clear a small block of land for his *chaco* and he lent them his chain saw to make the process easier. When it was time to plant the *chaco*, his father refused, saying he had too much of his own work to do. Miguel hired two of his teenage male cousins to come and plant his *chaco* for him.

At the end of the rainy season, when it is time to begin harvesting, Tsimané men and women spend long days in the fields working in their *chacos*. Both women and men participate in the harvest, but increasingly it is becoming a primarily female responsibility as men leave their homes more frequently at the end of the rainy season for extended amounts of time to engage in cash producing labor such as logging. Tatitana, for example, took care of harvesting her entire rice *chaco* while her husband Juaquin was away working in wood. She told me it took a month to harvest, almost double the amount of time it usually takes. Once Tatitana finished the harvest, she bagged the rice in burlap sacks. The bags were too heavy for her to carry, so she had to leave them in the *chaco* until her husband returned from the forest.

FISHING

Fish play a major role in the Tsimané diet and are the most consistent form of protein available. Tsimané households build their homes to facilitate fishing and prefer to live near a body of water (such as rivers, lagoons, and streams) (Huanca 2006). During the dry season, from May until October, fish are in abundance and households fish successfully almost daily. During the dry seasons, entire households or multiple households work together to practice plant poison fishing, or *barbasco*. These trips take full days, sometimes even multiple full days. While men are generally responsible for the actual fishing, women often accompany them to fish or to clean the fish on the riverbank and prepare it for cooking. Fishing groups leave early in the morning or the late afternoon on canoes equipped with fishing gear, a knife, and a *sarai*, bag to carry the fish and materials. While these fishing techniques lend themselves to small groups like couples or brothers, the practice of using plant poisons like *vashi* (*Serjania tenuifolia*) or *chito* (*Tephrosia vogelii*) requires further labor and manpower. Using mats made of palm stalks, reeds, and palm leaves, the men block off a shallow area of the river and catch the fish moving up stream or residing in shallow crevices. The men then push crushed *chito* leaves and crushed *vashi* roots which have been beaten with machetes through the water. The plants release toxins that deprive the captured fish of air and they rise lethargically to the top of the water for easy capture (Reyes-Garcia et al. 2009). As the fish gradually rise to the surface, the Tsimané use bows and arrows, knives, machetes, and their hands to capture the fish. The women wait on the side with the small children and make fires. Children, young men, and adult men catch the fish and then bring them to the women who immediately scale, gut, and prepare the fish. Although families work together to prepare *barbasco*, individual families are responsible for capturing and cleaning their own catch. However, once the rainy season begins and the river swells, fish become significantly

scarcer. At this time, fisherman frequent lagoons and small streams hoping for more success, but often entire households share one or two small fish.

HUNTING

Tsimané men in Maraca enjoy hunting and embark on hunting expeditions not only to secure food, but also to spend personal, introspective time in the forest. Men generally hunt alone, though their wives or sons occasionally accompany men on hunting trips²⁹. Although the overwhelming majority of hunted animals are for consumption, Tsimané do also return home with animals that have medicinal properties or that are raised as pets (Gutierrez 2005). Hunting occurs significantly less often than fishing, but individual trips might last longer. In addition to providing meat to the family, hunting serves the social purpose of maintaining intercommunity and extended family relationships. For example, Gurven and Von Rueden find an association between good hunters with higher social status (2006). Meat is generally shared within the immediate family, but when there is a large animal, households share with extended family members and neighbors. Systems of reciprocity are developed and maintained through the sharing of meat, particularly through the wife of the hunter's distribution of the said meat. The most popular hunting season occurs in May, at the end of the rainy season, when the animals are typically heavier. Hunting trips can take place during the day or the night and can last anywhere from thirty minutes to five days (Apaza 2002; Gutierrez 2005). Trips are carried out quietly as hunters move silently through the forest listening, identifying, and following the calls of the prey (Apaza 2002).

²⁹ Martinez reports that in some communities women hunt, but this was not observed in Maraca (2009).

Often families will use hunting as an excuse for visiting family members in other communities because the beginning of the hunting season corresponds with free, unstructured time between rice harvests at the end of the rainy season and the optimal dry conditions for clearing a *chaco*. It is typical during hunting visits, for the visiting family to reward their hosts with meat from the kill (Apaza 2002). In one instance during my fieldwork, hunting was used not only as a way to escape community gossip, but as an excuse to find a suitable husband. After Ida's husband ran away with her younger sister, her father Feliciano felt it was vital that he remarry Ida as quickly as possible. However, there were no eligible bachelors appropriate for Ida within the community. Feliciano's sister lived in the nearby TCO of Pilon Lajas a community closer to the town Rurrenabaque. So Feliciano and his wife Daniela packed up the family, gun, bow and arrow, clothing, pots, pans, and puppies and went to visit his sister. They claimed they were simply going hunting and would be back in a week. No one heard anything from them for four weeks. Daniela's parents were concerned; they speculated that there was no luck finding Ida a husband. Daniela's brother sent a message over Tsimané radio urging them to come home and deal with their *chaco* as it was becoming overrun with weeds. One morning, exactly four weeks after they set out for their "hunting trip", the family returned without Ida. Feliciano spoke only of the hunting and boasted about his successes and the abundance of animals and high quality of life. He said he wanted to move his family there. When I asked where Ida was, it was Daniela who told me she had found a new husband and was spending time with him. In this case the hunting trip was an excuse to create new family ties. It was also an excuse for Feliciano, who had been under a lot of stress for months before due to the drama, to escape into the forest to spend time hunting for recreation in addition to subsistence.

GATHERING

Tsimané have extensive ethno-botanical knowledge of their surrounding forests (Martinez 2010, Reyes- Garcia 2001). But in Maraca wild fruit trees were scarce in the outskirts of the community and were not collected frequently. Tsimané gather forest plants primarily from October to December when the trees produce fruit (Reyes - Garcia 2001). Fruits are gathered from recently abandoned agricultural plots during hunting trips and trips to nearby forested areas for the explicit purpose of looking for edible fruits (Reyes-Garcia et al. 2006). In addition to looking for edible plants, the Tsimané use wild plants for medication, construction materials, firewood, and crafts (Reyes-Garcia et al. 2006).

Women's ecological knowledge is passed down to children (Martinez 2010; Reyes-Garcia et al. 2009). This is particularly relevant in the pursuit of edible forest foods as women are often aware and frequent nearby spots where wild fruit trees grow. While Tsimané men generally do not take children into the forest to hunt, Tsimané women do take children into the forest to collect fruits. On these outings, children learn about the identification of edible plants and are able to scale trees to help their mothers gather the fruit. For example, one morning in December, Mariela saw that the *manaij* palm (urucuri palm-*Attalea phalerata*) was ripe with fruit. She decided it was wise to collect the fruits before someone else did. The *manaij* palm is very tall so recruited her son Daniel, her youngest daughter Anabel, and her eldest married daughter Marina to come along. Marina brought her two oldest children. We walked into the forest carrying machetes and *sarais*. Mariela and Marina hacked down a thin tree with their machetes and leaned it diagonally on the palm. Daniel, while also holding a machete, climbed up the narrow tree and cut the heavy bunch of *matacu* down. The giant bunch, carrying approximately 200 fruits, landed with a thud as it hit the forest floor. Marina and Mariela sat

down with the bunch peeled a fruit for each child and then began to separate the fruits, clean ants from them with their knives, and filled their bags to head back home. While bringing children along to gather fruit is a useful addition to the collection process, it also provides continued monitoring of the small children, familiarizes them with the forest, and provides a nutritious snack.

Historically, Tsimané gatherers would knock fruits out of the tree and collect them to carry home. Recently, it has become more common to knock an entire tree down in order to collect its fruits—this happened often in Maraca. Tsimané elders worry that this practice will eliminate fruit trees surrounding the villages. There has already been a reduction in the amount of trees and people are less likely to walk far distances to collect them. Additionally, the practice of cutting down trees in this manner violates the mythological belief that each tree has a spiritual owner and that many were at one point human. These spirits are displaced when trees are cut down and when they are angry, they can bewitch (Riester 1993).

LOGGING, RANCHING AND OTHER CASH ACCRUING ACTIVITIES

In recent years logging has become increasingly popular as a way to access cash (I expand on this in chapters three and five). In the past, and still occasionally today, young men work for a private logging concession as day laborers by cutting or transporting the wood. More often, Tsimané hold logging contracts and the men from the extended family take on roles in the logging party. One man holds the contract and stands to benefit the most from the deal. He is in charge of procuring the chainsaw, the gas, hiring day laborers (including one person to actually cut the wood, subsistence porters, and wood porters), and purchasing the food for the process. Contracts can vary from 5,000 to 20,000 board feet. Each board roughly earns 2Bs. The contract

holder and the woodcutter earn percentages of the total sale. But day laborers earn 50Bs (\$7.14) per day with food or 70Bs (\$10) per day if they work near the community and do not need to rely on the contract holder for sustenance. Although the contract holder is forwarded money to pay for supplies, nobody earns their pay until the contract is finished.

It can take anywhere from three weeks to three months to fill a contract. During that time, men generally spend five consecutive days near their wood site, only returning to the village on a Friday or Saturday and then going the next day to the market towns to restock. The following Monday, they head out again. For loggers from Maraca, the woods of Iuvasichi, bordering Maraca, are the most popular site for timber extraction. After the contract is filled, another family member sometimes procures a contract and then the roles of that family shift, but they continue to work together. If a family is not maintaining a contract, it is not unusual for the men to join another family cluster's team to help out as day laborers for a week at a time. Logging contracts mostly take place in the rainy season after the agricultural plots are planted. Increasingly, however, contract periods are encroaching into the dry season, during planting, and in the early harvest season when the rains are tapering off. While most often the logging parties consist solely of men, occasionally the wife or wives of the loggers will come along to act as chef and keep camp.

In the dry season, some Tsimané find work as day laborers on ranches. This employment, lasting up to two months, can be accepted by entire families, young men, or groups of men from different families or households. Women, who go along to the ranches, sometimes work, but mostly watch the younger children and prepare meals. Tsimané travel to a ranch where they are provided with lodging and food. Tsimané in Maraca traveled up to six hours away from San Borja to eastern ranches outside of San Ignacio de Moxos or northern ranches closer to

Rurrenabaque. Occasionally, opportunities for work were communicated over the radio, but more often than not, Tsimané traveled to town to look for work. Many men know of ranch managers who hire Tsimané in Yucumo or San Borja when they are in need of extra hands. Feliciano told me that he once went straight to the landholder's house in San Borja to look for work. Tsimané are not particularly skilled horsemen, so the work they are given is planting grass for the cows to eat or clearing and planting a small *chaco* for the ranch. Tsimané who are working are paid a daily wage of 50Bs (\$7.14). Ranchers claim to supply food for the workers by providing rice and *charkey*, but some Tsimané in Maraca claimed that they mostly relied on plantains and hunted meats they caught themselves. But often this does not bother them. For example, Javier, his son Ignacio, and his son-in-law Gustavo went to a ranch for three weeks in October. It was their fourth year working for the same ranch and although they did not enjoy the work, they looked forward to the trip not only because of the money they earned, but also because of the hunting they were afforded. The ranch is located close to the town of San Ignacio de Moxos, which is adjacent to the TCO-*Territorio Indígena Multiétnico* and the men claim the hunting there is superb. The men brought along shotguns and went hunting as much as they could. They were very successful and each came home with his own supply of meat. Gustavo brought home an *uru'* (howler monkey, *Alouatta*), an *oyoj* (brown capuchin monkey, *Cebus apella*), and a *quiti* (collared peccary, *Tayassu tajacu*). Lorigio brought home an *uru'*, an *o'oyoj*-ant eater (*amandua tetradactyla*), an *oyoj*, and a *quiti*; and Javier brought home an *uru'*, an *oyoj*, and a *quiti*. It was a welcomed gift by the women, because while they were away, the women had access to limited amounts of fish and no meat at all.

Tsimané also spend time producing goods for the home that they occasionally sell. In Tsimané communities the sale of *cajata*, (*jatata*, woven palm roof panels) is an important source

of cash. In Maraca only two households took part in selling *jatata*. One person collected cotton (*Gossypium barbadense*) to sell in town for stuffing pillows. Women play a limited role in cash accumulation and primarily they help their husbands with the plantain and rice harvests earmarked for sale. Women also make mats known as *escaleras*, which can be used in the house, but are sometimes sold. Made from woven palm frawns and grasses, women in Maraca sell these mats in town for 10-25 Bs (\$1.25- \$3.00) depending on the size and quality. Occasionally, women also sell *sarai* in town, but mostly these bags would be designated for husbands and sons.

COOKING AND EATING

Families in Maraca rise around dawn, sometimes earlier to get in extra fishing time. Almost immediately cooking gets started by the matriarch of the household who rekindles the fire in the kitchen by putting smoldering logs together and fanning it with a palm fan called a *fijfij*. While she does this, the rest of the family mills around—the children play in the yard and the adults sit around chatting or maybe doing minimal housework like feeding the chickens or sharpening a machete. Once the fire is underway, the cooking begins. Although women are the primary cooks in the household, it is not unusual to see men, primarily teenage boys, prepare their own food. The most typical meal, *jona*, is a stew made from green plantains and river fresh fish or smoked fish. The whole fish are boiled in a pot of water over the fire. While the fish boil, green plantains are peeled and scrapped with the back of a metal spoon into a bowl called an *erepaj* made from a hollowed out fruit from the calabash tree (*Crescentia cujete*). The plantains are then mixed with water and drained to become a pasty yellow pulp. After the fish are boiled, which takes about 20 minutes, the plantains are added to the pot along with a handful of salt. The mixture then boils for another 30 minutes and more salt is added before it is ready to eat. The end

result is a thick and salty yellow soup with small pieces of fish in every bite. A variation of the *jona*, sometimes called *arrosh* (referred to earlier in the chapter), is made with rice and dried beef, either purchased in town or homemade from the meat of a successful hunt. The dried beef is boiled in the water for about 20 minutes and then the rice is added with salt and left to boil. It is a thick and soupy rice with the beef scattered throughout in larger pieces, as it does not break down in the same way that the fish does. While the *jona* is boiling, plantains are peeled and arranged both in the fire directly and around the fire to roast. Often the starchier plantains are peeled and put around the fire, while over-ripe bananas and plantains are put directly into the fire where their sugars bubble and caramelize. Occasionally, plantains will also be sliced lengthwise and long strips will be fried in a pan over the fire.

When the *jona* is ready the matriarch yells *Sacsidyé!*—the word for food—and family members gather in the kitchen. The cook or one of the daughters will begin to dish out the food using a large metal or wood spoon to fill tin bowls. The family sits scattered in the kitchen or on the patio on stools made from tree stumps, large palm mats, or wooden benches. Often breakfast occurs around the time for messages on Tsimané radio, which begins at 7 a.m. and the radio is turned on. The patriarch is served first and then whoever has strategically placed him or herself closer to the pot is served second. Small children get served a quarter or a half a bowl of food and then their mother or sister moves it around with a spoon to cool it down. Sometimes the matriarch serves herself a bowl, but more often she eats directly from the pot. Plantains are served with the *jona* and family members feel free to take more of the plantains from the fire if they wish. If there is more, individuals serve themselves seconds or thirds. Then the youngest children take their spoons and scrape the pot clean. When they finish eating the children scatter to play or to go to school, which begins at 8 a.m. when in session. The adults sit around chatting

and listening to the radio. The cook rinses out the pot and the bowls, sweeps the kitchen, and puts everything back in order. Soon everyone is ready to start the rest of the day. If there is *shocdye*, traditional beer, it is served right after the meal by the woman who made it and passed around in an *erepa*. When *shocdye* is available, neighbors will stop by for a drink on the way to work. And if it is not available in the household, individuals will seek it out elsewhere in the community.

Before individuals leave the kitchen for work, machetes are sharpened with water on flat stones, bottles are filled with *shocdye* if available (water if not), and everything is packed along with any leftover fried plantains into a *sarai*. Often while the rest of the family goes off to work, one of the older daughters will stay behind to watch the youngest children in the household. It is not unusual at this time for her to simultaneously begin to prepare the *shocdye* by peeling, chopping, and boiling the manioc or peeling and boiling the plantains. The ingredients slowly boil for a couple of hours, so the period of time when other people are away working in the *chacos* or in the forest provides a useful time for food prep.

Tsimané in Maraca use a variety of tools to prepare foods. Some are handmade by a member of the household and some are purchased in town. Major kitchen tools made by hand include: *tacu*, a giant mortar and pestle used for separating rice from its husk; *mij musaquity*, a large smooth rock used as a grinding stone primarily for maize; *pasi*, a woven sieve used to separate out fibrous materials during the *shocdye* cooking process. Other handmade materials include *erepas*, wooden polls for stirring, and shells collected from the river are used as spoons. In town, individuals purchase aluminum pots and pans, many sizes of knives and machetes, and aluminum plates and cups. Some houses also have hand-operated grinders which turn corn into flour, replacing the *Mij musaquity*, and some have metal screens to replace the *pasi*. Many

Tsimané are also industrious and refurbish old tin cans into useful kitchen utensils. For example, many women make graters by flattening a tin can and then poking holes into it with a knife. The rough side of the tin sheet can be used to make *chive* (manioc flour).

During the dry season, when fish are in abundance, the family will eat a midday meal of *jona* followed by *shocdye* in the afternoon. If there is a lot of work to be done individuals might work straight through the day. But if the sun is strong, they might head over to the river to take a quick bath or take a short nap and enjoy the shaded breeze before heading back to work in the late afternoon. In the late afternoon, women take the laundry and the children to the river to bathe. At the river, the children play and women chat about community gossip and discuss recent happenings. During the wet season when food is more difficult to come by, because fish are difficult to catch and rice stocks are dwindling, roasted plantains provide a steady and dependable snack. Messages on Tsimané radio play again at 12 p.m., so families tune in to listen. In the evening around six or seven, if there is food, another meal is served and the radio is turned on for the last messages of the day.

While *Jona* and *Shocdye* are the primary prepared food dishes of the Tsimané and are consumed with the most frequency, there are other popular food preparations. Sometimes meat from a fresh kill is roasted or fried and served next to rice. Daniela explained to me that while this is becoming a typical way to cook meat, it is something she never ate as a child. Fish is often smoked on a grill made from the stems of *shuru* (*Gynerium sagittatum*) or placed directly into smoldering fire. *Chaputo* refers to a fish wrapped in banana leaves and smoked over the fire. *Toro* are sun dried plantains that are blanched by the sun until they are hard and white and then are ground with ripe plantains, wrapped in a banana leaf, and roasted on the fire. *Tamales* are made from ground corn and are wrapped in a banana leaf and are roasted in the fire or sometimes

boiled. Sometimes dishes from town are recreated at home, particularly by teenage and pre-teen boys. For example, Daniel and Cristian often took left over bits of beef *charkey* from the kitchen and mashed them with plantains. Then they would fry the mash to make the typical lowland food, *masaco*, purchasable in the town market.

Because of the humid environment and lack of refrigeration, storing food is difficult. Fish and meat can be salted and dried in the sun over a 24 to 48 hour period to make *charkey*, which can last for about a month. Fish and large animals like *ñej* (deer, *Mazama americana*) and *quiti*, (peccary, *Tayassu tajacu*) are smoked on grates and can be kept for about a week. The most common form of storing agricultural products is through drying. Maize and rice are harvested and dried in their husks in the sun until they are ready to be consumed (or sold). In Maraca, many families keep small huts near their *chacos* where the dried cultivars are stored. Plantains are stored on the trees until they are so ripe and they need to be harvested. But because they continue to reproduce, they provide continuous access to food. Similarly, manioc is also stored in the ground until it is ready to be prepared.

RELIGION AND FOOD

Tsimané have a strong spiritual relationship with many edible items—some designated specifically as food and others as natural being which happen to be edible (see Huanca 2006). Many myths involve the creation of food, consumption of food, and the continued availability of food. For example, the spiritual being *Noco*, the Milky Way, helps Tsimané fish by showing them how to block off the river. During the rainy season the Milky Way lies parallel to the Maniqui River and the swelling of the river makes fish difficult to catch. But during the dry season, the Milky Way changes its position and runs perpendicular across the Maniqui. During

the dry season, when water levels are low, Tsimané often practice a type of fishing called *barbasco*, where areas of the river are blocked off and root poisons are used to stun the fish. Tsimané believe that *Noco* helps them by blocking off the river from swelling (see Huanca 2006). Stories related to crops like manioc, plantains, maize and tobacco, not only connect the crops themselves to supernatural beings and celestial origins but also to small-scale agriculture. For example, Huanca describes myths in which *Opoj*, the originator of agriculture, has knowledge to cultivate plantains which he keeps from the people (1999). Countless edible fish and animals also have creation stories, which connect them to deities and celestial beings. Spirits, known as *a'mo*, protect and own the plants, fish, and animals. For example, *Jäjäba* is the animal master and the most powerful *a'mo*, and *I'dojore'* and *O'pito'* are the fish masters. Historically, the *cocojsi* (shaman) regulated the reciprocal relationship between the spirits and the people. Tsimané believe that most trees have spirits and that animals and fish used to be part of the same society. Therefore, foodstuffs are not only thought about in terms of their edibility, but also their spirituality.

Many rituals exist to obtain permission and cooperation from spirit masters to maintain good relations with the spirits ensuring continued access and availability to foods (see Huanca 2006). There is a tradition of deep spiritual ritual related to the processing and consumption of many foods. Salt plays a vital role in the Tsimané's ability to dry foods for storage. Before the accessibility of salt through the market, Tsimané used to travel to *Pa'tsene*, a natural salt spring. The collection of salt includes ritualized drawings, bathing, abstinence as well as spells asking for as much salt as there is sand. These practices keep the Tsimané from encountering danger from the salt owner (see Huanca 2006). Although the *cocojsi* has all but disappeared, many Tsimané continue to abide by some mythological and religious rules related to food. For example, as part

of the process of preparing hunted animals to eat, rituals are performed to ensure future hunting success. In Maraca, Tsimané avoided eating animal feet. Removing the feet from the animal prior to cooking ensures that animals in the next hunt cannot escape by running quickly (Huanca 2006). *Vaij* (Peach Palm) rituals that are still practiced today involve the extended household eating of the first harvest of fruit together. The ritual protects babies, pregnant women, bewitching spirits, threats of natural risks, and the threat of hunger. Only *shocdye* (fermented beer) seems to have a mythological background and ritualized production and consumption (I will discuss this in depth in chapter 6).

These practices can be carried out on individual basis and therefore adherence to them varies between individuals. Many women in Maraca observe dietary restrictions related to menstruation and pregnancy. For example, women do not make *shocdye*, traditional fermented beer, or drink from communal bowls while they have their period. I often noticed women bringing their own cups when there was *shocdye*, or just subtly refusing to drink and passing the bowl forward when it arrived in front of them. Pregnant women also believe that eating certain animals and fish play a dangerous role in the pregnancy and in the delivery. For example, there exists a belief that eating *yushi* (giant anteater, *Myrmecophaga tridactyla*) will make the placenta hard and difficult to pass during labor. Also, women believe that eating *Vash* (nine bandend-long nosed armadillo, *Dasybus novemcinctus*) will result in a long labor and that consuming *Manaij* (urucuri palm, *Attalea phalerata*), will cause the baby to develop slowly and there is a risk it wont be born. If a woman were to consume *Irimo* (black banded piranha, *Serrasalmus spilopleura*), it can kill the baby with its teeth.

MARKET INTERACTIONS AND FOOD BUYING

The influx of outsiders into the greater Tsimané territory brought with it expanding market towns and opportunities for trade. Tsimané began to incorporate commodity foods items regularly into their diets—primarily sugar, oil, pasta, flour, red onions, and charkey. Using their cash earnings from selling crops, logging, and ranching, Tsimané spend significant amounts of money on the purchase of food. In 2010, in the villages of Iuvasichi and Maraca (n= 50) 66.6 percent of households selling plantains in February, March, and April and 41 percent of families selling rice explained to me that they sell these crops in order to purchase other foods. In Rosinger's research on Western food expenditures and weight, he points out that 61 percent of households purchased commodity foods in the week prior to the survey and spent an average of 46.5 Bs (\$6.6) (2012). Rosinger explains that charkey is such a regularly purchased commodity that even when all other expenditures on food rise, purchases of charkey between households remain the same. Other purchases like bread, noodles, and flour increase as people spend more money on food (2012).

After the sale of goods, a trip to town is often in order to purchase food and other supplies. Women accompany their husbands an average of once a month, but men travel to town two or three times per month, most often after they sell plantains or to buy supplies for logging. Rosinger points out that men spend more money on commodity foods than women (2012). I argue that this is a result of men traveling more frequently to the market towns. These trips often take place over the weekend and sometimes include an overnight stay. In town, Tsimané stay in cheap hotels. In San Borja, they might also stay in the Gran Consejo building or occasionally they sleep in the park. In Maraca, often on Saturdays, the community was emptied and quiet as

the men and their sons would travel down river to sell plantains. A significant portion of the money earned through selling plantains is spent on that same day with a little put away for later.

Tsimané regularly buy food items (mentioned above), candles, batteries, and toilet paper. Additionally, when the need arises, they buy clothing, medication, pots and other kitchenware, and maintenance materials like grease or nails to repair hardware. Market purchases are a necessity for men who work in the forest extracting timber. Contract holders purchase large amounts of oil, sardines, and pasta in order to provide nourishment during extended working periods of time away from home. A typical breakdown of purchases for three days in the mountain for four men includes: nine cans of sardines and 12 kilos of pasta. Although they rely primarily on commodity foods, the loggers also bring shotguns in case a hunting opportunity arises.

Trips to town can also be conspicuous occasions and a chance to show off. On many occasions, Tsimané from Maraca would change their clothing on the road connecting the highway to the river, putting on jeans, t-shirts, skirts and blouses saved for occasions out of the community. Teenage boys put gel in their hair and spray on cologne. Many stow away their flip flops in exchange for shoes. Younger men wear backpacks, but women and older Tsimané men continue to carry their *sarai*. However, Tsimané from other areas, particularly communities farther upriver and with less disposable income, continue to wear everyday clothing. In town, they're discernable with worn out t-shirts that are slightly browned from being washed in murky water and they walk through town shoeless or in flip-flops.

In town, Tsimané often eat a meal in the market place. Tsimané from the middle and upper Maniqui do not eat in restaurants but rather in market stalls, particularly in San Borja. These stalls are more affordable and casual, but underlining and quiet forms of racism keep the

visiting Tsimané from mixing with the wealthier highland migrants, *mestizos*, and wealthy whites who live in San Borja. A typical meal in town costs between 5Bs and 10Bs (\$0.71- \$1.42) and consists of a soup with meat or chicken and then a main plate with meat or chicken, rice or pasta, a small salad and then a side of manioc or plantains. Beef, pork or chicken served in town are often fried or boiled with spices. Occasionally, Tsimané bring these techniques back to the community and prepare foods for large birthday parties in the style of town. Lower cost items (tamales, bread or ice cream) are often consumed as a snack in the afternoon and children are often treated while they are there.

As Tsimané have begun to earn more cash, they are starting to spend more money and save in order to buy more large-scale items. Certain food items are eaten with less frequency and considered luxuries, but food items such as bread, candy, cookies, drink mixes, soda, lard, and packaged spices are purchased with more regularity. Additionally, people purchase DVDs, soccer cleats, toys, new clothing, bicycles, and yarn. Those most heavily involved in cash producing activities, namely those who are logging most often and those who have significantly augmented their cash cropping, visit town with the most frequency and rely on the most food commodities. In the community, the four individuals earning the most owned four chain saws, two televisions, two generators, and three DVD players between them. But this sort of wealth is not spread out amongst all the households; those who regularly sell plantains straight from their chaco and sell rice once a year still do not make enough money to purchase such expensive items.

CONCLUSION

This chapter offers an ethnographic description of the community of Maraca, the primary

research site for this dissertation. I show how larger political forces have reconfigured roles in the community (such as the school) while others have been negotiated (like the *Corregidor*). Yet Tsimané are increasingly involved in the economics and politics of the region and the nation through government cash-transfer programs, labor initiatives, and the use of commodities. I then describe livelihood procurement, cooking and eating, and religion and food—broad processes that structure how Tsimané relate to the domain of food. This discussion calls for further examination, which can point to the ways in which a localized modernity is formulated.

In the beginning of the chapter, I describe a scene in which a family in Maraca returns from the town where they have recently sold plantains and the matriarch of the family begins to prepare a morning meal. This story exemplifies the ways in which the Tsimané are carefully negotiating their involvement with the outside world while maintaining certain roles, responsibilities, and rituals within the house. This story highlights three themes I will expand upon in the upcoming chapters: livelihoods, conceptions of food and eating, and cooking. Through these food related processes, Tsimané are reshaping their ideas, values, and activities to find new ways to survive in a changing environment. Yet, despite increasing access to cash and commodities, practices are not changing dramatically, but rather subtle shifts accommodate broad changes in everyday life.

CHAPTER 5

WORK AND TIME ALLOTMENT: SHIFTING SUBSISTENCE RESPONSIBILITIES

It was a deceptively clear afternoon in February, the first clear afternoon in weeks. Everyone in the community knew they had to take advantage of the clear skies and walk the muddy paths to their *chacos*—the dry weather would not last for long and the rain would return shortly to tether them to the shelter of their homes. I accompanied Tatitana and two of her children to her *chaco*, which was a ten-minute walk from her house. While she simultaneously watched her children and reminded them not to touch the weeds armed with painful thorns, Tatitana used one hand and a pairing knife to harvest each stalk of rice by swiftly moving her hand in one smooth movement to send the stalk of rice from its stem into her left hand. As we walked side by side, methodically collecting the rice as we moved deeper and deeper into the field, I asked her, “What will you do with the rice?” She said, “We will eat it mostly. Maybe sell a little.” She pointed to an area of the *chaco* and motioned to about a quarter of it earmarked for the market. As Tatitana’s hands became too full of rice, she placed the stalks in haphazard piles on the ground. As the day went on, the piles grew larger and larger and I wondered what she was going to do with them—they seemed too heavy to carry home. I asked her if she typically does this work by herself and she answered, “No, but there are very few men here. Normally, I harvest rice and my husband harvests rice—we have the same work.” Tatitana’s husband Juakin was noticeably absent from the harvest. “He is in the forest working with wood with Erwin and Teo (his brothers-in-law),” she said. After about three hours of work, it began to drizzle and marked the end of the day. Tatitana stuffed the rice from the piles into burlap bags and dragged them to

the periphery of the field to rest them under the shade of a large tree. She covered the bags with banana leaves to protect them from the rain and left them to rest until someone else could move them. As we walked back home with the children, Tatitana explained, “When Juaquin comes back, he will move the bags of rice to the house.”

Over the last century, regional development has shifted the livelihood activities Tsimané practice to produce food. Deforestation, population growth, and new settlement patterns have affected both the Tsimané forests and Tsimané’s ability to procure what they need from these forests in order to survive. Modern Tsimané subsistence practices are complex and localize large-scale changes in the regional environmental, economic, and social systems. This contemporary economic system embodies cultural values related to the forest, social relationships, and emerging materialistic values. In the story at the opening of this chapter, we see how Tatitana and Juaquin manage their livelihood activities through what Dove calls a “composite economy” or a “dual economy” (1985, 1993, 1985). A dual/composite economy includes “activities oriented towards food production for the household and activities oriented toward production of commodities for the market to meet needs for cash and/or market commodities” (Dove 2011: 13). Juaquin is working in timber, a commodity clearly earmarked for the market, while Tatitana works in agriculture, an activity that supplies both food and commodities. Additionally, Tatitana is continuing her responsibilities in the household by watching her children in the field. An element missing from this vignette, but one that continues to be of significance, is the continued commitment to other subsistence activities such as fishing, hunting, collecting, and gardening, all of which supply food specifically for the home. Juaquin, like many Tsimané men, continues to hunt and fish and participate in agricultural activities. However, he has altered the cash accumulating activities in which he participates—these

activities now take him away from the community more often and for longer periods of time. In his absence Tatitana continues working on the *chaco* and attempts to take over as much of Juaquin's domestic workload as she can. These activities result in the emergence of shifts not only in the types of foods produced, but also in the gendered social relationships necessary to produce them.

The Tsimané have long been portrayed as a subsistence population slowly acculturating to market participation. Alternatively, I argue that Tsimané have been involved in the market for almost a century, but have constantly been negotiating the terms of this engagement as their desire and need for commodity goods and cash has changed. In what follows, I propose that the Tsimané have historically kept the extent of their market engagement to a minimum because the terms were never favorable. Today, however, the flows of political ideals related to indigenous rights have collided with a regional history of continuous forest exploitation and have thus created an atmosphere of opportunity. Recently, logging activities have begun to shift social balances embedded in livelihood production and the production of food. These activities reflect broader environmental, economic, social, and political shifts in the region, which not only make it difficult to survive solely from historical modes of food production, but also offer new opportunities for the Tsimané to engage in the larger region. This chapter closely examines contemporary forms of Tsimané livelihood practices illustrating the variety of activities, both modern and historical that construct the contemporary dual economy. I briefly review the literature on changing subsistence economies and the ways in which forest-based peoples negotiate different forms of livelihood production. Then, I describe the contemporary activities Tsimané men and women in Maraca engage in during both the wet season and dry season and point to the complexity of how they allot their time. I also examine the activities of men and

women in terms of their responsibilities to the household and demonstrate the ways that new emerging labor patterns meld and restructure household and family livelihood production.

MIXED LIVELIHOODS

For forest dwelling populations, livelihood activities are directly related to food production, distribution, and consumption. Therefore, as livelihood systems change, so do alimentary processes (Ross 1978; Sergio et al. 1999). As access to food changes and new regional opportunities arise, forest dwelling groups often look beyond the forest to the market to ensure their survival. I refer to the market, as the actual market “place”, any instance of buying, trading and selling for commodities, or any form of commoditized labor. But how they engage with the market is complex and depends not only on the group, but on the circumstances for this participation (Godoy 2001; Godoy et al. 2005a; Lu 2007). Using Dove’s idea of a composite economy, I examine livelihood production as a series of activities that embody historical flows of politics, economics, and social change as well as cultural constructions. By looking at time allotment data as it relates to the types of livelihood and social activities people engage with, this dissertation moves away from quantified studies of well being or specific outcomes of market engagement. Instead, it contextualizes contemporary patterns within larger histories of regional change in which politics, local and national economies, and the environment shift and re-shift to formulate modern forms of livelihood. Instead of looking at the incorporation of market practices in terms of before and after, I apply the localized modernity approach to examine livelihood production in terms of what it means for the people engaging in it. How do they incorporate market activities into the web of social responsibilities and roles? How do these roles and responsibilities set limitations for how market activities are played out?

Netting points out that smallholders—rural cultivators practicing intensive, permanent,

diversified agriculture on relatively small farms, like the Tsimané—are often assumed to be isolated, but in fact are imbedded into a larger system of land tenure, economics, and political organization (1993: 2, 15). Building on this idea of a comprehensive economic system that cannot be separated from other local processes, is the notion that market practices for forest-based indigenous groups cannot be analyzed separately from subsistence practices. Dove points out that involvement in markets can be integral to history and identity (2011). Together these practices are part of the same systems interacting with one another and reshaping and reflecting larger regional patterns of change. Amazonian Anthropology has a long tradition of examining indigenous peoples and their engagement with exogenous systems. While looking at the effects of the market on livelihoods, many of these examine shifts from subsistence production to commercial production: the sale of timber or other forest products or wage labor (For example Behrens 1992; Caviglia- Harris and Sills 2005; Dean 2009; Fisher 2000; Godoy 2001; Godoy et al. 2005c; Hammond et al. 1995; Lu 2007; Macdonald 1981; Murphy and Steward 1956; Padoch and DeWong 1990, 1995; Peralta and Kainer 2008; Perreault 2005; Santos et al. 1997; Santos Granero & Barclay 2000; Sierra et al 1999; Stearmen and Redford 1992, Hammond et al. 1995; Valdivia 2005; Vickers 1993; Walker 2012). Others discuss how indigenous participation in the market relates to material goods (For example Erickson 2009; Ewart 2002; Fisher 2000; Godoy et al. 2007a; Gow 2007; Hugh-Jones 1992; Killick 2008; Masferrer-Dodas et al. 2011; Walker 2013).

Often these studies have an implicit binary opposition embedded in them—between autarky and dependence or subsistence and market based (Lu 2007)—as if indigenous peoples begin at one end of a spectrum and end up at the other with little agency in how engagement happens or why. These studies have explored the topic by looking specifically at the outcomes of

changing practices without considering the broader environments in which these decisions are made. Hugh-Jones questions not only these binary relationships, but also their concentration on particular outcomes (1992). In the context of the Baransana and other Tukanoan Indians in his discussion of their use and demand for commodity goods, he writes:

“One cannot help feeling that there is something deceptively straight- forward about the oft-repeated story of forest Indians, seduced by worthless trinkets, pressured to accept unwanted and unnecessary goods, turned into indiscriminating consumers forced to sell their labor and produce on a ruthless market, who begin by losing their heads, and end up by losing their autonomy and culture as well. My intention is not so much to deny that something along these lines does sometimes seem to happen, nor to minimize the suffering that it entails, but rather to point out that it is a partial and one-sided view which takes both exchange relations and objects exchanged at face value, which sees them through our own eyes, and which risks presenting the Indians as passive victims rather than as active and creative participants in a two sided process” (Hugh-Jones 1992:51).

Similarly, Sahlins critiques the ways indigenous Melanesian use of commodities have been perceived historically — as if people indiscriminately collect discarded Western goods without discussions of meaning or process in their adoption (2005/1992). Hugh Jones and Sahlins are pointing to the fact that indigenous market engagement and commodity use is often approached in terms of the outcome and not in terms of the meaning behind the outcome or the manner in which it occurs. Instead, they are arguing for a more comprehensive understanding of the context in which these processes are happening: why do indigenous peoples enter the market? How do they use commodities? And what are the meanings behind these practices?

Recently, some scholars have begun to address the larger reasons why indigenous peoples join the market. Henrich, for example, determined that the Machiguenga Indians do not engage in market interactions because of external political or economic processes, that they instead, engage in the market to acquire commodity goods (1997). Similarly, Godoy et al. tease

apart pushes and pulls popularly thought to increase indigenous entrance into markets (2005a).

Pushes include: population booms and encroachment by outsider into the territory. Pulls include: the need to increase food consumption, a reduced variability in food consumption, and the desire for foreign goods. They conclude that it is not external factors that compel indigenous peoples to enter into market interactions (the push), but rather it is the desire for commodities (the pull).

While both of these studies identify a desire for cash in order to pay for commodities, they do not contextualize this need within a broader discussion of the commodities or their meaning. These attempts to pinpoint why people join the market offer a measurable cause and an effect model.

However, as I have mentioned, large regional developments are not necessarily quantifiable and their relationship to market systems might not be direct. The experience of modernity is a comprehensive experience and encompasses many systems through the production of every day life.

TSIMANÉ LIVELIHOODS AND CHANGING MARKET ACTIVITIES

Over the last century, Tsimané have practiced a variety of market oriented activities including the trade and sale of crops, sale of *jatata* (palm thatch roofing), day labor in logging or ranching, and the sale or trade of other non-timber forest products or agricultural products such as cotton or animals (Godoy 2007b). There are implicit differences between how Tsimané understand labor, work, and other livelihood activities. Tsimané in Maraca only consider there to be differences in the type of work they are doing if they are doing the work for someone else—for example, logging for oneself or for another Tsimané is different than working for a logging concession. I will refer to the former as work and the latter as labor. However, this is not always a clear distinction between labor and work in these market practices—for example, agricultural

production and products are not designated for sale to someone else until they are ready for harvest. In this approach all forms of agriculture are work and not labor, despite an increase in cash cropping. For the Tsimané, it is possible that these distinctions between work and labor are restricted to clear examples like in logging or ranching, because despite long term interactions with market forces, few of these practices have dislodged the primary subsistence practices of fishing, agriculture, hunting, and gathering. However, within community based subsistence practices, there are further distinctions between what is work and what is not. For example, many Tsimané, particularly men, do not consider fishing or hunting to be work, but rather see them as enjoyable experiences that also produce food. For example, one day during the dry season in the middle August, when most people were busy planting rice in their *chacos*, I was discussing the rumors flying around the community about when the *Vonej* (*Prochilus cf. nigricans*) would swim upstream and arrive. Gustavo said, “When the fish are here, there will be no work, only fishing.” In this way, Tsimané balance labor, work, and other food producing activities as parts of a diversified livelihood.

Even in the mid 20th century as development in the region increased, Tsimané still maintained a distance from the market by only engaging moderately to purchase medicines, clothing, household goods, and some commodity foods. The importance of durable commodity goods to Tsimané were solidified as pots, pans, guns, axes, shovels, and nets that allowed Tsimané to practice their subsistence patterns with more ease in an increasingly harsh environment. Shotguns made it easier to catch large game, nets easier to catch fish, and kitchen utensils easier to cook. Western medications made it easier to immediately address sickness and reduced long trips to the forest to collect native remedies (Calvet Mir 2008). Cheap commodity foods like salt, oil, and sugar reduced culturally significant activities such as long trips to

Pa'tsene where Tsimané traditionally collect salt (Huanca 2006), regularly making *chanquecue* (thick blocks of cane sugar), and hunting trips with the goal of finding a large enough animal to collect the fat. While Tsimané continue to practice traditional methods of livelihood procurement, the commodity alternatives became commonplace in everyday life. To afford these goods, the Tsimané had to engage with the market more consistently. By the 1980s, Tsimané regularly sold forest products, crops, domesticated animals, and worked as day laborers on ranches and logging initiatives (Godoy 2007b). Yet, despite more consistently engaging with the market, it was still minimal when compared to subsistence activities. For many Tsimané men, who are the primary cash acquirers for the family, activities such as logging or ranching only took place once or twice a year and lasted just few days and the collection of forest products, crops and domesticated animals was attainable from home and the larger community. Many Tsimané kept their distance from the market place by only engaging enough to afford commodities when needed. Large-scale development, however, has changed how Tsimané are able to maintain this balance between subsistence and the market. More significant decreases in forest resources, population pressures, and an increase in access to market commodities have shifted the extent of the Tsimané's reliance on the market. As a result, the Tsimané are working steadily outside of historical subsistence occupations in order to earn sufficient cash to afford commodities that have become commonplace necessities and desires.

Men hold the major responsibility of providing food for the house. They do this by fishing, hunting, and subsistence agriculture. Yet their ability to supply the house with adequate food by relying on subsistence practices is becoming increasingly difficult. Men often talk about their responsibility of buy grocery items and its association with a need for cash. Marco explains, "There are no fish and no animals. There is nothing here. We need the cash to survive, because

there is no food. Plantains and rice—that is not food. There is no food and that is why people are working with wood to make money.” In describing how as a young man he worked on a ranch as an assistant to a traveling trader and then as a plantain seller and as a logger, Jose said, “We need so much more money now. Before we relied on the forest and the river more. There used to be animals and lots of fish that were bigger and it wasn’t difficult to catch them. Now we have to buy our goods, charkey, pasta, oil, sugar—and it costs a lot of money.” To earn enough cash to purchase supplemental food, men engage in cash cropping, salaried labor and logging contracts.

Men control the overwhelming majority of the finances and determine the quantities of agriculture products to be sold, how many weeks they are going to spend working on a ranch, and how big their wood contracts are. Women have very limited knowledge and control of the family finances, and while they do know what price agriculture products are selling for, they are never sure if their husbands have been paid or how much money they are being paid for cash labor on the ranch or in the forest. While women occasionally accompany their husbands to sell plantains or to work in the forest or on ranches, they generally make very limited amounts of their own money selling woven bags and woven mats.

In contrast with men, women continue to uphold historically important roles in the home. Most women consider themselves to have the same jobs as that their mothers had. In general, women stay in the community, manage the household, take care of children, and are involved with agriculture on a regular basis. Women are involved in all subsistence activities, but rarely in day labor. Although rare, some new work patterns are emerging among women. One example is Mariela who maintains her own *chaco*, which she plants with maize, manioc, rice and has a garden with more diverse plants. She explained to me that Alberto’s (her husband’s) *chaco* is

filled with plantains and rice, but that she wanted more food. She maintains and harvests not only her own *chaco*, but regularly helps Alberto with the family plots as well.

Forty-six families out of 50 in Maraca and Iuvasichi have *chacos*. And of those families, 63 percent of couples consider the male to have the most responsibility in the *chaco*, 22 percent of couples consider their responsibilities shared, and 15 percent consider women to hold more responsibilities in the *chaco*. However, like in the vignette above, where Tatitana is working alone in the rice harvest, I saw many women tending to the *chacos* while their husbands are working away from the house. While they often commented on how their husbands are away and they are left with more work, there is little indication as to how much more work they have now than in years past.

In addition to logging, cash cropping, and ranching, Tsimané men continue to practice traditional activities like hunting, fishing, and agriculture in different areas of Tsimané territory. The diversification and intensification of livelihood procurement develops as men age and take on greater responsibilities for their families. When Gustavo was in his late twenties, his family was just starting to grow; he had two young sons and felt increasing pressure to provide for them. Gustavo began working for about a month once a year in the dry season by planting grass on a ranch. He used this money to buy groceries, medication, clothing and other household goods for his family. He found the job through his brother-in-law who knew a ranch manager in San Borja who was looking for someone. As his family grew, he began to supplement his income by selling plantains. At first he sold about 20 bunches of plantains once a month or once every two months. But as the family started to grow, food also became harder to come by and he had to sell more and more plantains. In January 2010, he started to work in wood for the first time. He went to Yucumo and set up a contract with a *Kolla*. He worked together with his sons and his brother-in-

law to complete the contract. In 2010, he earned almost 10,000 Bs (\$1,429) in two months through logging, 1,470 Bs (\$210) from working on the ranch for a month, and supplements during the year with plantains.³⁰ Now, in the beginning of 2011, he has taken on a new logging contract. To Gustavo, the money from selling plantains pays for household necessities like grocery items and medication. In addition to food from the *chaco*, hunting, and fishing, these market foods ensure that the family has enough to eat. But the money from ranching and logging is more like savings or money to invest. It is considered money to buy “fun things, like beer or a motor for a canoe.” Last year, from the money earned from logging, Gustavo bought himself a chainsaw, which not only helps with the logging but also makes clearing his *chaco*, his father-in-law’s *chaco*, and his brother’s *chaco* easier. He has also expanded his plantain *chaco* in order to earn more money. Gustavo’s responsibilities to his family mirror increasing difficulties in procuring food from the forest and his diversification of livelihood measures as a response. He maintains traditional activities by mixing them with multiple market activities. But he is also thinking about the future and the kinds of commodities that are now available to the Tsimané. The commodities do not simply push Tsimané towards the market, but instead continue to facilitate life in the forest assisting in *chaco* clearing and family interdependency.

Men negotiate their family’s needs with their ability to control the work that they do. There is a wide range of diversity in the activities that make up livelihoods in Maraca, but one consistent feature of these systems is the individual’s tolerance to work for non-Tsimané or for any other boss type figure. For example, about ten years ago, Octavio worked on ranch planting grass. He says he did it only one time and he did it for the money, but did not like the work or his

³⁰ This is a total amount earned from the contract. The money was then divided up with his brother in law and two sons who acted as day laborers/ Additionally money was spend on food and chain saw rental.

boss and so he never did it again. He also worked twice for a logging concession but he did not like that work either. Since then he makes money mostly from selling *jatata* and from the occasional sale of plantains. Last year, for the first time he acquired his own logging contract and he works with his two son-in-laws. He did it for the money and he plans on doing it again, but will continue to rely mostly on plantains and *jatata*. He says he likes the ability to work “when he wants to.” Overall, there is a general trend of moving away from jobs like ranching or working for a non-Tsimané’s logging concession because of the accountability that these jobs and their managers require from Tsimané. Tsimané prefer their freedom to work when they want, so long as it supplies sufficient food and cash for comfortable survival. However, while many men would prefer to rely on fishing and hunting for subsistence, these are no longer viable options—additionally, the ratio of time spent on other forms of livelihood procurement is slowly shifting towards labor and other forms of work.

ACCRUING CASH

Logging and cash cropping have become the primary way for Tsimané in Maraca to earn cash. In the last two years, the rate of independent logging within the TCO Chimane-Tsimané has ballooned as Tsimané households have begun to engage in their own logging contracts. Miguel, one of the first Maraca residents to get involved in logging, described his experience—he explained, “I started two years ago (2008) by myself. I knew that in Yucumo there were a lot of buyers. I rented a chainsaw and went to the forest. I cut the wood and then I went to Yucumo and I found a buyer and arranged for the wood to be picked up. I brought the wood to the road and the *kolla* payed me. I saved money and I bought my own chainsaw. I always use the same buyer, she buys my wood for a decent price.” Miguel knows the wood buyer sells the wood for

twice as much, but he is not interested in going to La Paz to set up a contract himself. Reflecting on the increase in logging by other community members, Miguel said, “It’s good. Now, everyone can buy things and it’s easier to go cut wood because there are more people to help carry supplies and the logs. The more people, the better the work.”

To put together a logging contract, Tsimané men go to Yucumo, where many store front owners sell general goods, but also buy wood. These wood buyers hold paperwork (legal or illegal) that facilitate the extraction of the wood from the forest. Before the wood can leave the region, it must be cut into planks, which is done both by Tsimané and in mills. Then it is transferred by truck to La Paz where it is sold at approximately twice the price to furniture producers.³¹ The majority of these grocers/wood buyers are migrant highland women (*cholitas*). Tsimané develop relationships with different vendors by being referred by other Tsimané. If they have a good experience and the wood buyer pays them fairly, they often return to the same one to sign a new contract. Alberto explained the process, “You go to the store and tell them you are looking to cut wood. They tell you what they are willing to buy including the amount, type of wood, and price. Then you sign a contract and get forwarded a part of the anticipated price to buy gas, food, and to rent the chainsaw if necessary. The wood buyer keeps the contract and they have the documents allowing them to take the wood out.” Contract holders usually recruit family members as day laborers. Contracts can take anywhere from three weeks to three months depending on the distance of the wood, the amount of wood required by the contract, and the diligence of the workers. In practice, this means that men leave the villages for extended periods of time. The contracts are most often carried out in the rainy season. But more frequently, there

³¹ This furniture is then sold in Bolivia and abroad. One furniture producer told me his product sold in Bolivia, Peru, Columbia, Israel, China and the United States.

are cases of men who work year round managing multiple contracts. Often the men of an entire family nucleus will leave for five or six days at a time, return for the weekend and almost immediately go to town to restock gas and food.

In addition to logging, as the Tsimané become more integrated into the market economy, they become more reliant on their agricultural production for food and for cash. According to Vadez, houses more extensively integrated with the market are more likely to deforest more, expand their area of rice cultivation, sell more rice, and intensify production by replanting cleared plots more often with other cash crops like maize (2004). Vadez demonstrates that the Tsimané are intensifying their production of rice and maize for sale. For every hectare of rice cultivated, there is an increase of deforestation the following year (2004, 2008). Recently, regional market demand for plantains has increased and in the villages of Iuvasichi and Maraca, plantains were sold more frequently and by more people than rice. In addition to traveling directly to villages, plantain buyers are now arriving at the port of Arenales weekly buying plantains Friday through Sunday. Buyers come equipped with huge trucks, small staffs, and piles of cash. Tsimané living within a one or two days traveling distance will travel by canoe or raft and arrive at the port with anywhere from five plantain bunches to 100. It takes a full day and sometimes a bit more to prepare plantains to sell—this involves harvesting the plantains, carrying the plantains to the river bank and if you need a raft, going to the forest, chopping trees down, carrying them to the river, and then building the raft. It is becoming more and more common for Tsimané to sell plantains on a bi-monthly basis, maybe slowing down to once a month during the rainy season when prices are lower. Tsimané farmers are expanding their plantain areas to be able to meet the demand and maintain a steady flow of cash throughout the year.

Plantains and rice are the two major cash crops leading to the largest amount of income from agricultural production. Seventy-five percent of plantain growers in Maraca and Iuvasichi sell their plantains on a regular basis (one to two times per month). Out of these plantain vendors, 67 percent sell in order to buy other food products. Other reasons to sell plantains include medication, soap, money and clothing. In the dry season, when people find themselves busy with fishing and preparing their agricultural fields, plantain sales average 12 bunches which bring in an average of 183Bs (\$26)—the average price was 12.4 Bs (\$1.77) per bunch. But in the wet season, when plantain sales averaged 26 bunches per sale at 19.7 Bs (\$2.81) per bunch, they brought in an average of 513Bs per sale (one to two times per month). In the wet season, this heavy sale of crops is in addition to continuous logging making it an important time for Tsimané to accrue cash.

Fifty-four percent of rice growers sold rice once or twice per year at the end of the wet season. Fifty-six percent of these sold rice in order to purchase food products, 28 percent sold rice to earn cash, and most of the remaining rice sellers purchased durable goods and household goods such as fishing nets or pots. A sale of rice averages 11 arrobas (1 arroba is 12 kilos) with the average sale yielding 224bs (\$32).³² One theory as to why plantains are sold more often and specifically more often for food is because plantains, which can be harvested as necessary, act as a bank where families can harvest when they need cash to pay for food. Alternatively, rice is not usually sold within a month of harvesting and is sold in bulk once or twice per year. While some money can go to food in that moment it is not a continuous source of cash year round. Instead, it

³² While an arroba sells for an average of 19 Bs, Tsimané find themselves in need of rice before the harvest the following year. It can cost up to 37 Bs to buy an arroba of rice in town.

is more akin to a bonus of cash that facilitates the purchase of larger household necessities (and desirables) that can be used for the year.

As Tsimané men become more involved in cash accruing activities on a regular basis, they are increasingly interested in purchasing new types of commodities like televisions, generators, and DVD players. Plantains can be manipulated to provide a more consistent cash source than logging or rice production, and can prove to be equally lucrative. Eduardo explains that he worked in wood for a logging concession once in 2000, but he did not like the work. In 2009, he, his brother Alberto, and his two sons Francisco and Heraclio followed his cousin Hugo to work in logging for a *Kolla* in Yucumo. As a day laborer, Hugo was making some money so they joined him. They worked hard as day laborers and Eduardo did not think the work paid off, so he went back to using his *chaco* to make money. Now, he plants large amounts of rice and plantains. He sells plantains 40, 50, and 60 bunches at a time. In 2009, Eduardo made 2000 Bs (\$286) from plantains in the month of November. He restocks the food supplies and saves up a little every time he sells plantains. In December he bought a television for 1600 Bs (\$229) and a small generator for the house for 2,000 Bs (\$286). “If we have plantains, we can always get money,” he said. Now that there are so many buyers, you just have to wait until there is one with a good price and you don’t have to go to Yucumo to sell your plantains for the low price of 12 Bs per bunch.” Tsimané men are slowly becoming market players by learning how to get better prices for their goods as well as save and invest their profits.

Young men are interested in commodity items, particularly media related technology. Although they find work as day laborers, they do not have their own plantains to sell or their own logging contracts to fill and can only afford less expensive goods like clothing, radios, sneakers, and movies. Typically, a teenage boy around the age of 15 will go off to work for cash

on his own. In the past, teenagers have worked as ranch hands, traders, and day laborers for logging concessions. In some ways, this period of work is a contemporary rite of passage, where boys become men by surviving on their own in the larger world. Additionally, they learn about the larger experience by visiting, a practice called *sobaqui*. In Maraca, this type of labor experience was typical among men above 30 in some capacity. Almost all the men of this age spent time working in the greater region as day laborers. For some this was a short experience of about three weeks, but for others it lasted years. When reflecting on their time working for outsiders (*napos*), many of the men said that it helped them get ready to take on a wife and support a family. This is often a man's first experience in independence and in that time, they work to afford food and clothing. It also gives them a chance to visit other Tsimané communities and, as is often joked, "to look for girls." Yet, they can come back home and have no other responsibilities but to themselves. Today, instead of becoming ranch hands, many are turning inwards towards their extended families and looking to become involved as day laborers for logging contracts or to help other community members clear and plant their expanded and cash crop laden fields. Young men are now able to work for more money and purchase cheaper commodities by taking advantage of their familial opportunities without having to leave the Tsimané social world. While leaving the community allows older Tsimané men to create an economic relationship separate from community and forest life, younger men are conflating their economic and social relationships within the forest context and now see the trees as commodifiable resources.

CONTEMPORARY USES OF TIME

In this section I discuss the ways Tsimané allocate their time and describe the various activities they take part in. According to Gross, time allocation studies generate data to answer a variety of questions, including questions related to behavior, decision making, production, preferences, attitudes, roles, and social interactions (1984). This chapter uses time allocation to examine the variety of activities Tsimané take part in and how they embody larger regional shifts. To collect data on the ways Tsimané spend their time, I combined spot sampling (Johnson 1975), the process of recording what randomly chosen people do at a randomized time, with continuous monitoring (Bernard 2011), direct observations over a period of time where activities of each household member are noted on time increments throughout. Occasionally, I participated in the activities, but stopped to take notes regularly. I refer to the combination of these methods as scans. I conducted 963 scans of 82 people in 17 households over a six month period. Continuous monitoring has often been criticized for the “reactivity” of informants to the researcher leading to skewed data (Bernard 2011). For this reason, I began conducting scans after three months of living in Maraca. At that point, informants were more comfortable with my presence and it was easier to either sit with them or participate in their activities without having people adjust their actions to my presence. This six-month period also overlapped with both the wet and dry seasons, offering a robust picture of the types of activities Tsimané take part in throughout the year. Scans lasted an average of 85 minutes and could take as little as 15 minutes and as long as 4.5 hours.³³ I divided the day into six-hour blocks of time, two hours each

³³ Although I blocked two hours for each scan, sometimes the observation lasted shorter or longer than the allotted time. For example, very short scans occurred when the whole household was away from the village and very long scans sometimes occurred when the household was participating in an activity far from the house and it was possible to remain with them for longer periods of time. As a result analysis is based on the instances of participating in activities and not time spent doing the activities.

beginning at 7 a.m. and ending at 7 p.m. The household, day of the week, and time block were chosen randomly at the beginning of each week³⁴. I kept detailed notes on the activities of each member of the household over the age of seven. While children six years and under are mentioned, it is usually in relation to another family member's activity with them. Children six years and under were excluded from the analysis of time allotment scans because they primarily stay around the house and under the close watch of their mother. Additionally, they have no responsibilities and do not contribute significantly to any subsistence practices. The activities in the scans were then coded into 18 categories, which included subcategories (see table 5.1).

Over the course of a year, Tsimané spent the most amount of their time in leisure activities, visiting, as well as eating and drinking. All of these activities are vital to the maintenance of Tsimané social networks. Within the household, these activities solidify a domestic body where family members spend time together. For example, eating and drinking in a single kitchen establishes responsibilities, dependencies, and systems of reciprocity where large extended families contribute food items, labor, and other materials to the greater household and kitchen. In return, they receive support and the communal experience of eating. This extends to the rest of the community through the consumption of *shocdye* (a beer) after the meal, in this activity these three major categories of time allotment coalesce. Neighbors visit, chat, relax, and drink and thus, they establish and maintain more extensive social networks. These three major categories of activities – leisure, visiting and eating and drinking – not only take place at the same time, but also often take place with housework, childcare, grooming, and craft work. In

³⁴ To create a randomly assigned scan I created small pieces of paper with each of the 17 households names, days of the week and blocks of time. I put each group of papers in a hat, pulling one paper out from each to create a unique combination. After assigning a household to a day and time, I returned the papers with the days and times to the bag so each household could have all time and date options. If another household was assigned the same day and time, I randomly chose another time from the bag.

fact, Tsimané often multitask: during the dry season, women averaged 2.77 activities during a scan and men averaged 1.73 activities.

During the wet season, the number of activities taken on during a scan dropped to 2.15 for women and 1.37 for men. In general, men spend more time than women in singular labor intensive activities away from the house (for example, agriculture and logging), which might explain why they take part in fewer simultaneous activities than women. In both seasons, for both men and women, the age of the person in question correlated with that of the number of activities they took on at any given time (I will expand on this later in the chapter).

In terms of producing their livelihoods, Tsimané men primarily spend time in their agricultural fields and doing housework. Fishing, logging and commercial activities (such as trading, buying and selling) are also important factors in how Tsimané spend their time. Tsimané practice intensive subsistence farming by using slash and burn techniques in two kinds of agricultural fields: *chacos* and garden plots. Men primarily work in the *chacos* by raising plantains, maize, manioc, rice, staple foods, and cash crops. Women divide their time between the *chacos* and their garden plots. Agricultural work is laborious and requires continuous attention. The bulk of the work takes place in the dry season when the plot is cleared, burned, and planted. But the heavy rains lead to speedy and uncontrolled weeds that require continuous maintenance. Armed with machetes, couples systematically engage in the practice of *fejtsaqui* (weeding). The second major round of labor related to agriculture is the harvest. Rice and maize are the only crops that have a particular harvest time. Plantains mature and reproduce continuously and manioc can stay in the ground for long periods of time, even after it has matured. During the rice harvesting and the maize harvesting at the end of the rainy season, Tsimané must comb through their fields to collect the fruits of their labor.

FIGURE 5.1 ACTIVITY CATEGORIES³⁵

Fishing	All fishing activities including: with fishing net, hook, poisons, and mosquito nets.
Hunting	All hunting activities including: with a rifle, shotgun, or bow and arrow.
Cooking	Roasting, boiling, steaming, smoking, and drying; Transforming the product somehow to become edible; All processes in the production of <i>shocdye</i> (beer) including AFTER the boiling (i.e. masticating and straining); Food preparation and pre-cooking processes like fire building for the purpose of cooking, de-husking rice, de-husking maize, grinding maize, sifting ground foods.
Agriculture	All work in the <i>chaco</i> and garden: including clearing, burning, planting, weeding, and harvesting.
Gathering	Gathering wild edibles deliberately or serendipitously
Housework	Cleaning, washing dishes, sorting seeds, gathering wood, fixing clothing, hanging up laundry; House repairs including new roofing, new siding, new poles; Fixing pre existing materials including benches, brooms; Maintenance on electronics and machines (i.e. chain saws, bicycles); Minding domesticated animals (feeding, shoeing, searching for).
Childcare	Babysitting someone else's children; Parenting (i.e. directly engaging with your child by scolding, teaching something, or feeding); Breast feeding
Eating and Drinking	All forms of food and drink consumption including <i>shocdye</i>
Resting	Resting, sleeping or lying down in the house or on a mat outside
Visiting	Visiting other homes in the community; visiting Tsimané in other communities; hosting non-household members in your home.
Leisure	Playing soccer, hopscotch, with toys, or in the trees; Watching a movie; Relaxing at home (not in bed); sitting around the patio and chatting.
Grooming	Picking lice from your hair or someone else's hair; Hair brushing; picking bugs out of skin; Bathing and laundry at the river, the streams or in a basin at home.
Logging	Cutting timber to sell, transporting wood (for yourself or for someone else), setting up camp.
Ranching	Working on the ranch of someone else or with your own cows
Commerce	Trading, selling or buying cash crops, timber or other commodity goods in Puerto Arenales, with a trader in the community, San Borja, or Yucumo. Drumming up contract work.
Craft Work	Making bows and arrows, <i>pasi</i> , canoe, laundry beaters, <i>escaleras</i> , <i>sarai</i> , or spinning yarn.
Other Exchange	Trading, buying or selling between two Tsimané in the community
Other Commerce prep	The creation of other materials for sale (i.e. <i>jatata</i> , cotton, etc...)

³⁵ These categories have been condensed to streamline the analysis

For women, housework and cooking occupy a significant portion of their time. These activities ground much of Tsimané women's time within the actual house complex and enable the household to be the center for Tsimané family life. While not as labor intensive as agriculture or logging, many activities that maintain the house and home require a great deal of energy. For example, women move large logs from their *chacos* to the kitchen to make fire, sometimes walking for as much as 20 minutes carrying the logs on their shoulders. They also fetch water from the streams or the river and carry gallons of water at a time. Additionally, they monitor the well being of the domesticated animals, make sure the patios do not become overgrown with weeds, and keep a close eye on stocks of food. Men take part in housework as well, but in moderation and have more limited tasks. Men take care of large maintenance projects, which occur every couple of years—projects such as expanding or renovating the house, searching for new poles to hold up the roof, and repairing benches. These are very labor-intensive endeavors, but happen infrequently.

Male children and female children under the age of 14 spend significantly more time doing leisure-based activities than older men and women.³⁶ While children in this age group are starting to develop responsibilities to their households, they are free from the pressures of having to support anyone else. Often children stay behind in the house while their parents go to work in the field. This freedom allows the children access to the forest as a playground because they experience it with their friends. Children play in the river and in the trees and learn how to manage and relate to their larger environments.

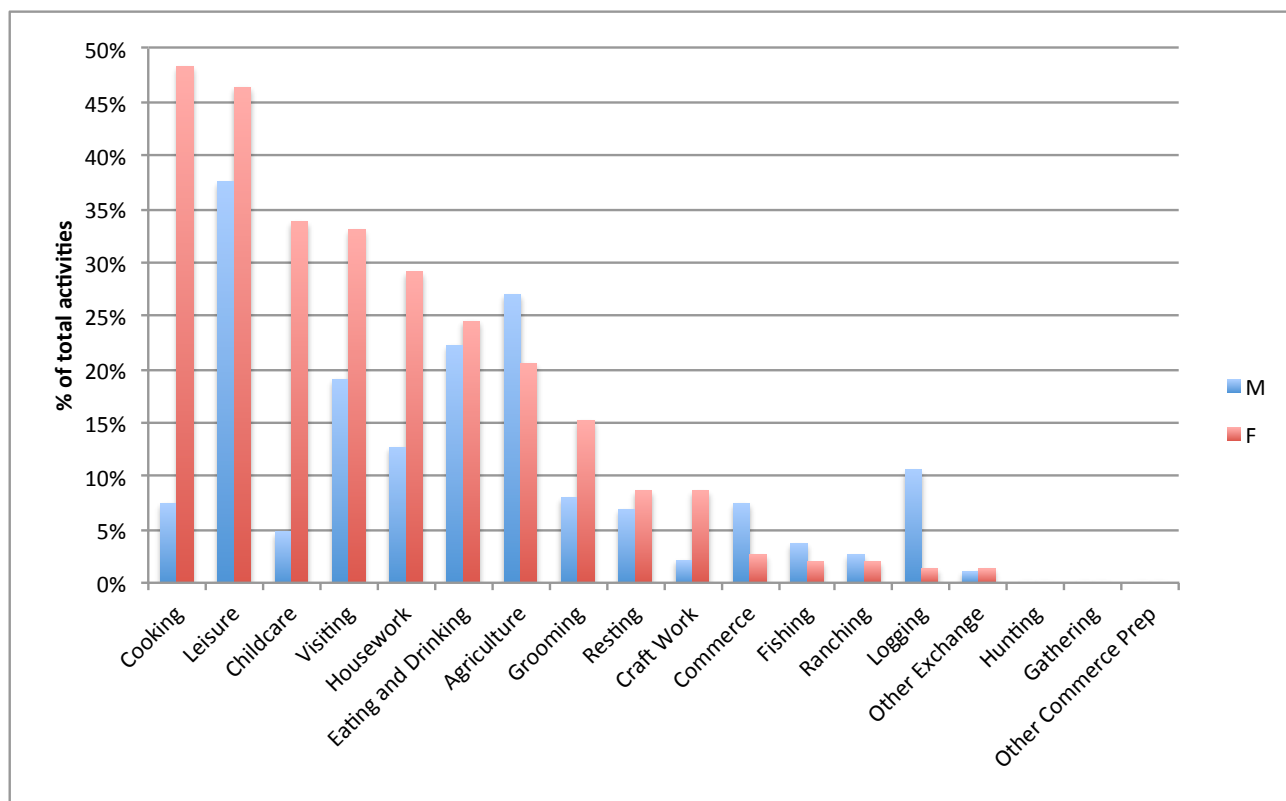
³⁶ Although in other communities it is possible and even probable that girls under the age of 14 begin to spend more time with their mothers helping around the house, particularly because they get married before boys, around the age of 16 or 17. However, in Maraca, there were only four girls between the age of 6 and 14 so it is difficult to make any generalization about them. By 14, the girls were clearly given household responsibilities. For this reason I continue the analysis for men and women above the age of 14.

SEASONAL ACTIVITIES

Many activities are determined by the prevailing season—the dry season (table 5.2) and the wet seasons (Figure 5.3).³⁷ For example, Tsimané tend to visit other Tsimané communities in the wet season. While in the dry season, Tsimané tend to visit and host community members. Some leisure activities, like men's soccer games, are played more often in the late afternoon in the dry season than in the wet season, when the tall grass becomes unmanageable and endless rainstorms make conditions unpleasant.

In the dry season, Tsimané men and women produce most of their food through fishing and agriculture. The low percentage of time spent fishing in table 5.2 (4 percent for men and 2.5 percent for women) is misleading and might imply small amounts of fish. But fishing yields are very high in the dry season and Tsimané are able to successfully bring home large amounts of fish easily with single fishing trips, particularly during the week in late August or early September where the *Vonej* (Sawalo) fish swims up stream. Tsimané women prepare the fish by boiling them in *Jona*, smoking them, and making them into *charkey* by drying them. This can preserve the fish for up to three weeks and free up time for other activities—namely, clearing and planting the *chaco*. You can see how much time women spend cooking during the dry season because they are constantly processing and reprocessing the fish in the kitchen. Logging begins at the end of the dry season when the fish migrations have ended and the *chaco* is drying or is planted. It is only when other major activities settle down that logging becomes a viable option for families that continue to plant *chacos* with a variety of cultivars. The men from some families might spend time on a ranch clearing a *chaco* or planting sod for the cattle, but this is not widely practiced.

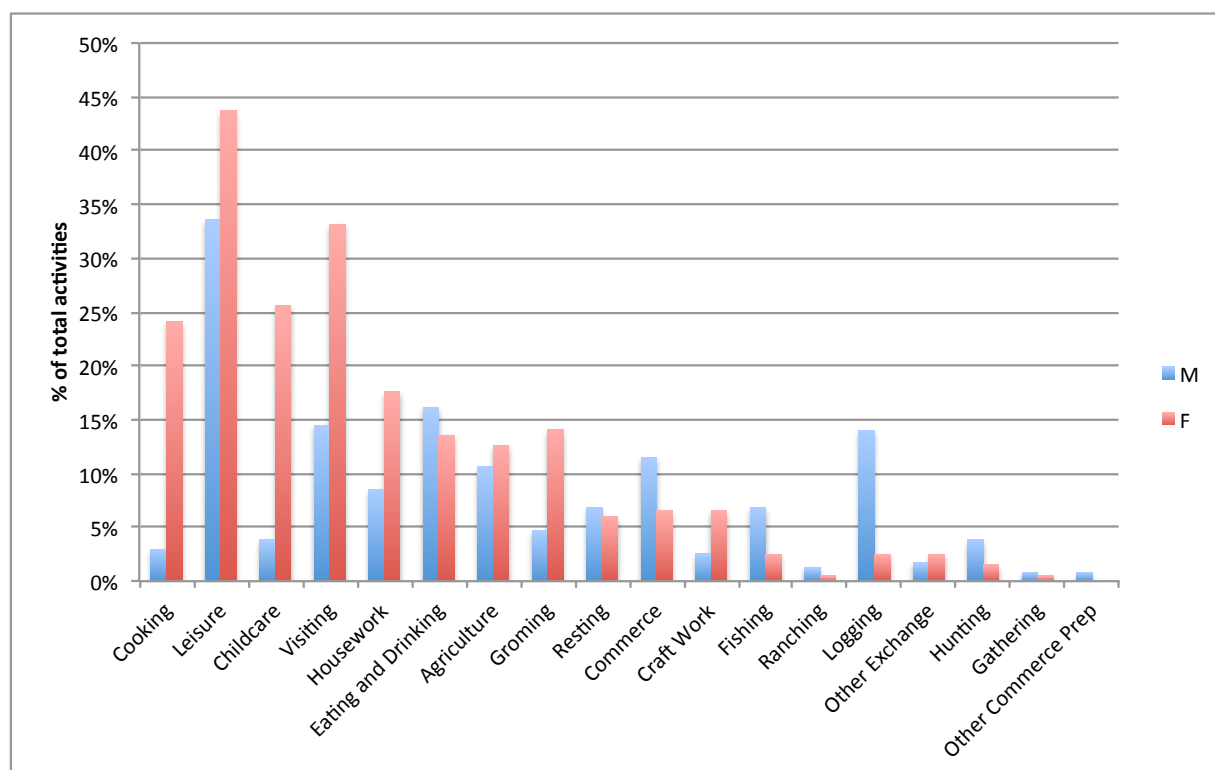
³⁷ Eating and drinking is also impacted by the season, but this is discussed at length in chapters 2 and 4.

FIGURE 5.2 DRY SEASON ACTIVITIES BY GENDER (ABOVE THE AGE OF 14)³⁸

Alternatively, in the wet season men fish and hunt more often as food becomes more difficult to come by and more attempts are made before they successfully accrue it. Additionally, men's participation in logging and commerce activities rises significantly along with a small rise in commerce preparation. Men are increasingly spending the time that they have typically and historically spent in the community to instead earn more cash. They are reappropriating time traditionally not used for labor to increase the amount of cash that can be earned. Cooking time and eating time drops significantly for both men and women in the Community—this is also consistent with the wet season historically being a time of food scarcity (Byron 2003). However, food continues to be available in the wet season and thus, points to the impact of the logging

³⁸ The percentage of total activities reflects the number of times a particular activity occurred out of the total number of activities that took place during a scan.

FIGURE 5.3 WET SEASON ACTIVITIES BY GENDER (ABOVE THE AGE OF 14)



and other commerce activities bringing in food commodities to the households. These commodity foods require less food preparation (an aspect of cooking) compared to foods accrued through fishing and hunting. However, in the wet season women eat less often than men while in the dry season, they eat more often than men—this points to some of the gender differences in changing access.

One way Tsimané have localized their modern forms of livelihood production is by altering the types of tasks that need to be completed during the wet season and the dry season. While there is variation on a household level, which is determined by an individual's motivation for logging, generally community patterns point to a melding of activities that complement each other without completely replacing each other. These new patterns put stress on some members of the household, but they also facilitate the accrual of cash. Augmented work activities, namely cash cropping and logging, are not surprising choices for work, but they are not only activities

and these types of exchanges have been possible for almost a century. As I demonstrate above, Tsimané are engaging with them now for complex reasons that include political rhetoric, increased opportunity, a desire for commodities, and increasing difficulty acquiring food.

RESPONSIBILITIES TO THE HOUSEHOLD

While looking at general time allotment strategies is useful in understanding general patterns of labor, more detailed divisions of time pull out the specific responsibilities of individuals in the households. Because labor and subsistence activities are so closely tied to food for the Tsimané, the kitchen acts as a household unit and responsibilities relate to how the production of food, cash and other forms of well being relate to the space. In Figure 5.4 below, I divide activities for the Tsimané household (multiple families that share a kitchen) by position and gender: providing married men and women, dependent married men and women, and dependent unmarried men and women. Providing married men and women includes the matriarch and patriarch of the greater household. If they have married children, some live in houses near or adjacent to their patio and home and share their kitchen. Their income and food production provides for their children and their children's children, particularly through the kitchen and the production of meals. Dependent married men and women are couples, mostly young and under the age of 29, who are recently married. If they have children, their children are under the age of three. Although they have their own *chacos* and contribute some food to the household, they primarily rely on their parents or other relatives by most commonly joining the wife's parents (but it can also be the husband's) for food and relying on them for babysitting. Most commonly, they share a kitchen with the providing family and rely on them for meals. Often the husband works together with his father-in-law in agriculture, logging, or ranching. Yet,

they maintain their own house and *chaco* and make their own money and are thus responsible for household materials like clothing and medication. The couple contributes in minor ways to the overall household income with goods and labor, but are not responsible for maintaining it. Finally, dependent unmarried men and women are children and teenagers who live at home but are not responsible for food and income for the family. While they do contribute to household tasks, they are not required to participate. Often the older boys in this category, 14 years of age and older, go off to earn and spend their own money by finding work in town, logging or ranching.

Aside from their leisure time and eating and drinking, providing married men spend the most amount of their activities working in agriculture (24 percent) doing housework (15 percent), cooking (11 percent) and conducting commerce (10 percent). Housework, as I described above, is mostly maintenance work, as they must not only maintain the longevity of their physical home but also all the common spaces in their compounds. Cooking is primarily food prep and activities such as grinding corn through an iron mill or breaking down a recently hunted or slaughtered animal. However, men do cook for themselves, particularly when they are hunting or logging in the woods. The remaining categories of agriculture and commerce are notably connected. While in all the categories, except for dependent unmarried women, Tsimané spend significant time working in agriculture, the providing married men are the most heavily involved in agriculture, particularly cash cropping plantains. They maintain the primary responsibility, not only for clearing large plots of land, but also for harvesting and bringing the crops to town for sale. Men responding to announcements by traders over the radio must not only

FIGURE 5.4 ACTIVITIES BY RESPONSIBILITY LEVEL AND GENDER

Dependent Unmarried		Dependent Married		Provider Married	
M	F	M	F	M	F

Fishing	0.045	0.039	0.061	0.018	0.051	0.03
Hunting	0.011	0	0.009	0	0.036	0.015
Cooking	0.081	0.208	0.044	0.167	0.113	0.492
Agriculture	0.087	0.156	0.175	0.088	0.236	0.206
Gathering	0.004	0	0.009	0.009	0.005	0
Housework	0.042	0.117	0.070	0.167	0.149	0.277
Childcare	0.015	0.104	0.018	0.281	0.098	0.327
Eating and Drinking	0.227	0.143	0.132	0.167	0.226	0.196
Resting	0.031	0.039	0.070	0.088	0.087	0.060
Visiting	0.152	0.130	0.219	0.325	0.2	0.357
Leisure	0.447	0.611	0.219	0.369	0.379	0.458
Grooming	0.031	0.039	0.035	0.141	0.082	0.176
Logging	0.114	0	0.088	0.009	0.092	0.030
Ranching	0.008	0	0.035	0.018	0.015	0.01
Commerce	0.038	0.065	0.123	0.018	0.103	0.05
Craft Work	0.011	0.065	0	0.035	0.056	0.101
Other Exchange	0.011	0.013	0.0176	0	0.010	0.035
Other Comm. Prep	0	0	0.0176	0	0	0

harvest the plantains, but must also find a way to transport the plantains down river. While some men have canoes, many have more plantains than they have room for and must construct rafts called *kayapos* to accommodate all of the cargo. Occasionally, the wives of men selling plantains will accompany them, but more often the men go down river with one of their sons, sons-in-law, or brothers. If the men are selling large quantities of plantains and are responding to a trader's announcement, they are able to sell their plantains right at the river bank in the Port of Arenales, otherwise they have to make multiple trips to move the plantains to the road to catch a ride to either San Borja or Yucumo. After selling their plantains, the men will go to town to buy *charkey*, dried meat, medication, clothing, pots, DVDs, gasoline. The whole process, from harvest to sale takes between two and three days. In addition to most often working in

agriculture, the providing married men also hunt more frequently than any other group (3.6 percent). While hunting makes up only a limited portion of their total activities, these men enjoy hunting and will go off into the forest whenever they have a day without other pressing responsibilities or if they need food and they do not want to go to the hassle of harvesting plantains and bringing them all the way to town. Tsimané men enjoy fishing as a recreational activity and as a way to provide food. Although fishing (5.1 percent) is less time consuming than hunting because it only requires a walk to the river, overall it yields more food over time. Interestingly, both providing married men and dependent married men fish more often in the wet season than in the dry season, but in the dry season they catch significantly more fish.

Cooking (49 percent) and childcare (33 percent) are the primary livelihood activities for providing married women. However, providing married women multitask more than any other group and often find themselves taking care of these responsibilities in conjunction with more physically taxing labor such as agriculture (which makes up 20 percent of their activities). For example, Mariela, who is one of the only women in the community to maintain her own *chaco*, went to clean up debris from her recently cleaned *chaco* in addition to assisting with the family *chaco* and keeping her own garden. None of her daughters or her daughters-in-law were around to watch her children, so she was forced to take Anabel (five years old) and Desi (three years old.) with her to the *chaco*. She packed a *sarai*, a traditional woven Tsimané bag, with a bottle of water and some fried bananas in case the children got hungry. While working, Mariela held her machete in one hand and Desi's hand in the other because he was cranky and insisted on her holding him. On the way home, Mariela stopped to pick up firewood, a log around five feet long and one foot wide. She also stopped to harvest some papayas, one of which she, Anabel, and Desi shared on the spot. After their snack, she put the log on her left shoulder by holding it with

her left hand and she held Desi on her right hand. Anabel helped out by carrying the papaya-heavy *sarai* as they walked back to the house. In contrast, Mariela's husband Alberto worked in his *chaco* with the help of his son Hernando (24 years old) and his son Alonso (16 years old); the men came home equally exhausted from the day, but arrived empty handed.

Providing married women must also make up for a portion of the work in the house that their dependent married daughters are not able to handle. While dependent married women have very similar divisions of labor as their mothers, they spend more time than anyone else resting (8.8 percent) and overall, they do fewer activities than their matriarchs. The higher percentage of time resting can be attributed to pregnancies and newborns. Women at the end of their pregnancies, particularly in the last two months, do less housework and agricultural work. Women who have recently given birth stay at home for long periods of time without leaving the house. They do this to protect the newborn from infections and spirits. Additionally, after giving birth, they cannot participate in cooking for fear that they will contaminate the food with negative spirits. These restrictions can last anywhere from three months to nine months. While they are sometimes restricted in their activities by their newborns, dependent married women are also able to engage in more logging activities, because they are able to leave their children with their parents-in-law when they go into the forest for a few days.

While providing married women multitask the most, dependent married men spend the most time doing the fewest activities. They spend the least amount of time doing leisure activities (22 percent) and they participate overall in fewer activities than their female counterparts or their providers. This is because of the intense labor activities in which they participate, including logging (9 percent) agriculture (18 percent) and commerce (12 percent)—compounded with the fewer responsibilities they have within the household. This might explain

why they hunt less than the providing males because they can rely on others for forest meats and are able to instead concentrate on moneymaking activities. Additionally, they spend the most time away from the household by working in forest, and thus are unable to relax and chat the same way they can when they are at home.

Dependent unmarried young men also spend a significant amount of time logging (11 percent), but they are the least involved in agriculture (9 percent). These figures point to a subdivide in the category of dependent unmarried men: teenagers above the age of 15 and younger boys. In the last two years, it has become much more common for teenagers 15 years old and older to spend the time they would have previously spent ranching by working for other Tsimané (mostly logging jobs, but occasionally as day laborers in *chacos* around the community). For example, 15 year-old cousins Elias and Heraclio often work together as day laborers for their older cousins who have their own logging contracts in Maraca and Iuvasichi. Working for other Tsimané, especially family in the adjacent forests, allows the boys to come home and participate in household and community life and thus facilitates their high level of leisure time, particularly soccer games and DVD screenings. Alternatively, boys under the age of 15 years of age still living at home help their parents with household chores like agriculture, but are at liberty to play on their own around the community.

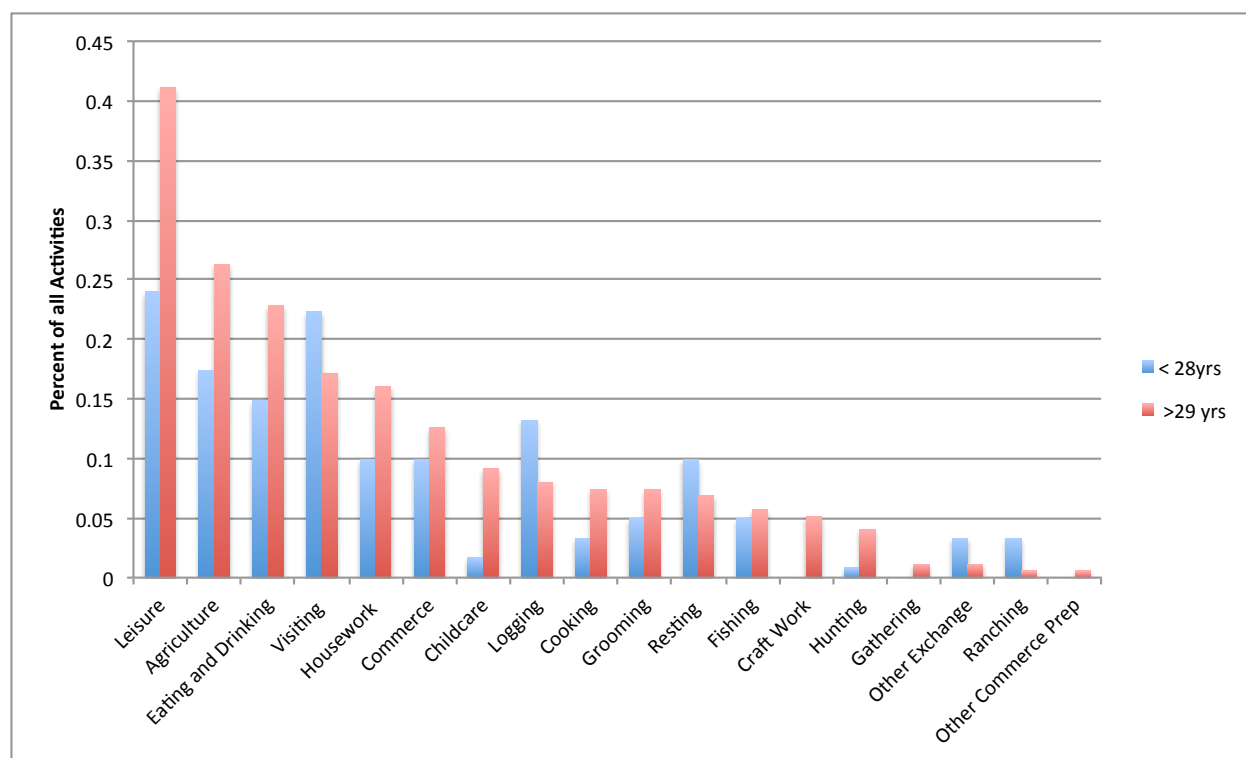
Like the young, unmarried dependent boys, dependent unmarried girls spend the majority of their time in leisure activities. But more than their male counterparts, they consistently help their mothers by cooking (8 percent) and participating in agricultural activities (9 percent). In this way, they make up for the lack of activities of their older sisters and sisters-in-laws and enable the household to run smoothly. However, these activities are not always the same activities as those of older women. Often these activities are modified to match their skill levels.

These young girls often watch their younger sisters, fry plantains for their snacks, or go to the garden to harvest fruits and vegetables that are in their reach. For example, when four year-old Beatrice was crying, her mother Guadalupe asked 11 year-old Silvi to make her something to eat. Silvi warmed up a frying pan of oil, sliced the plantains, dropped them in the oil, and once they were done, she cooled them off, tucked them in a plantain leaf as a heat-protecting wrapper and gave them to Beatrice.

While assessing the percentage of overall activities that each member takes part in within the household demonstrates the types of responsibilities that various household members are responsible for, the changes that are happening across age groups are often lost. Looking closer at the breakdown of all married people by age gives a more illustrative explanation as to how people are shifting the way they maintain their responsibilities for their families and for the greater household. This is particularly relevant for men because they do more intensive labor for the production of cash. Dependent or not, all married people carry responsibilities to the household and are at liberty to define how these responsibilities are met. Emerging work patterns can be seen more clearly by comparing older more established family men with younger men just starting out, regardless of whether or not they are dependent on their parent's kitchens. What becomes evident in Figure 5.5 is that older men are more engaged in household activities, participate in a wider variety of market activities, and concentrate more on agriculture than their younger counterparts. Younger men are much more involved in logging than men above the age of 29 and are comparably only moderately engaged in agriculture as they prefer to make money through the exploitation of timber. Despite the fact that older men spend slightly more time engaging in commerce activities in town, younger men spend significantly more time away from the community (45 percent of their time) as opposed to older men, who are only away 25 percent

of the time. Most likely this is due to the primary reason high agricultural producing men go to town—to sell plantains and purchase groceries. Alternatively, younger men are not only leaving home to go to town consistently, they are also spending long periods of time deep in the forest working on their logging contracts. Slightly lower commerce activities for young men are probably attributed to the long wait to complete the logging contract in order to receive compensation. Additionally, there are slightly fewer trips to town for those not in charge of buying supplies for the trips into the forest.

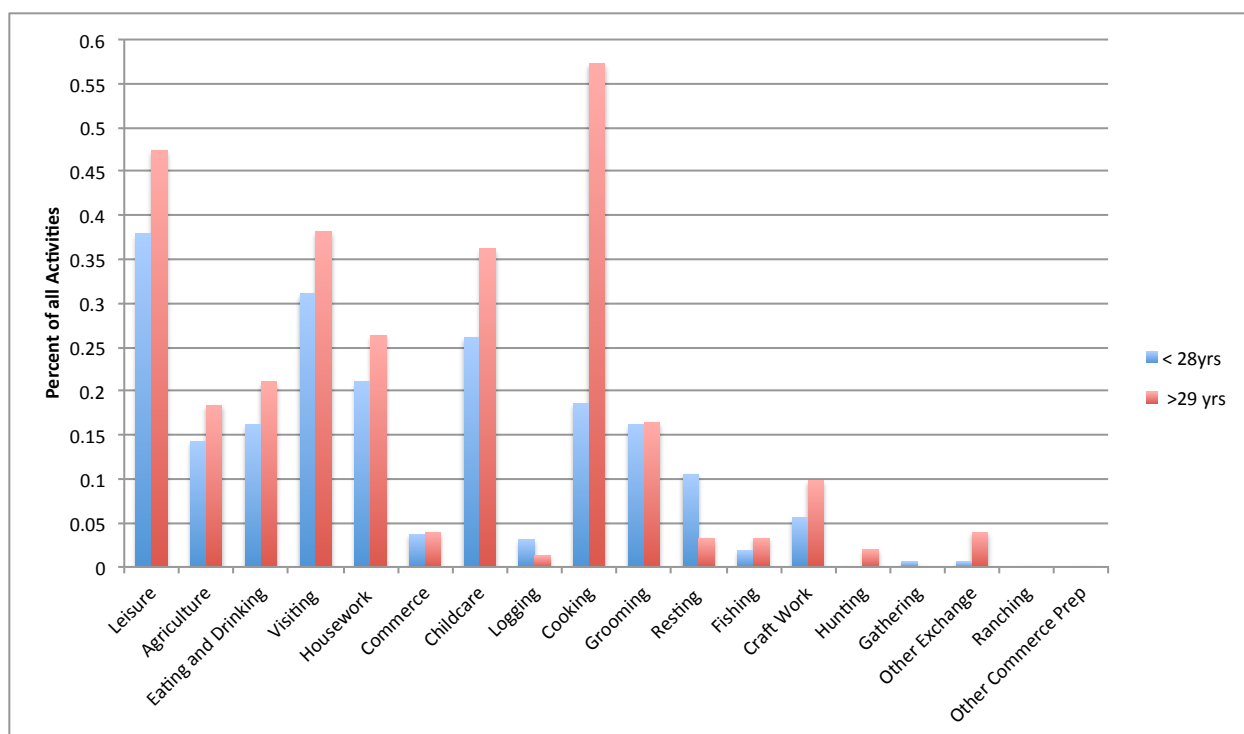
FIGURE 5.5 ACTIVITIES OF MARRIED MEN



For women, I also examined the differences between the activities of dependent/provider approach and the married age group approach (see Figure 5.6). However, I found that the division of activities by age is not significantly different from the division of household

responsibilities. This might imply that dependent married and dependent unmarried women are less flexible in their responsibilities, particularly because they are grounded in community and family life such as housework, cooking, childcare, and agriculture.

FIGURE 5.6 ACTIVITIES OF MARRIED WOMEN



EMERGING INEQUALITIES IN FOOD DISTRIBUTION

New patterns of time allotment and labor activities have reverberations within the household, but none more significantly than logging. While increased cash cropping certainly changes the types of foods produced and cash earned, these activities are short term and have more minimal effects on the family dynamics. Alternatively, new forms of logging are repetitive, long term, and highly dependent on men's absence from the community. Tsimané men have become contract holders for timber extraction by managing the day laborers, the hardware, and the rations. Men can spend between one week and one month away from the house working with

extended kin networks to fulfill a logging contract. While most men took on an average of two contracts (either their own or working for someone else) and were away from home between two and eight weeks, some men who were heavily involved in more and bigger contracts found themselves away from the community for an average of two and a half week periods monthly for almost three quarters of the year. This work in timber augments the amount of time spent away from home as some men already work as ranch hands. Godoy et al. indicate that income growth is associated with positive growth in the short- run nutritional status of men and with negative growth in the short- run nutritional status of woman, suggesting that perhaps this has to do with mobility produced by the labor market (2007c). Although there is variation in the amount of time that men spend away from home, it is during these moments that we not only see changes to what food is consumed, but also how it is produced and distributed. And we can see how these activities impact women and men differently.

Just as illustrated in the story of Tatitana and Juaquin at the beginning of this chapter, while men are away, women remain at home and continue to harvest crops, maintain the agricultural fields, mind their garden plots, care for the home, and watch the children. But while women continue doing what they have always done, men's responsibilities are shifting, particularly their responsibility to provide hunted meat or fish. The dietary recalls collected (see chapter 6) demonstrate that 19 percent of the time, one or more male household heads was not in the community and are not eating from the communal kitchen. Men were absent because they were either participating in logging, ranching, or they were in town conducting business.³⁹

³⁹ Percentages reflect households missing members during meal times, but occasionally there were multiple members of the household doing different activities: 9% were in town, 12% were logging.

Alternatively, women only ate away from the community 5 percent of the time and during this time they were almost always accompanying their partner.⁴⁰

The women remaining in the community in the absence of the men have limited access to fresh fish and meat. Sometimes they rely on leftover dried beef, but it rarely lasts longer than two or three meals. Women are able to fish, and do so on occasion, but during my year of fieldwork, they were fairly unsuccessful. On 81 percent of the days that men were away doing market-related activities, women reported having nothing to eat. They used the words *itsij* meaning nothing or *jam sacsidyé* meaning there is no food or no cooked food with meat. After prompting them with specific items, it was common for women to admit that they had in fact prepared roasted plantains throughout the day for themselves and for their children. It is not surprising that plantains alone were not mentioned in the recalls. Plantains are not considered a meal without being mixed with meat or fish and on their own are barely considered to be food. In fact, eating plantains alone is often compared to wild animal eating habits.

In a few instances, generally within a 48-hour extended recall period, women explained that they and their children were able to eat at least one meal in the kitchen of another family member by taking advantage of strong kinship ties. In the absence of men, eight women reported eating a meal with meat or fish in a 48-hour period, but six of these meals were in another household's kitchen. This is fairly significant as Tsimané seldom share cooked food beyond the confines of the kitchen—they more commonly share raw ingredients, such as a recently killed animal or rice. Children have more flexibility in this matter and wander more freely into other

⁴⁰ Eight out of nine instances women were with their partner. The ninth example ate with her parents while her partner was in the forest

people kitchens and the kitchens of grandparents, siblings, aunts, and uncles, and are often able to eat bits from other kitchens.

In contrast, while men are away from home, they seem to be able to eat meals more consistently. Recalls of men's food intakes are limited while they are away logging, ranching or in town because they only occasionally returned in time to participate in the randomized 24-hour recall. But discussions of shopping lists for the forest and of food in town are fairly consistent. When men go to the forest to log, it is typically in groups of four kinsmen. Rations are purchased for a week and include an average of 12 kilos of pasta, six kilos of rice, 15 cans of sardines and/or sausages, some sugary drink mixes, and a couple of bottles of oil. Some men also bring along their rifles and take advantage of their time in the forest to hunt and fish. Men reported eating a cooked meal twice a day while in the forest. Ranching provides similar rations, but with a heavier emphasis on dried beef as opposed to canned food. Men eat one to two meals in town, which always include meats like beef, chicken, or pork coupled with pasta or rice and a side portion of plantain or yucca. They supplement throughout the day with cheap street foods like stuffed potatoes, tamales, bread, soda, and sometimes alcohol.⁴¹

Women in the communities have little expectation for food from their husbands while they are away working or doing business. There is no blame or responsibility put on the men by the women. Men working away from the home are practicing the Tsimané ideal of individual ownership and personal responsibility. Women accept that, with a man's absence, he has little responsibility for providing meats or fish, because he gets nothing in return. And they also understand and hope that the outcome of cash will translate into commodity foods in the

⁴¹ However, if the men are traveling, moving the wood or setting up camp they don't usually eat anything.

upcoming months for the extended kitchen and household. Men bring home pasta, rice, dried beef, onions, sugar, flour, oil, and coffee with the fruits of their labor. But as the men's absence from the home becomes more frequent, women express frustration that the men eat while they work, while the women who continue to run the home have no food, or at least nothing they consider to be food. Women are beginning to ask what adjustments they can make to ensure that there is sufficient food for the household in the short term while their husbands are away making money for food for the long term.

While the nature of these data does not lend itself to assessments of caloric comparisons between genders or the long term effects of these differences in terms of health and well being, what it does is speak to differentiations in the distribution and consumption of food at particular moments in time—when men are involved in market-based activities outside of the community and women are not.⁴²

These changing food trends are closely related to changing ideas of subsistence. Finding new ways to support the family using cash and food commodities supplements dwindling forest resources. But in these short moments of time that bring bounty for some and not for others, when there is meat for the men and meatlessness for the women, it is important to point out that neither the men nor the women are happy with their current situation as dried beef and canned fish are not considered adequate replacement for wild animals and fish.

In general, and apart from these moments, Tsimané maintain a fairly equal society in which the value of both men's and women's labor and contributions to the household are held at the same esteem and they benefit equally. What appears as emerging inequality in food for the

⁴² This sample cannot speak for all Tsimané, but it does describe the changes going on in one village, which is representative of many Tsimané villages that are experiencing the same types of environmental and economic changes.

Tsimané is much more complex. Food illustrates the ways that development and deforestation has made men's abilities to contribute to the household by hunting and fishing challenging and limited. Regional changes have made these new labor patterns a necessity for survival resulting in changes in food distribution.

CONCLUSION

As regional development impacted forest life Tsimané, livelihood activities changed. Tsimané demonstrate a need for food from the forest, but also a need for food from the market. Additionally, the desire for cash goods necessitates forms of labor, which generate cash. To facilitate survival under new social, environmental, and economic circumstances, Tsimané began to practice a dual or a composite economy in which subsistence practices and market practices are performed in tandem. Subsistence practices are grounded in a strong home life and are related to the forest—these include agriculture, fishing and hunting. Additionally, increases in agriculture and new work activities produce additional food, cash for food and cash for commodities. The participation in this diversity of livelihood activities but also the types of cash producing activities are ways in which Tsimané in Maraca localize their modernity. Within a changing region in which cash is an increasing necessity and damage to the forested landscape by outside processes has made food scarce, Tsimané are choosing activities that they believe allow them to be their own bosses. Tsimané in Maraca believe that cash cropping and logging are activities that maintain their independence from greater market forces by allowing them to participate in it at their discretion. Through these activities, not only can they generate cash from within the community and the TCO Tsimané, they are able to continue a relationship with the forest and rely on extended relationships with kin. Their continued ability to use the forest by

shaping it and benefiting from it moderates the effects of local, regional and national development. However, these activities create new purely economic relationships with the forest and land. The commodification of forest resources shifts their social relationship with the forest as trees are cut down, crops are less varied, and the diversity and abundance of plants and animals in the forest is modified event further.

There is diversity in the ways households manage the duality of their economies—some rely more on logging, others more on cash cropping, and some more on subsistence practices. However, most Tsimané households in Maraca rely on one or two members, mostly younger men, to engage in the market and simultaneously keep active in activities socially significant to Tsimané life at home. Men under the age of 29 are more consistently turning to logging, which speaks to future patterns of livelihood activities, but also to emerging forms of political engagement in the wider region and in the nation. Although men experience the greatest shifts in work and labor patterns, women feel their impact through available labor in the *chaco*, in the house, and in the food supply. Women continue to primarily maintain their historical responsibilities, but the dynamics of carrying out these activities have changed as men spend more time away from the home. Contemporary livelihood practices demonstrate the cultural shifts that facilitate both hardship and survival in a continuously transforming environment. Although emerging augmented logging and cash cropping activities of Tsimané still have minimal impacts, they have significant implications for the future well being of the Tsimané and the reevaluation of the meanings and practices of their subsistence based economy. As new patterns of livelihood procurement interact with pre-existing gender rules and responsibilities, they create a new processes of food production, distribution, and consumption. The Tsimané's experiences with the changing environment, particularly market activities and availability of

forest resources, have not only affected the availability of particular foods, but how they are distributed and valued.

CHAPTER 6

THINKING ABOUT DIET, THINKING ABOUT CHANGE

At the beginning of October, I volunteered to help Pilar harvest peanuts from her *chaco*. On the third afternoon, after many hours kneeling in the dirt, we sat back to relax and watch three of her grandchildren clean the *chaco* by burning the dried peanut plant leaves strewn over the field. Pilar is the matriarch of the community and is known for her deep knowledge of healing techniques and Tsimané mythologies. I took the opportunity to ask her about something I had heard a month or two earlier, but had not quite understood. Another community member told me that while he was bathing, he saw a capybara (*Hydrochaeris hydrochaeris*), shot it, and that his family ate it. My understanding was that Tsimané historically did not eat capybara because they believe that the giant rodent has shamanistic powers that stem from its origin as an anthropomorphic being, a being that possessed a powerful venom that could bewitch (Riester 1993). Huanca explained that this myth evolved to only restrict consumption of the head because the spiritual powers resided in the nose (2006). But when I asked my informant why it was acceptable to eat the capybara, he could not answer my question, instead simply replying, “It is delicious meat.” I asked Pilar the same question, “Why can people eat capybara now, but in the past it was not permissible?” She answered, “The grandfathers did not eat many things. The grandfathers did not eat *oto* (capybara) but they also did not eat *tsotsoj* (porcupine) because of its pricks and *varishi* (opossum) because it has a bad smell, but people eat them now because there isn’t a lot of food—now you can eat anything.”

Over the course of the last fifty years, regional development, a changing forest landscape, and subsequent shifts in livelihood procurement have not only affected how Tsimané eat, but also how they think about food. As Pilar explained, changing access to food has created new ideas about what is and is not edible. The modern domain of food only partially resembles past conceptions. It includes extensive types of fish, animals, birds, reptiles, plants, and agricultural items that have been historically central within Tsimané life and forest knowledge, but it also includes many market commodities and a host of animals previously considered inedible. In this chapter, I demonstrate how a series of broad regional developments are manifested through contemporary dietary patterns and conceptions of the domain of food. I explore the ways Tsimané approach the concept of food and how it influences that ways in which they consume. I show that although the everyday diet is limited and consists mainly of rice, plantains, pasta, *charkey* (store-bought dried beef), and fish, Tsimané knowledge of food is extensive and combines traditional ecological information with contemporary knowledge of market commodities. Tsimané continue to weigh the cultural value of forest products above commodity values—this implies that there is a hierarchy of cultural values that surpasses capitalist practices and serves to moderate markets in daily life.

Despite shifts in everyday food consumption, I argue that Tsimané are able to localize the modern food system in two ways: first, by continuing to conceptualize their diet as highly varied and forest-based with their knowledge of an extensive “edible” forest which continues to dominate how Tsimané understand food. Secondly, by continuing to prepare and cook foods in a familiar manner, Tsimané are able to mask the changing ingredients and stretch limited ingredients to feed many people. Finally, this chapter also demonstrates that cash crops and commodity foods play a vital role in changing the availability of food during seasons when foods

are historically limited. These multiple processes exemplify the complex terms of a localized modernity in which there are negotiations between maintaining knowledge of edible foods from the forest, shifting ideas of what is and what is not food, and a diet based increasingly on market commodity foods.

This chapter approaches conceptions of food as a lens for understanding how broad regional development takes root in the relationship between subsistence practices, market commodities, new labor practices, and alimentary ideas. In this chapter, memories of dietary practice and cognitive anthropology methods (free lists and pile sorts) are used to uncover how Tsimané bridge these processes through their conceptions of diet. I augment this cognitive approach with the results of 24-hour dietary recalls to show actual food consumption. I demonstrate that although the Tsimané continue to acknowledge that the components of their diet are primarily forest-based and accumulated through traditional practices, they are also acutely aware that the majority of the food they consume does not come directly from subsistence practices. Instead, the Tsimané diet has become increasingly limited and reliant on market commodities. I argue that Tsimané memories of food continue to encourage broad thinking about diet, particularly the continued conceptual grounding of food as forest-based because food memories center around diverse forest ingredients and their importance in particular dishes.

DISCUSSIONS OF DIET CHANGE

There is some difficulty in studying changes in diet among moderately isolated populations like the Tsimané because data has not been collected consistently over time. One of the earliest references to the Tsimané describes their diet as rich in agricultural foods, fish, and

other animals (Nordenskiöld 1924). Others describe the Tsimané as having semi-nomadic households whose activities heavily revolve around subsistence practices including hunting, fishing, gathering, and agriculture (Metraux 1948). According to these accounts, the Tsimané diet has historically consisted of fish, manioc, maize, and plantains and is supplemented through hunting, gathering and other cultivars. Over the last 20 years, anthropologists working in the region have described the diet as more heavily dependent on agricultural items like plantains, but with a continued reliance on fish. To a lesser extent, wild game and collected fruits continue to be important (Byron 2003; Ellis 1996).

Tsimané acknowledge significant shifts in their diet and compare current practices to what they remember their diet used to be. To get a broader picture of the Tsimané diet over the greater half of the last century, I collected 25 Dietary Histories from key informants between the ages of 25 and 80. Through open-ended and semi-structured questions, I asked respondents to describe their diet when they were children. These histories described changes to food items, particularly animals, fish and wild fruits, and also techniques for acquiring them and cooking the items. Tsimané described their past diets as including a more extensive variety of collected fruits, a larger and a more steady supply of animals and fish, more manioc and maize, and more prepared dishes that incorporated the diversity and abundance of agricultural crops, fish, animals, and birds. Informant descriptions of the past fell into two categories: changes to the diversity of ingredients and changes to prepared dishes. Women were more likely to discuss dishes, cooking, agricultural items, and collected fruits. Men described ingredients that they ate (separate from the name of the dish), items they hunted, and items they fished. This points to the different types of relationships men and women have with food and the ways it is accumulated and produced.

INGREDIENTS

When I asked Tsimané in Maraca about noticed changes in their diet since they were children, I would often get a long list of edible animals, fish, and plants that are now eaten with much less frequency. For example, Eduardo describes his childhood diet as being full of fish and animals:

“We ate so many different things. We ate lots of fish and animals, there were so many of both. There were *emej* (wild turkey), *quiti* (collared peccary), *opaj* (Razor-Billed Curassow), *yushi* (giant ant eater), *oyoj* (brown capuchin monkey) and *shi* (tapir)”.

His brother Alberto added, “We ate *concha*, *vinca* (frog), *varai* (frog) and *ococo* (frog), but we don’t eat things like that anymore.” Many of these items ranked highly as salient in the Tsimané free lists of foods they eat and connected past memories of coveted foods with contemporary conceptions of what is consumed.

Often these memories of food do not just point to the diversity of items lost, but also to the size of the items and their population. When I asked Javier, a man over 80 years old, what has changed in his diet since he was a child, he said, “There were so many *vonej* (*Sawalo-Prochilodus nigricans*)...and *pacisdye* (*Sorubim lima*), *sonare* (*Pseudoplatystoma fasciatum*), *shicrity* (*Hemisorubim platyrhynchus*), *tawawa*, *Ĉävädye* (*Paulicea lutkeni*), *ivinagdye* (*Phractocephalus hemioliopterus*), *pincushi* (*Callophysus macropterus*), and *cum* (*Astyanax bimaculatus*).” His son-in-law Gustavo, in his 40s, said, “They were all very big, but now they are very small.” Javier boasted, “There were so many *cum*, you could catch them in your canoe by pushing it back and forth.” Thinking about changes in the size of food items, particularly fish, points to their continued accessibility, but also to questions of trends in fish populations, over-fishing, and the changes in the forest that make the process of fishing more difficult.

Agricultural items have also experienced shifts. Guadalupe explained to me that fish and animals were not only bigger but there were more of them in her childhood. She explained, “We ate fewer plantains but more watermelon, papaya, *na'me* (*Ina sp*), sweet potato, *binca* (*Passiflora triloba*), and jicama.” Similarly, Javier said, “We all planted maize, manioc, plantains, and rice, but now we don’t plant all of those things. It’s just plantains and rice.” Agricultural production has moved away from diverse non-staple crops and towards fungible crops. This has led to an abundance of plantains in the diet, but very little variety in other agricultural crops. As Eduardo explained, “There are a lot of rice and plantains, but when I was a boy, we only grew it to eat. Now, plantains are to sell.”

With the exception of rice and plantain, most descriptions pointed to a reduction in agricultural ingredients, but others point to opposite trends related to the consumption of market commodities. For example Daniela said:

“We used to eat *charkey*, but now we eat it more. We also ate fried flour when we were kids, but now we make it for the kids more. We also ate fish and plantains. We ate a lot of fish, a lot of *vonej* (Sawalo- *Prochilodus nigricans*) but we also ate less rice, but we didn’t eat as many plantains as we eat now. We ate other things like manioc”

Similarly, Eduardo explains that they had these market commodities when he was a kid, but they are used now much more frequently—“Yes, we had a pig when I was younger, we saved its fat like oil. But we didn’t have soy oil. We also sometimes had sugar, but now we have more.” These memories point to the differences between what was consumed in the past and what is consumed now. Not only has there been a decline in food products accumulated through subsistence methods in the forest, but there has been an increase in the amounts of commodity foods that are now included in the diet.

DISHES

Tsimané describe major shifts in recipes that were prepared when they were children and dishes that are prepared now. Many of these dishes are placed in comparison to *jona*. For example, Consuela said, “We used to eat rice and fish. We still eat this now but when I was a child we also ate *Hurutsus*, it was a *jona* with maize and *tavava*.” Lucia said that she used to cook “manioc with peccary. It was delicious it was like a *jona*.” The comparison of these other types of stews with *jona* is significant. *Jona*, as I will discuss later in the chapter, is a stew made from plantains and fish. It is the most common Tsimané meal in Maraca. When Consuela and Lucia say that dishes made with other ingredients are “like a *jona*”, the question becomes is it the cooking method that makes a *jona*? Or is it the ratio of meat to an agriculturally produced starch in a single dish? Many women and men discussed other ingredients, namely manioc and maize, as primary ingredients in past *jonas* and they had preferences about which meats went with which starch. Consuela gave her dish a name: *hurutsus*. When I asked Lucia’s daughter Daniela what the dish consisting of manioc and peccary her mother used to make was, she called it *jona oyis*, simply meaning manioc stew. Similarly, Milagros said that when you cooked either manioc or maize, they were cooked as part of a *jona*. Alternatively, Pilar mentioned *oyidyas* (cooked manioc foods) in her free lists and when I asked her what it was, she answered, “*Jona* made from manioc.” The implication is that *jona* continues to be produced, despite a sharp decline in its production with maize or manioc.

These descriptions of a diet rich in animals and fish cooked with both maize and manioc are often followed by contrasting descriptions of what the diet consists of now. These descriptions highlight a sharp rise in plantain consumption. For example, Milagros said, “There is less manioc and maize now. I used to cook both of these foods in *jona*, but now it is just

plantains and sometimes pasta.” Other descriptions lament the current consumption of plantains. Josefa exclaimed, “When I was young, we ate plantains. I eat plantains now! But there were fish also when I was little. Now there are just plantains.” Often these descriptions intertwined new market-related consumption patterns with past processes, Milagros explained:

“We used to mix rice and plantains in a soup, we do that now, but every soup has to have a red onion, the kind you buy from the *napos* (local Spanish speakers), in it. There used to be a white onion Tsimané grew and we cooked it with meat. But we don’t have it anymore; it is lost.”

The rise in plantains not only changed the types of ingredients in dishes, but also focused the ways that women cooked. Although they do not eat or cook manioc in these ways anymore, many people remembered other ways manioc was prepared. Daniela remembered bread made with manioc and rice mixed together. Pilar said they ate it roasted in the fire. Rafael remembered when he first got married that he and his wife Patricia used to eat manioc in soups mixed with rice. Almost everyone mentioned that there used to be more *shocdye* (Tsimané beer) and particularly the kinds made from manioc or maize.

Ingredients are only one aspect to the consumption of good—preparation transforms them into something edible. Tsimané remember ways in which these disappearing foods were transformed into edible dishes through cooking. In tandem there was not only a shift in the ingredients, but in the ways people cooked. Alternatively, certain preparations like a *jona* continue to connect people to past forms of food consumption through their ability to absorb different ingredients during their preparation.

UNDERSTANDING CHANGE

Food, particularly fish and animals, became scarce along the Maniqui River in the 1950s when regional development, including roads and state resettlement policies, brought more outsiders into the region (Huanca 1999). Some Tsimané say that the food supply became noticeably worse 20 years ago when the logging companies were legally allowed in the area following the passage of *ley forestal 1700*. Because of this decline, some Tsimané have moved out of the *Tierras Comunitarias de Origen* (TCO) Chimane-Tsimané and the Maniqui River area to nearby TCOs, such as *Pilon Lajas*, in order to pursue better fishing and hunting.

Although Ellis observed Tsimané attributing declines in their animal and fish populations to their spirit guardians as angered or displaced (1996), when Tsimané in Maraca talk about changes to access to food and edible animals, fish, and plants, they reference three major causes which reflect broad forms of regional development: environmental, human, and economic. They understand regional changes in a multidimensional manner in which external intangible factors like weather are tangled with population changes and logging companies. Although Tsimané do continue to rely heavily on fish, they often note not only a significant decrease in population of fish but also in the size of fish. Tsimané remember multiple events where massive weather events significantly damaged the fish habitats and reduced their numbers noticeably. Consuela remembered, “There was a big storm and all the fish died and they only came back small. But there are also no more *isinaj* and there are no more *coro*.” Other immigrants to the region are blamed for entering the land and also for destroying it by cutting down trees and using dynamite in fishing. In the following conversation between Javier, Marco (Javier’s son), and Gustavo (Javier’s son-in-law), the multiple factors involved in changes to food sources become clear.

Javier: There were lots of fish, they were very big, but now they are very small.

Ariela: When did this change happen?

Javier: About ten years ago. People used dynamite upriver to kill fish.

Ariela: Who used dynamite?

Gustavo: *Napos*, *Kollas*, Tsimané. Everyone was using dynamite and now there are no fish.

Marco: Also, there was a flood.

Gustavo: Yes, after the flood, many fish died. I remember.

Ariela: When was this flood?

Marco: Somewhere between 2004 and 2006.

Gustavo: Yes, but I can't remember the year.

Javier: Also, this year when it was extremely cold, all the fish died.

Gustavo: I heard that all the fish died in Santa Cruz also.

Tsimané attribute the anthropogenic changes in access to food to a variety of people.

Outsiders such as highland migrants as well as local Spanish speakers are blamed for learning to eat like Tsimané. Guadalupe pointed out, “The *napos* have learned to eat the fish, before they only ate market foods, their foods, but now they eat our foods.” But on the other hand it is not just outsiders; Tsimané also blame Tsimané migration patterns. For example, Juan grew up far upriver in Coshicava—he said:

“We ate lots of fruits from the forest – *tsocot* (*Rheedia acuminata*), *ibiqui* (*Garcinia gardneriana*) and *tiribut*. We also ate plantains and we ate it with *quiti* (Collared peccary), *vāsh* (armadillo), *quibo* (turtle), *voyo* (kinkajou), *shi* (tapir), *nej* (grey brocket deer), *vonej* (*Prochilodus nigricans*), *emej* (wild turkey), *opaj* (Razor-Billed Curassow) and *meme* (turtle). We moved to Puerto Yucumo when I was young. We ate these things in coshicava and we ate them in Puerto Yucumo. But then there were no more. There is *quiti* (Collared peccary) but there is no *meme* (turtle). These things are gone and there were lots.”

Puerto Yucumo is a community across the river from Maraca. It is in the same cluster of communities as Maraca and is moderately isolated along the middle Maniqui River. Even Ellis' work in the area in the late 1990s describes an area with scattered networks of people. But over the last half-century, the population in the area has ballooned as Tsimané individuals and families (like Juan's) moved to the area. Juan told me his family moved to be closer to other family members and to be closer to town.

But Tsimané also attribute changes in the availability of food to misuses of the forest by both insiders and outsiders and acknowledge that forest degradation was caused intrinsically by the larger, concentrated, and permanent Tsimané community over-hunting and over-fishing but also stipulate that the forest was degraded by less traditional and less respectful uses of the wood. Animals are also thought to have declined in quantity and diversity due to continued deforestation by loggers and ranchers in the areas surrounding the TCO. Some Tsimané in Maraca acknowledge that their own recent adoption of a sedentary community lifestyle has affected the density of animal populations close to the village by concentrating hunting geographically and allowing little opportunity for species to recover. Some people complain that there is no longer time to go hunting far away from the village because there is too much work in the villages or too much time spent away from the village working in wood or with the ranchers. These changes to biodiversity relate to distance from the village and apply to fruits and gathered wild products as well. Tsimané attribute the decline in collected fruits in their diet to multiple causes. First, the decline of fruit trees can be attributed to logging companies that destroyed the trees. Secondly, they mention a lack of respect of the trees by Tsimané—by which they mean that Tsimané find it easier to bring down the entire tree rather than knock down the fruit, thus preventing the regeneration of trees. And finally, a lack of time to travel deep into the forest to find more fruits.

Woven through both environmental changes and human impacts are economic factors in the changes to food. Leon said, “I eat the same amount of rice as I did when I was younger, but now I see other people sell their rice - so they have less to eat.” Others like Rafael explained, “We used to eat manioc in soups but now there is no manioc because no one plants it.” When I asked him why not, he answered, “There is not enough time.” Tsimané in Maraca are committing

increasingly to cash cropping. For some, cash earned from selling crops can be used to buy other food stuffs or non-food commodities, but others find it is difficult to expand their *chaco* size and thus, plant fewer crops and earmark a percentage of their rice or plantains for sale. This streamlining of crops limits the other types of foods planted and there is a loss of variety. On many occasions when I asked why someone didn't plant manioc (or any other cultivar they didn't plant), the response was that they didn't have seeds for that anymore. But while crop decisions are one aspect of the economic factors, another issue is time (expanded on in chapter 5). As more time is spent away from the community logging, less time is committed to agriculture, fishing, or hunting. That is not to say that this is the same for everyone. But in Maraca, Miguel, who spent the most time logging, had the smallest *chaco* and only planted rice and plantains in it (at his wife's behest). The implication of this is that there is a relationship between the amount of time spent logging and the amount and/or variety of agricultural output.

METHODOLOGICAL APPROACH TO COGNITION AND FOOD

This chapter uses mixed ethnographic methodologies to compare knowledge of food and actual consumption of food. To extrapolate knowledge of food, I rely on two cognitive anthropology methods typical in cultural domain analysis: free listing and pile sorts. Cognitive anthropology aims to understand and describe the ways people conceive and experience events and objects in their world, making connections between the material and conceptual aspects of culture (Casson 1994; D'Andrade 1995). Cultural domain analysis is "the scientific study of cultural domains from an emic perspective" (Borgatti 1994:261). A cultural domain is "an organized set of words, concepts, or sentences, all on the same level of contrast that jointly refer to a single conceptual sphere" (Weller and Romney 1988: 9). In other words, a domain is a set

of terms, ideas or items that all belong to the same category – in this case, food. All the items included in a domain are similar in some way – i.e., they are eaten by Tsimané. One crucial element to the domain is that it is not determined by an individual informant's preferences, rather it is a reflection of something's existence in culture or in nature—it is a perception of an item or a thing that many people share (Borgatti 1998). Two crucial questions for understanding a domain are: First, what is in it? Second, how is it structured? To understand how modernity is localized through food, one must understand how people perceive and understand foods—this promises to demonstrate the ways locally produced foods are or are not related to commodity foods. Although cultural domain analysis cannot demonstrate change in diet, it can point to the complex ways foods within the domain are categorized and can point to deeper meanings and values embedded in both forest foods and commodity foods.

Free lists are used to elicit elements in a particular domain. Informants are asked to list all the items that are part of that domain. By doing so, the free list provides not only an inventory of the domain, but also its boundaries (Quinlan 2005). There are three major assumptions in free listing; first, people tend to list items in order of familiarity. Second, individuals who know more on the subject list more items or terms than people who know less. And third, items and terms mentioned by most respondents indicate locally prominent items (Quinlan 2005).

Free listing is often used to discover traditional ecological or ethnobotanical knowledge (for example, Nolan 2001, 2004; Finerman and Sackett 2003; Ryan, Nolan, and Yoder 2000)

Specifically, it has been used to uncover knowledge of wild edibles (Addis et al. 2005; Mengistu and Hager 2008; Setalaphruk and Price 2007; Watkins 2010) and to compare uses or consumption of animals or wild edibles with knowledge of them (Fazzino 2008; Ladio and Lozada 2004; Pieroni et al. 2005, Reyes- Garcia et al. 2005, 2006; Rivera et al. 2007; Termote et

al. 2011). For groups like the Tsimané, traditional ecological knowledge plays an important role in thinking about food –wild animals, plants, fish and birds are included in the diet, but by expanding the free list question to something more general, it opens up possibilities for a more comprehensive idea of food. By asking about foods that Tsimané eat, traditional ecological knowledge becomes a subdomain opening up the potential for the respondent to discuss a wide variety of foods and locations from which food is produced. This method has the potential to show the variety of food and food sources important in the contemporary diet.

Surprisingly, little research has looked at the broad domain of food. Although Hough and Ferrais recommend free listing as a useful way to gain insight into the domain of food (2010), many studies focus on subdomains. For example, Libertino et al. use free lists to elicit knowledge about the domain of menu items (or dishes) that their Argentine informants know (2012). While in some studies the domain of food is too large and embodies multiple subdomains, I argue that it is the melding of these subdomains that is necessary to understand the extensive nature of food in a changing society. This broad approach to free lists of the food domain is included in Kuhnlein et al.'s methodological guidelines for documenting traditional food systems of indigenous peoples from the Centre for Indigenous Peoples' Nutrition and Environment (2006). This protocol is put to use in many of the case studies offered in Kuhnlein et al., and demonstrates the wide range of contemporary diets, which include traditional edible products found in the local environment and store bought commodities (2009). These case studies show the depth of knowledge about food and also compare it to food consumption – connecting ideas to practices within the context of changing political, economic, and environmental circumstances. Although not about the broad domain of food, Traphagan and Brown also demonstrate how free lists can unearth changing approaches to food and reveal how

new styles of eating can express longstanding cultural practices related to social relationships in their study of Japanese fast food restaurants (2002). By looking at food comprehensively, the varieties and values of food for the contemporary Tsimané become increasingly clear and demonstrate a diet that includes both forest based goods, agricultural goods, and market goods and point to differences between the past and the present.

While free lists are used to unearth the components of a domain, pile sorts are used to elicit judgments of similarities or differences among items, or attributes people have assigned to items already established to be within the cultural domain (Borgatti 1998). The informant is asked to sort objects from a domain based on shared characteristics. Although every participant will not have perfect knowledge of the domain, the validity of the results of pile sorts revolves around an assumption that there is some cultural consensus related to the domain being studied (Borgatti 1998). In relation to food, pile sorts have been used in nutritional and health studies to relate food choices, food conceptions and knowledge, as well as health (Chotiboriboon et al. 2009; Cortes et al. 2001; Gittelsohn 1996; Jenike 2011; Thompson et al. 2011). Additionally, pile sorts have also been used in studies of indigenous and regional food systems to group how people think about food, environment, production, and distribution (Creed-Kanashiro et al. 2009; Newkirk et al. 2009; Nolan 2002; Price and Gurung 2006; Wilson 2003)

Pile sorts can be conducted in a number of ways; most frequently, cards with the names of the item are used or on occasion, the actual food itself. Wilson and Dufour used manioc leaves in their study of manioc cultivar selection (2006). In this study I used neither written names nor the food items themselves. Because many Tsimané cannot read easily, putting the names of the food on the cards was impossible. I refrained from using the actual food items to avoid influencing sorts based on size or color. Instead, I used 4x6 cards with pictures of the food items

pasted on them. Before every sort, I went through each card with the informant to make sure they were familiar with the food and could recognize the picture. While some studies ask informants to sort items into pre-labeled piles of directed piles (Jenike 2011; Roos 2002), I used a “free pile-sort” technique (Bernard 2011; Weller and Rommey 1998) in which I allowed informants to dictate the terms of the pile sort.

While understanding perceptions and categorizations of food is important in order to understand contemporary relationships with diet and food production, talking about past diets has implications for understanding contemporary perceptions and future diets. As Holtzman points out, “How, alternatively, does real or perceived resilience in foodways speak to understandings of the present and imaginings of the future through reference to a mythic or historicized conceptions of past eating?” (2006:363). When the Tsimané talk about past eating and foods, how does it connect to contemporary patterns of eating and thinking about food? In what ways does it shape not only knowledge but also practices of food? To this end, I conducted food-centered life histories (following the methodology described in Counihan 2004). I conducted semi-structured interviews with 25 key informants between the ages of 25 and 80 years old. Through these histories, memories of past eating and food draw out narratives that discuss and reveal differences in food availability today in comparison with the past, but also point to larger social, environmental, and economic patterns which influenced food availability, distribution, and consumption (Sutton 2001).

Finally, to ground conceptions of food within dietary practices, I collected 24-hour dietary recalls. I collected this data over a six-month period in 2010 and 2011 during both the wet and the dry season. I collected 151 household 24-hour dietary recalls in all 17 kitchens in the community where I conducted fieldwork. These dietary recalls include 561 recollections of

meals and less formal eating times. Tsimané households often live in small clusters of homes and multiple families share a kitchen and a pot of food. While food stocks remain possessions of the individual household, these stocks are pooled through cooking. The kitchen provides the primary access point to food for the entire extended family. Each kitchen was chosen randomly on a random day of the week and at a random time between 6:30 a.m. and 7:30 p.m.⁴³ A key family member, usually the matriarch, was asked to recall all the things members of the family ate in the last 24 hours.

Byron identified two major problems with this kind of dietary recall when she conducted a study of the Tsimané diet (2003). The first is that families eat from one pot so it is difficult to estimate a nutritional value for the meal for individual family members. The second is that children eat at other people's homes and eat fruits and other forest products that might not be known to the mother during the day. To address the first problem, I focused more on the diversity and quantity of food people eat by asking how many fish, plantains etc... and how many plates each person ate.⁴⁴ Rather than assigning a firm nutritional value to the food, I am able to understand the ingredients and the general ratios of foods within a pot or within a meal as well as patterns of food distribution within the family. To address the second issue, I prompted the respondent with items in season to see if they were consumed and answers were tallied as yes or no. I also asked who ate with the family in order to include any extra meals children might receive while visiting.

⁴³ Dietary Recalls were conducted after household scans

⁴⁴ In Byron's dissertation, one of her comparison villages did not use plates. This was generally not the case in Maraca. Every family used plates. However, women often ate directly from the pot, and children often scraped the pot with spoons.

THE DOMAIN OF FOOD

The Tsimané's access to food has been altered by multiple external and internal phenomenon over the last century. Accumulation of food changed as local animal and fish populations declined, access to market commodities regularized, and cash cropping increased. Tsimané are aware of changes in the availability of popular edible animals, fish, and plants, yet they continue to discuss them both within the context of change and without reference to change. Regardless of past successes and failures, descriptions of fish, animals, and birds often come up in planning for a hunting expedition or after one. Plants and edible fruits are discussed in anticipation of their season and during their season.

To understand how the Tsimané conceive of the contemporary domain of food, a sample of 53 Tsimané in the communities of Iuvasichi and Maraca were asked to list "all of the foods Tsimané eat." Respondents were chosen deliberately to cover a spectrum of ages in both genders and the villages were chosen as a demonstrative example of contemporary Tsimané life because they possess commonalities with a large number of Tsimané villages. As mentioned in the second chapter, Iuvasichi and Maraca share many ecological characteristics, familial ties, and are located at a sufficient distance from the market towns of San Borja and Yucumo and thus maintain moderate isolation, but have steady access to the towns and to traders.

The free lists from 53 informants generated a list of 276 food items that Tsimané eat (See Appendix 1). Out of these 276 items, seven were prepared foods. The list length averaged 45 items. The items were analyzed for both frequency of listing and saliency of items (Smith's S) using ANTHROPAC software (Borgatti 1996). For the analysis, I edited out five subdomain food categories that were mentioned in the free lists (i.e., fish, animals, fruits, birds, meat) in order to concentrate on individual edible items.

Although edited from the final analysis, these subdomains begin to speak to the ways the domain of food reflects broader conceptions of Tsimané life. For example, the general subdomain of fish was listed by 77% of informants with an average rank of three. This implies from the outset the importance of fish in Tsimané life. Similarly, animals had an average rank of five, but unlike the subdomain of fish, it was only mentioned by 34 percent of informants. The on average high rank of both subdomains points to a continued importance of activities such as hunting and fishing. However, the difference in frequency between fishing and hunting also points to the ways people think about food. They think more regularly about foods, like fish, that they continue to have more regular access to, while food sources that are increasingly difficult to obtain, like animals, are thought about less often.

Women listed an average of 38 items, while men averaged 52 items. There seems to be some difference to the extent of knowledge men have compared to women. This perhaps points to more time spent in the forest and in town by men. It is interesting to note, that there is little difference between the older and younger generations. People below the age of 40 listed 45 items while people above the age of 40 similarly listed 46 items. This demonstrates a consistency in knowledge over time. After the completion of the free lists and a total list of items were compiled, key informants went through the list to help clean it of any nonedible items. These informants also categorized the food items into the following groups: *Tapedye* (fish), *Jebagyde* (animals), *Jayti* (birds), *Quiyodye* (agriculture), *Darajdye* (forest), *Acadye* (house), *Tienda* (store), *sacacdye* (fruit) and *pinedye* (medicine). However, numerous items belonged to multiple categories as they might be purchased and cultivated, collected and cultivated, or purchased and raised. Out of the total individual items, not including the prepared items which made up 5 percent of the list, 88 percent of the items were produced from forest-based activities and 7

percent were either domesticated animals or store-bought commodities. Despite the fact that livelihood activities can yield low amounts of food, Tsimané continue to retain extensive knowledge of edible forest resources even when they are not consumed regularly or at all. This knowledge maintains forms of Tsimané identity that surpass consumption or production but relate them back to who they were and how they relate to their environment.

Below is a list of the top fifteen foods ordered by frequency (chart 6.1). What emerges from this list is that Tsimané think about food in relation to the forest, season, and consumption. *Ibiqui*, for example, is listed more frequently than any other food item. *Ibiqui*, a florescent yellow fruit, was in season at the time of the listing. Not only were people eating it, but people were actively planning to collect it.⁴⁵ Alternatively, the second most frequently listed food item, *arosh* (rice) is a staple food eaten multiple times a week and for some daily. It is available year round, if not from the harvest than purchased in town.

The top 15 foods are all obtained through hunting, gathering, fishing, and agriculture, which are considered historically important food producing activities. This illustrates the continued importance of forest-based activities, particularly those activities that connect the forest to food. These activities often overlap in practice and maintain inter and intra household relationships in addition to other forms of social reproduction through their execution (see chapter 5). Each of these methods has a highly developed and evolving system of material goods and social roles that leads to the maintenance of the Tsimané diet. These methods of food production regulate social roles and relationship in addition to gender responsibilities.

⁴⁵ This might be a potential limitation to the free listing method and might change from season to season. But it also reflects the importance of seasonal fruits in thinking about food.

While frequency analysis is useful for uncovering how many people list an item, analyzing the free lists for saliency gives deeper meaning to the results. Saliency is not only a measure of frequency but it is a measure of average rank. Below are the top 15 items ordered by Smith's saliency coefficient. While the two lists are similar, there are two differences that are worth noting. The first is the disappearance of *O'yi* (manioc) in the top 15 salient items. Manioc moves from the tenth most frequently listed food item to the twenty-second most salient item. This is a clear example of how a food might be significant to many people, but its declining presence in everyday Tsimané life removes it from the top of their lists. I will discuss in-depth the effects of the decline in manioc production and consumption in chapter six in relation to *shocdye*, the Tsimané's main fermented drink.

This also points to the distinction between agriculturally produced foods and hunted or fished foods. In the pile sort analysis later in this chapter, I demonstrate that there is significantly more agreement in the relationship between what constitutes animals and fish, while agriculturally produced foods teeter between marketable items and agricultural items with little consensus as to how to group them. While manioc moves down as a salient item, *Quti* (Collared peccary) and *Nej* (grey brocket deer) move to the top of the list. Collared peccary is the most commonly hunted animal and grey brocket deer is also common, and both provide significant amounts of meat. The fact that these animals rise to the top of the list in terms of saliency perhaps demonstrates that their continued yielding of food keeps them at the front of people's minds. Additionally, as Luz mentions, these are some of the favorite animals hunted by the Tsimané (2012). However, although fish play a very important role in Tsimané diet and are consumed more regularly, overall individual fish are ranked slightly lower in saliency than in frequency. This is the opposite of animals and implies that while they offer less food than fish,

hunted animals are preferable foods in the minds of many Tsimané. Martinez notes that living without hunted meat is like living in poverty for the Tsimané (2009). Additionally, when people recall childhood diets, they often describe animals that are no longer available, thus further emphasizing the importance of animals to Tsimané conceptions of food.

FIGURE 6.1 THE TOP 15 FREE LISTED FOODS, ORDERED BY FREQUENCY

Item (Tsimané)	English/Spanish Colloquial	Scientific Name	Freq	% of respondents	
1	Ibiqui	Achachiru	<i>Garcinia gardneriana</i>	48	91
2	Arosh	Upland rice	<i>Oryza sativa</i>	45	85
3	Quití	Collared peccary	<i>Tayassu tajacu</i>	44	83
4	Sonare'	Surubi	<i>Pseudoplatystoma fasciatum</i>	43	81
5	Pere'	Plantain	<i>Musa balbisiana</i>	43	81
6	Tsocot	Ocoro	<i>Rheedia acuminata</i>	43	81
7	Vonej	Sábalo	<i>Prochilodus nigricans</i>	41	77
8	Tavava	Tachaca	<i>Pterodoras granulosus</i>	36	68
9	Oyoj	Brown capuchin monkey	<i>Cebus apella</i>	36	68
10	O'yi	Manioc	<i>Manihot esculenta</i>	35	66
11	Ĉävädye'	jua	<i>Paulicea lutkeni</i>	35	66
12	Ñej	Gray brocket deer	<i>Mazama Americana</i>	35	66
13	Naca'	Paca	<i>Agouti paca</i>	34	64
14	Emej	Wild turkey- Spix's Guan	<i>Penelope jacquacu</i>	33	62
15	Tobiri	Pacusillo	<i>Schizodon fasciatum</i>	33	62

While the overwhelming majority of the food items on the compiled free list are produced from subsistence-based activities, there is a portion of the list that comes from market activities (such as trips to the store). Numerous commodity food items have become important items in the Tsimané diet and have created a fifth mode of food production: food purchases.

Food purchasing as a mode of production affects how the other four modes of production can be carried out because food purchasing demands new time allotment, the generation of cash, and new social and gender roles and responsibilities.

FIGURE 6.2 THE TOP 15 FREE LISTED FOODS, ORDERED BY SMITH'S S

Item	English/Spanish Colloquial	Scientific Name	Freq	Avg Rank	Smith's S
1 Quiti	Collared peccary	<i>Tayassu tajacu</i>	44	14.18	0.576
2 Ñej	Gray brocket deer	<i>Mazama americana</i>	35	14.51	0.458
3 Oyoj	Brown capuchin monkey	<i>Cebus apella</i>	36	15.75	0.452
4 Arosh	Upland rice	<i>Oryza sativa</i>	45	22.31	0.446
5 Ibiqui	Achachiru	<i>Garcinia gardneriana</i>	48	26.10	0.440
6 Sonare'	Surubi	<i>Pseudoplatystoma fasciatum</i>	43	21.98	0.439
7 Vonej	Sábalo	<i>Prochilodus nigricans</i>	41	21.17	0.438
8 Pere'	Plantain	<i>Musa balbisiana</i>	43	24.88	0.427
9 Naca'	Paca	<i>Agouti paca</i>	34	16.29	0.426
10 Emej	Wild turkey- Spix's Guan	<i>Penelope jacquacu</i>	33	18.91	0.397
11 Tsocot	Ocoro	<i>Rheedia acuminata</i>	43	26.19	.377
12 Tavava	Tachaca	<i>Pterodoras granulosus</i>	36	20.86	.377
13 Opaj	Razor-Billed Currasow	<i>Mitu tuberosa</i>	31	19.71	.374
14 Čävädye'	jua	<i>Paulicea lutkeni</i>	35	21.43	.372
15 Tobiri	Pacusillo	<i>Schizodon fasciatum</i>	33	21.49	.366

The distinction between saliency and frequency is interesting in the case of pasta and *charkey* (dried beef). These purchased foods are eaten frequently in Tsimané households. But despite their reasonably high frequency of being mentioned (pasta: 23, *charkey*: 23), they garnered low ranks in saliency (pasta: 41, and *charkey*: 43) and appeared on the list after a slew of fish and animals, some of which are locally thought to be very rare and close to extinction in

the area, such as *mumujni*, white lipped peccary (*Tayassu pecari*) and the 19th most salient item, mentioned by 26 respondents. These discrepancies between what Tsimané eat most often and the foods that are ranked higher in saliency offer a model of thinking about food in a way that has little to do with daily consumption or nutrition and implies that these food items have a deeper connection to Tsimané life. Similarly, it is interesting to note that *emej* (wild turkey- *Penelope jacquacu*) and *opaj* (razor billed currasow- *mitu tuberosa*) were only noted once each over the entire span of fieldwork.⁴⁶ Yet both items made it into the top fifteen in saliency. When I asked why people thought they were popular, Inocencio answered that both birds taste good. Eduardo said that they provide much more meat than chicken.

FOOD CATEGORIZATION

Pile sorts allow Tsimané to categorize foods as they see fit and expose how foods listed in the free lists are thought about in terms of their similarities to one another. Forty-four informants of the 53 who participated in the free lists completed the pile sort task. Forty-two items were chosen for the pile sort from the compiled 276 items from the free lists because they were ranked highly in the free list and also because they were discussed frequently or they were observed being consumed regularly (See Appendix 2). Pictures of each item were mounted on 6 x 8 inch heavyweight paper. Informants were then asked to place the cards in piles of items that were similar to one another. I found it helpful to go through each card with the respondent prior to handing them over, so the cards were mixed before leaving the sorter to make piles. After the informant finished sorting the pile I asked them to explain why the foods in each pile were the

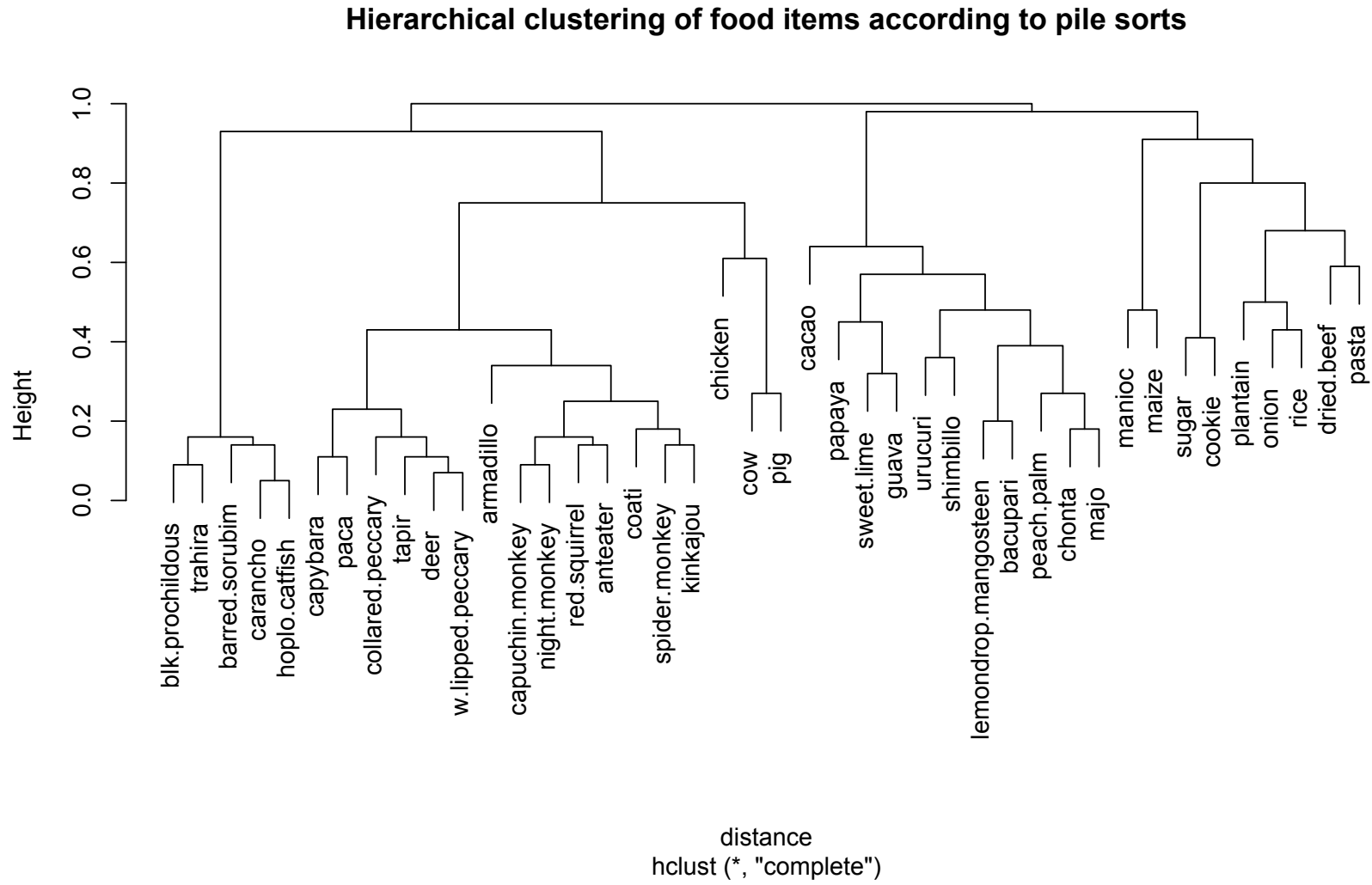
⁴⁶ Although formal dietary recalls were conducted for six months, I kept close tabs on what people hunted and ate through observations and informal interviews during the other months of research.

same and what made them different from the other piles. If the informant had trouble sorting the piles (which was most evident if they simply divided the pile into two), I went through each card with them placing them in a pile and then asking if the following card was similar or different. The pile sorts were then analyzed with ANTHROPAC 4.0 software (Borgatti 1996) to create an aggregate similarity matrix across all respondents' pile sorts. This similarity matrix was then visually represented using hierarchical cluster analysis in R (R Development Core Team 2011). The results (Figure 6.3) show a clear division between four groups: One group contains all the fish, one group all the animals, one group a variety of fruits, and the last group consists of agricultural items and store bought goods. The other group includes all the agricultural items, collected fruits, and store-bought goods.

Pile one (left hand branch) is made up entirely of river fish with high levels of agreement (85 percent) in the groups. Pile two is made up of animals and has three interesting divisions. First, there is a clear separation between the domesticated animals (cow, pig, and chicken) from the rest of the animals, all of which are wild and hunted. These animals were described as animals of the house, or *shush* (meat). Many people owned chickens and/or pigs but only one family owned cows. Yet, in the subcategory, pig and cow are shown to be more similar to one another than to chicken. While this could be attributed to a separation between animals and birds, most informants explained that cows and pigs are most commonly consumed in town or that they yield more meat than chickens.⁴⁷ Secondly, within the wild animal group, there is a divide between large animals and small animals. These designations were described by the informants

⁴⁷ Other than the chicken there are no birds in the pile sort because despite being ranked in the free lists they were rarely seen consumed and never discussed in conversation. Chickens were the most common bird consumed. However, this separation of the chicken from the pig and the cow implies that chickens might fall into more than one category: domesticated animal AND *jayti* (bird) a category that was mentioned by key informants reviewing the compiled free lists.

FIGURE 6.3 PILE SORT



either as one group walks on the ground and the other in the trees, or one offers large quantities of meat and tastes good while the other offers comparatively little. These piles imply a fundamental difference between domesticated animals and hunted animals. There is also an implicit observation about the value of meat that comes from these animals and the hunting techniques that are used to identify and successfully catch them are related to their habitat.

In pile three, every item grows on a tree and was described as *sacacdye* (fruit), but within this categorical pile, there are multiple sub-piles implying similarities and differences between the items. The pile does not divide the fruits exclusively by agriculturally produced fruits and collected fruits. Rather sub-piles seem to be grouped by type of consumption, space of production, frequency of consumption, and appearance of the fruit. Chocolate, or *Chocolati* (*Theobroma cacao* L), is separated into its own group—people explained that while chocolate is both something grown in home gardens and patios and is collected in the wild, the fact that it can be used in a drink makes it different. Tsimané dry the seeds, grind them, and mix the chocolate powder with boiling water and occasionally sugar to make a hot chocolate. The next group is comprised of papaya (*Carica papaya*), sweet limes (*Citrus limetta*), and guava (*Psidium guajava* L). All three are grown in gardens and in agricultural plots near the home. People enjoy eating them whenever they are available. Sweet limes and guava are more similar to each other than to papaya and this seems to be because they look very similar in that they are small, round, and yellow. The next group is made up of two fruits called *tsocot* (*Rheedia acuminata*) and *ibiqui* (*Rheedia gardneriana*)—two forest fruits from the same genus, both of which are collected from the wild and ranked very highly in the free lists. In their season, they are constantly eaten and enjoyed by the entire community. These two fruits are very similar to peach palm. *Cajna* and *jaruj* are also fruits generally collected, although peach palm is mostly planted in fallow plots.

All of these fruits are small and round and look similar. And finally the *manaij* (*Attalea phalerata*) and *na'me* (*Inga cf. ruiziana*) are grouped together. *Manaij* is collected and *na'me* is both collected and grown. Both are eaten quite frequently when they are in season; *manaij* is in season in November and December, while *na'me* is in season January through March. These divisions demonstrate that while all fruits are indeed fruits (i.e. are grown on trees), their appearance and availability make them similar and dissimilar from one another. Where and how the fruit is grown is important, but not the dominant factor.

Piles one, two and three are all grouped with fairly high levels of agreement of the relationship between items. Alternatively, pile four consisted of the least amount of certainty in the similarities between items (25 percent). Pile four is made up of agricultural goods and goods purchased in town. Items included in this pile are: sugar, cookies, manioc, maize, *charkey*, pasta, onion, rice, and plantains. This is a particularly interesting grouping because of the diversity of items. As a large group, this pile can be described as cash crops and commodity items, or things with a monetary value. But the justifications that were discussed during the pile sort interviews point to a more complex understanding of these items. Within this larger pile, cookies and sugar are grouped together, manioc and maize are grouped together, *charkey* and pasta are grouped together, and onion, rice, and plantains are grouped together. The clearest pile was the second, sugar and cookies, which are both sweet and purchased. In the first group, manioc and maize are grouped together: both are agricultural crops, which have declined in production and consumption over the last few years. But the main reason why people grouped them together was because they are both used to produce *shocdye*, Tsimané beer. While doing the pile sorts, many people described the pile consisting of manioc and maize specifically as “things you make *shocdye* with”—this often included plantains. But in this output, plantains are put in the fourth

sub-pile with rice and onions. Many people said that these things are eaten together with the onion, or this is what we eat which illustrates the importance of these foods in everyday consumption. Of these three crops, rice and plantains are not only staple foods, consumed more commonly than any other foods, but are also cash crops sold with the most frequency. Onions are both purchased (red onion, such as what was pictured on the cards used in the exercises) and grown (green onion, white onion). Tsimané like the flavor and include onions whenever possible in stews. Onions straddle everyday foods and commodity foods. The final sub-pile, *charkey* and pasta, are also both purchased items, yet justifications always referred to them as being cooked together. These sub-piles within a larger pile demonstrate the increasingly tight relationship between agricultural crops and commodity food items. Agricultural items such as rice and plantains, which were traditionally produced for consumption at home, are increasingly intertwined with cash crops and commodity purchases and therefore, how they are understood is in flux.

The pile sort exercise demonstrates multiple ways Tsimané think about their food. When considering an individual food item, they think about its origin, its appearance, how it used in recipes, and how it tastes. The multiple features of individual food items allow them to be reexamined while the item remains important at the same time. Yet, in addition to the other features, all food categories relate to how the food is accumulated. These modes of food production continue to define how Tsimané understand both individual food items and their diet in general. While the agreement between informants related to fish, animals, and fruits points to cultural consensus related to traditional forest knowledge of edible items, the lack of agreement between informants in how to categorize agricultural and commodity food items highlights the areas in which processes of food production and livelihood activities are currently being

negotiated. Deciphering how foods are categorized is a particularly important process in understanding how the Tsimané think about their diet because it incorporates increased amounts of market commodities and a reduction in traditionally produced foods, pointing to the larger processes of market incorporation into daily life.

PATTERNS OF FOOD CONSUMPTION

The cultural domain analysis of foods Tsimané eat offers a picture of a diet rich in foods produced through subsistence-based activities. There is an implication that many fish, animals, birds, and other reptiles provide a constant variety of proteins that are easily accumulated. However, the typical daily Tsimané diet is restricted and repetitive and primarily relies on just a few items: the staple and cash crops, plantains and rice, *charkey* purchased in town, seasonal fish, and fruits and vegetable supplements grown in the agricultural fields. Historically, Tsimané relied on plantain, rice, manioc, corn, and fish as the basis of their diet. But in more recent years, plantains and rice have come to predominate and are consumed more often and in much larger quantities because they double as cash crops.

I conducted 151 24-hour dietary recalls over a six month period in 17 households generating a record of 561 meals or other less formal meal times. Because the cultural domain analysis is on a community level, food consumption is also analyzed on a community level for general patterns. However, individual household cases will be used to exemplify some of the differences found between individual household diets. Through the dietary recalls, 88 items were recorded. However, 70 of those items were mentioned in only 2 percent or fewer dietary recalls. The results of the dietary recalls imply a much higher dependency on commodity food items than

the cultural domain analysis. Cash crops and purchased goods are now included in the diet more frequently than before.

Tsimané continue to produce the majority of their food through fishing and swidden agriculture. The hunting of wild animals and the gathering of wild edibles in the forest supplement the diet. Each member of the household maintains responsibilities for some aspect of food production and distribution. And these responsibilities depend on the adherence of others to their own responsibilities. Generally speaking, both men and women share responsibilities in agriculture. Men are primarily responsible for hunting and fishing and thus provide the meat in meals. Women are responsible for gathering, cooking, and moderating food stocks.

The top 15 most-consumed items (Figure 6.4) range greatly in terms of frequency (See appendix 3 for full list of consumed foods). The vast majority (76 percent) of dietary recalls incorporated plantains, while rice is present in just over a quarter of all recalls (26 percent) and cooking oil in 22 percent. The remaining 12 items were consumed with much less regularity. Fresh fish were present in 33 percent of the recalls (almost half of which were *vonej*), but Tsimané are also relying more heavily on market commodities including dried beef purchased in town called *charkey*. In fact, *charkey* was present in 17 percent of recalls compared to the total amount of wild hunted meats, which were present in only 11 percent of recalls. There are three implications. One is that, in general, wild foods are more difficult to come by. The second is that cash crops and market foods are easier to accumulate. Lastly, although there is variety in wild food items, they are consumed minimally. All of these trends speak to larger regional shifts in environment and economics.

FIGURE 6.4 TOP 15 FOOD ITEMS PRESENT IN DIETARY RECALLS

Food item	Scientific Name (if applicable)	% Present in Recall
Plantain	<i>Musa balbisiana</i>	76%
Rice	<i>Oryza sativa</i>	26%
Vegetable (soy) oil		22%
Charkey (dried beef)		17%
Vonej	<i>Prochilodus nigricans</i>	15%
Pasta		13%
Onion	<i>Allium cepa</i>	10%
Mango	<i>Mangifera indica</i>	7%
Tobiri	<i>Schizodon fasciatum</i>	7%
Manioc	<i>Manihot esculenta</i>	6%
Quití	<i>Tayassu tajacu</i>	5%
Watermelon	<i>Citrullus lanatus</i>	4%
Wheat Flour		3%
Maize	<i>Zea mays</i>	3%
Canned Sardines		2%

Plantains, either roasted or fried, are served in 76 percent of recalls, often in addition to the boiled main dish. Families, no matter what size, prepare an additional bunch of plantains, usually ripe by roasting them directly in the fire, or next to the smoldering fire on the cooking logs. Plantains penetrate the meal in other ways. The dish *toro* includes crushed sundried plantains together with roasted plantains. The plantain mix is then folded into a plantain leaf and boiled or roasted. Plantains are also consumed through *shocdye* (beer). A delicious snack is *fi pere*, or sweet caramel, made from plantain juice boiled for hours until its thick and syrupy. Despite the importance of plantains in daily meals, when there are is no fish or meat, Tsimané say, “*itsij sacedye*”, which means that there is no food. This happens commonly during the wet

season when fish and animals are more difficult to hunt. But it is happening increasingly when men are away from the community working.

Tsimané families typically follow a matrilineal settlement pattern in which new couples live near the parents of the young wife. Families tend to stay near their parents for years and share a kitchen and other resources. Often families move away from the parents when they have multiple children and require more space for larger gardens and agricultural plots to produce more food and cash crops. Women, generally the matriarch, are responsible for cooking for the family. Daughters often help with the cooking process by scaling the fish or scraping the plantains. Occasionally, teenage boys enjoy cooking for themselves in order to demonstrate their independence and ability to survive on their own. Tsimané eat a cooked meal that includes meat or fish, generally provided by a male household member, an average of 2.5 times per day. This meal average, of course, varies between the wet and dry seasons—the dry season allows for more successful fishing and therefore a more consistent number of meals over the season. In the dry season, families typically eat prepared meals three times a day, while in the wet season, it is not unusual for families to eat a prepared meal only once in the morning or in the early afternoon and then rely on roasted plantains the rest of the day. Aside from prepared meals, people snack on plantains, and in-season fruits all day.

The dry season lasts from the end of May or June until November, when the rainy season starts. The dry season is generally characterized by the constant presence of river fish in the diet. Low water levels make fishing easier and families enjoy spending the day conducting *barbasco*, plant poison fishing. The *vonej* and *sawalo* swim upstream the Maniqui River from late July to the beginning of September. Rumors fly between households and communities, passed on by visiting Tsimané and the radio, to announce where the fish are in any given moment. Tsimané

calculate when the fish will arrive in their community and prepare their fishing utensils in order to take advantage. At this time of the year, Tsimané have great success fishing. Women prepare huge grates to smoke the fish in order to preserve them and it is not uncommon to see between 75 and 100 fish on the grate. Women and men take part in fish preparation because the work is too much for a single person. Carlos, for example, taught me how to make fish *charkey* because it was his preferred way to store it and his wives (he was married to sisters at the time) were too busy prepping their own fish to deal with him. During the dry season, people eat fewer starches like rice and plantains and higher proportions of fish.

As the dry season comes to an end, fish can be difficult to catch. One day in late in October, I was visiting Lucia. She was sitting in her kitchen with her daughter and two of her daughter-in-laws. Lucia's husband and sons had left two days ago to work on a ranch near San Ignacio de Moxos and planned to be away for a month. The women told me that they have not eaten anything but roasted plantains in the last few days. I asked them if they were hungry and they told me that they were. Lucia said, "When there are no men, there is no meat. When there are no men, there are no fish. When the men are away, we have no food. We are like the *naca* (*Jotichi pintado*), we only eat plantains." In these families, *jonas* are prepared with just a few small fish caught by the women or children when there is extra time for fishing. Despite fish still being accessible, Lucia's diet is affected by her husband's absence from home during the end of the dry season. At the end of the dry season, when fish are slowly becoming more difficult to catch, *barbasco* (fish poisoning) is the one of the more successful ways to catch fish, but it requires many people to set up dams.

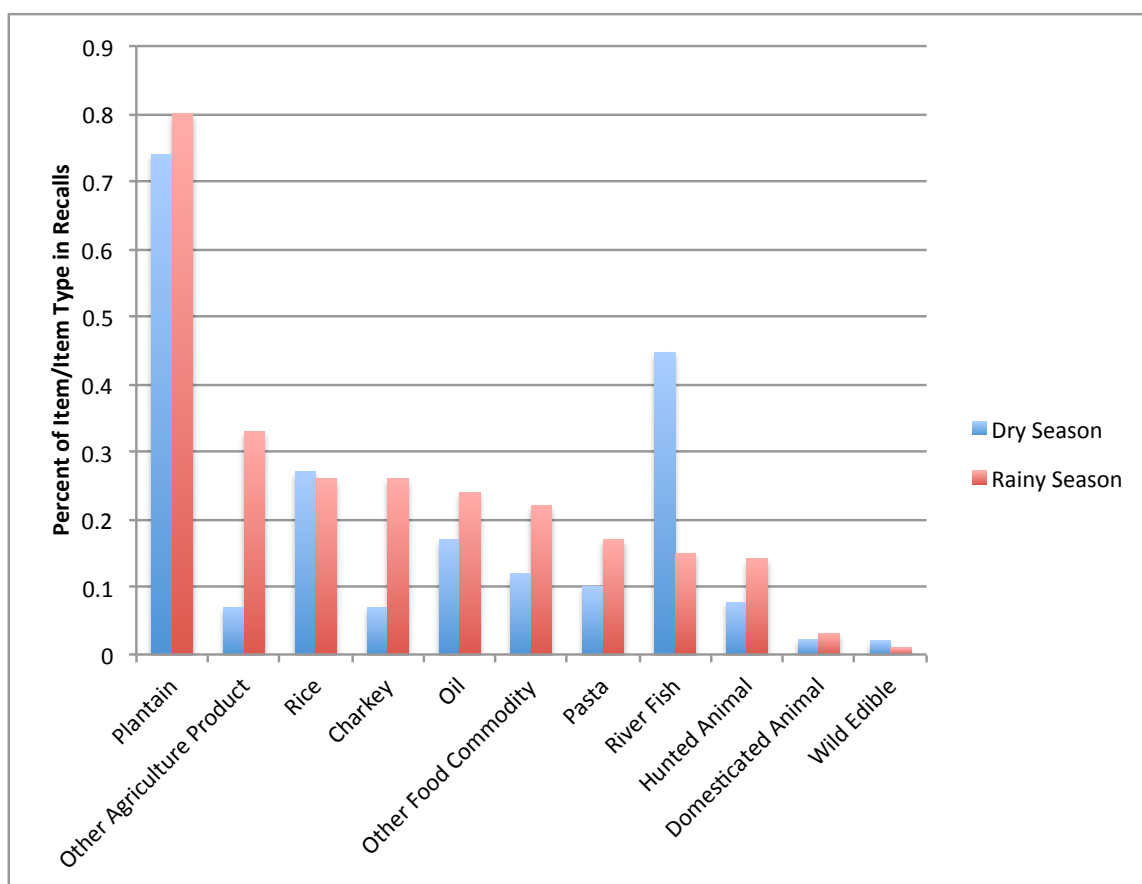
Sometimes it is not just a lack of men that makes food difficult to acquire, but a change in the distribution of labor. In late October, Pablo and Milagros's family told me they have not

eaten anything other than roasted plantain and a little bit of rice over the last two days. Pablo explained that he had been too busy preparing his *chaco* and planting his rice – it took longer than expected so he had very little time to go fishing or to go to town and sell plantains. Pablo told me he was eager to finish planting and wants to make sure that the rice is ready to harvest by late March. They recently had a baby, which occupies most of his wife Milagros's time. Their eldest son living at home found work on a ranch and left for the month to earn money, and the rest of their children who could help attend school. With all this talk about food, Pablo admitted he had been thinking about doing a *barbasco* (fishing with plant poison). “But,” he said, “I have no time to go fishing because I am always doing work in my *chaco*.” Later in the evening, when I went to the river to bathe, I saw Pablo, Milagros, their married son and daughter-in-law, and all of their other young children doing a *barbasco*. Pablo had harvested *chito* (barbasco) from his *chaco* and the family set up a small dam in the shallow river using their fishing nets and tree bark. Milagros and her daughters sat on the beach with the baby while Pablo and the boys worked on the dam in the water. Ramon and Elena circled around the dam in a canoe checking out the boundaries. Later in the evening, Pablo's son Gilberto came over to my house to visit. I asked him how the *barbasco* went. He told me that they caught only three small fish. He replied, “It was a lot of work for no food.”

During the rainy season, the water level of the river rises rapidly and riverbank flooding begins. Historically, this time period was a time of seasonal food scarcity because hunting and fishing became more difficult. It also becomes challenging as rice stocks diminish prior to the beginning of the harvest in March, April, and May (Byron 2003). However, new dietary patterns related to new labor opportunities are changing the question of food scarcity. Figure 6.5 above demonstrates that while fish consumption goes down from the dry season to the wet season,

commodity consumption goes up. *Charkey*, pasta, and oil are consumed more regularly while rice consumption remains the same despite dwindling stocks. Overall, new labor patterns of selling plantains and selling wood increase income in the household and more often than in the past, households are able to supplement their diet with commodities purchased in town. In addition to *charkey*, oil, pasta, other store-bought food items are more frequently present in meals during the rainy season. Additionally, hunted animal consumption and minor crop foods from the agricultural fields are consumed to supplement the diet.

FIGURE 6.5 CONSUMPTION OF TYPES OF FOODS BY SEASON



While the commodity foods of *charkey*, oil and pasta are consistently present in meals throughout the rainy season, not only are they not equally present in all households, they are also

not equally distributed between genders within households. Between households, there are clear differences in the ways that people eat depending on how regularly they are involved in logging and cash cropping. For example, Eduardo sells plantains every two or three weeks. In January, when I asked him what he does with the money, he told me he buys groceries and he saves up for other things like a generator. In his kitchen, he and his wife store 24 one-kilo salt bags (purchased together in bulk), two one-kilo bags of sugar, five kilos of flour, a gallon of vegetable oil, and an arroba (12 kilos) of pasta. He regularly buys onions and *charkey* to make sure they always have enough for stew. His wife Consuela continues to use plantains in every meal but she also gets bored with *charkey*, so she insists that Eduardo attempt to fish or instead she might kill one of her chickens to add to the meals. Alternatively, Juan and Eloida do not have extensive plantain fields. Once a month, they sell a couple of reams of bananas and never earn more than 300Bs (\$43). They use the money to buy groceries, but in much smaller quantities—they buy two to three kilos of flour, one or two kilos of *charkey*, and oil. But Juan loves to fish and hunt and does one of these activities every day, even during the rainy season when it is difficult to catch anything. The family, in turn, relies mostly on plantains and fried dough but Juan's determination eventually pays off in fish.

Within the household, inequalities in diet are primarily related to the type of labor producing income that purchases commodity foods. When men sell plantains, they often immediately purchase foods for the home. But when men go to work in logging, they purchase foods for themselves while they are away and the women are left to fend for themselves. When the men get paid, they then purchase foods for the home. But that is often months after the work has commenced. Rueben, for example, held a logging contract and was forwarded money to buy food for the loggers. He purchased 24 cans of sardines, two arrobas of pasta, six bottles of oil,

and some drink mixes. The food was meant to last four men about a week and a half. A couple days after he left, I went to visit his wife Nati who stayed behind with their son. I asked her what she had eaten and she said some rice and some plantains. I asked her if Rueben had left anything behind for her and she said no. So while Rueben was eating while he worked, Nati wasn't. Nati was able to eat at her in-laws' home during the time Rueben was away, but she was careful not to do it too often because they did not share a kitchen.

JONA AND LOCALIZING THE EXPERIENCE OF FOOD

Thirty percent of cooked meals during dietary recalls were described by informants as the dish known as *jona*—which was the most typical cooking technique for meals in Maraca. *Jona* is described traditionally as a stew made with fish and green plantains. More recently, *Jona* has been described as including rice, *charkey*, wild animal meat, canned sardines, and even pasta. However, when you specifically ask: What is a *jona*? It is commonly explained as being exclusively green plantains and fish. This implies a changing definition of the dish not only in terms of ingredients, but also as an expansion of the applicability of the cooking method. *Jona* now refers more to the technique than the recipe.

Tsimané women consistently list the dish as one of the most important Tsimané “foods” and make it, or a version of it, as often as three times a day, seven days a week. *Jona* has nutritional significance because it function as one of the major suppliers of Tsimané vitamins and calories. It also has a social significance as being a technique that stretches the day's provisions, particularly limited proteins, and provides for numerous extended family members. *Jona* has changed over time. It originally included higher proportions of game and fish and sometimes even manioc or maize as the starchy and creamy soup base. While the cooking technique is the

same, increasingly, women add larger proportions of plantains and rice because they are easily accessible cash crops. Sometimes plantains are even replaced with pasta and/or rice mixed together. Milagros, who is in her 40s, described the difference in her diet now and her diet when she was a child—she said, “There is less manioc and maize; they used to cook both of those foods as part of a *jona*, but now it is just plantains and sometimes pasta.” River fish are now smaller and more difficult to catch and wild animals even more so. While river fish like *sonare* (surubi - *Pseudoplatystoma fasciatum*) and *vonej* (sabalo- *Prochilodus cf. nigricans*) maintain their importance as an ingredient, *charkey* (dried beef purchased in town) is also a main ingredient. Now *jona* of rice and *charkey* are consumed with as much frequency as *Jona* of plantains and fish. New commodity ingredients are added such as onions and oil, if available. Occasionally, pasta will replace plantains, or will be mixed in with the rice or plantains for the stew. Sometimes river fish are replaced with canned sardines. It is not uncommon for families returning home from a trip to San Borja or Yucumo to prepare a *jona* with all foods purchased from the market. Although the ingredients are changing, *jona* remains important as a filling dish that feeds large extended families. The plantain’s replacement in *jona* by purchased starches maintains the role of *jona* as an important nutritional dish, but it elevates it in terms of wealth by creating a value system of foods in which the purchased food demonstrates wealth and prestige previously not quantifiable in economic terms.

As logging grows, *Jona* made from sardines and pasta is also becoming more commonplace. Men prepare provisions for their trip and a faster, less stressful meal for men to prepare is pasta and sardines, where the culinary work is restricted to opening a can and ripping a bag. In families where logging is common place and men engage in contracts continuously throughout the year, it is not unusual for the men to leave sardines and pasta in the home for the

wife and children when they are away. Overall, these women prepare significantly less traditional *jona* from fresh fish and plantains. In homes where this occurs, the family is often more independent and while they might live near the extended family, they do not share a kitchen or a pot with them during meals. In these families, the women also accompany the men more often to Yucumo and San Borja and are exposed to more non-forest produced commodities that they, in turn, bring home to their village.

In the dietary histories mentioned earlier, *jona* was a reference point for changing ingredients and changing diets. Tsimané discussed how *jona* had changed from being something that included wild animals, more fish and other cultivars like manioc and maize. Now, they describe it as heavy and laden with plantains. Although, in the dietary recalls when people mentioned *jona*, they often described a dish made from *charkey* and rice or sardines and pasta, these ingredients did not come up as opposite or in contrast to past ingredients. *Jona*, or the technique of cooking *jona*, remains a steady practice from past diets to present diets, despite changing ingredients. The continuous preparation of meals through the technique of *jona* is one way that Tsimané localize their modernity. The successful capture of animals such as the peccary, the abundance of manioc and maize, the large size of the fish, the overwhelming amount of plantains and rice, and the purchases of sardines and pasta reflect larger questions of environment and livelihood production. As broad regional changes affected both, new ingredients were folded into central cooking processes and created sustained patterns of food preparation. *Jona*, therefore, not only embodies these larger changes, but also serves to maintain familiar patterns of cooking and consumption.

CONCLUSION

Early depictions of the Tsimané diet do not appear very different from the contemporary diet—rice, plantains, manioc, and fish. But a closer look reveals that the ingredients changed in terms of frequency and quantity as well as their uses in recipes. Manioc is primarily consumed only in drink, and has also been eliminated from stews. Plantains are consumed multiple times daily and are relied upon in times of need. Rice has become a commodity and a staple food. Wild meats and fish are accumulated less frequently than before. Additionally, there are fewer fruits. However, despite a reduction in food diversity, people have not forgotten the types of foods that exist in the forest or how they relate to each other. In a changing environment, knowledge of diverse and edible forest foods is one way that the Tsimané maintain their cultural identity and relationship to their historical past. Tsimané practice subsistence activities to provide food, but also they practice such activities in order to continue being Tsimané. This could be one reason that there are high levels of agreement between the categorization of fish animals and fruits, while agricultural items and food commodities remain uncertain. Commodity foods, general agricultural products, and cash crops are not clearly grouped together, nor are they clearly separate groups. Many understand that they must look beyond the forest and to other means of food accumulation. But any deeper meanings or connections between their production and consumption as specifically Tsimané are not yet clear.

Multiple meanings are embedded in the foods Tsimané identify—these meanings are revealed not only by unraveling how they are used, but also how they are related to others foods and how that has changed over time. Memories of food allow the Tsimané to connect the past to the present and contextualize current trends in food accessibility within ideas of the past.

Tsimané discussions of their past foods offer insight into larger processes of regional

development – particularly, ecological changes as well as human and economic shifts. The Tsimané use food as a tool to contextualize deforestation, migration, pollution, and encroachment within their territory. They are also able to see themselves in these patterns and hold both themselves and outsiders responsible. In David Sutton’s discussion of food and memory, he points out: “If we are what we eat, then we are what we ate as well” (Sutton 2001:7). The Tsimané’s ability to list significantly more foods than they currently eat performs this truism, and connects current dietary practices to the more varied past diet. For the Tsimané, knowing the foods they can eat and have eaten in the past is almost as important as eating the foods themselves. Knowledge of these foods connects Tsimané to the forest in ways that are not always consumable. This is evident through the memories of diet and eating, but also in the types of foods listed.

However Tsimané also use food as a method in order to maintain congruency between the past and present, while simultaneously adapting to contemporary circumstances. Current conceptualization of food reflects the development in the region over the last century and demonstrates the Tsimané’s strong ties to the forest for subsistence, and also the penetration of market commodities and market activities within daily life. Tsimané continue to think about food both in terms of how it is prepared and how it is accumulated. These conceptualizations are linked in narratives and through the categorization of recipes and patterns of eating. Tsimané localize the conditions of their modernity by continuing to practice traditional cooking methods that maintain an appearance of a consistent diet. Cooking and understanding how foods go together penetrates Tsimané approaches to foods and allows new market ingredients to be folded into more traditional patterns of eating. Meals and cooking are representative of other larger systems change (Douglas 1972). These cooking processes mask new ratios of ingredients and

new ingredients. The attachment to a consistent way of cooking and eating is one way Tsimané have been able to moderate stressed food supplies, unfamiliar and less culturally valuable food commodities, and changing patterns of food production.

Market activities continue to shift patterns of food availability and these changes are becoming more profound as new labor opportunities emerge. Increased income allows for more market goods in the household and makes it possible to eat more often during historically difficult food periods. Yet new food availability is not equal along gender lines. More important than the income itself is the type of work that earns income. The type of work affects what is purchased and who benefits from it. As these market processes become more profound, food will continue to be a powerful lens through which to understand emerging social dynamics by reflecting and depicting current articulations of new and complex processes of change.

CHAPTER 7

SHOCDYE AS WORLD: LOCALIZING MODERNITY THROUGH DRINK

On a cool afternoon in July, I visited Christina. When I arrived at her home, she was hunched over an enormous aluminum pot that she had just removed from a smoldering fire located a few feet away in her covered kitchen. Inside of the pot was a lumpy, yellow, starchy pudding made of boiled manioc. Christina was trying to cool down the mush. She used a large wooden stick to mash it, moving her hands methodically, up and down, up and down. When she finished, Christina sat down next to the pot. With a spoon, she scooped the lumpy yellow substance and put it in her mouth. I asked her what she was eating. She looked at me and did not respond. She chewed the manioc and then swished it around her mouth forward and back, left to right. She couldn't respond to my question because her mouth was full. It continued to be full for the next minute and a half. She kept swishing the liquid around her mouth until she abruptly spit it back into the pot. She then handed me a spoon and said, "We're making *shocdye*. You have to chew the manioc." Then she took another spoonful and began masticating the mush again. I looked at her, I looked at the pot, I thought about her spit, and I hesitated. But Christina spit out her second spoonful and said to me, "Who will be your husband if you cannot make *shocdye*? You must chew!" With that ultimatum, I dipped my spoon into the farthest corner of the pot, tried not to think about germs and was able to move the thick liquid around my mouth for a long five seconds before spitting it back in the pot. The results were hysterical laughter from Christina and her daughters who had become spectators to my calamity. The *shocdye*, fermented manioc beer, Christina produces cannot be thought of simply as a food. As she alluded to earlier, *shocdye* has a social value beyond its caloric value: it is a material representation of woman and

a determinant in social relationships.

In another conversation, I asked Eduardo why he drinks *shocdye*—he responded: “*Shocdye* is like life to Tsimané. It is our culture. It is what we do. Without it we are not Tsimané.” Like many Amazonian indigenous groups, the production, distribution, and consumption of manioc beer is deeply rooted in the spiritual and social life of the Tsimané, and not only defines who they are, but moderates other aspects of everyday life. But *shocdye* has been affected by changes to livelihood production, particularly the increasing concentration on cash crops and a reduction of successful hunting trips. These shifts changed what foods are produced as well as the gendered properties in how food is distributed and consumed. Subsequently, contemporary *shocdye* production and consumption embodies a different representation of what it means to be Tsimané by incorporating broad regional changes, changing food mythologies, and shifting gender relationships to food. Additionally, instead of abandoning the practice of the ritual, *Shocdye* production accommodated changing livelihoods and food availability in order to maintain other social relationships. As the one of the only prepared food of the Tsimané that is consumed for both ritual and social purposes, *shocdye* provides a meaningful example of how modernity is localized through production of materials and the expression of values.

Modern consumption of *shocdye* is primarily a social event with significant changes to the primary ingredients in the beer as well as how and when it is produced and consumed. Ceremonial shamanistic uses of *shocdye* disappeared along with the *cocojsi* as Tsimané settled into permanent communities, began to intensify agricultural production, and forest degradation which led to a reduction in hunting and fishing. Despite major changes to the drink, *shocdye* continues to be produced and maintains its position as a culturally vital material in Tsimané life.

For the Tsimané, producing and consuming *shocdye* marks them as separate from other groups; it maintains human-nature-spirit relations, it defines gender roles and responsibilities, facilitates socializing, and is a major source of sustenance. When Eduardo and Christina talk about *shocdye* as a material definer of Tsimané life, they are not just talking about its cultural uses. They are also talking about its continued social importance and its ability to withstand threats to survival and adapt to changing circumstances over time. In this chapter, I will introduce Amazonian beers and discuss the social practices and social importance of *shocdye* to the Tsimané. Then I will demonstrate how changes to livelihoods and food availability are manifested (or not) through contemporary *shocdye* production and consumption.

FOOD AND DRINK AS LOCALIZING AGENT

In Counihan's paper "Bread As World", bread is used as an indicator for larger socio-economic changes in Sardinia, Italy (1984). In Sardinia, bread is not only the center of the local economy, but it is a material through which social relationships are formed and maintained within the area. Counihan demonstrates that changes in the production, consumption and distribution of bread reflect larger systematic changes in the region, particularly a move away from small-scale agricultural production. These changes arrived in Sardinia in the early 20th century via what Counihan terms as "modernization without development"—meaning the emergence of industrialized production and the commodification of local products for larger markets in the absence of any direct institutional programming for the people of Sardinia. Counihan argues that we can see the impact of these capitalist relations through bread. As the production, distribution, and ingredients of the bread changed, so did the relationships and values embedded in it. People began to rely less on each other and became increasingly interested in

their individual well being. Counihan argues that modernization, particularly capitalism, is a strong homogenizing force with universal consequences throughout the globe.

Similarly, among the Tsimané, this type of “modernization without development” shifted the larger economic and political dynamics of the region and resulted in more capitalist activities and labor relations. Although not industrialized in the same sense, these changes to livelihoods have affected the production and distribution of food. In this chapter, I push forward Counihan’s metaphor by arguing instead for a localized modernity, in which powerful forces such as capitalism do not necessarily lead to individualization. Rather, there is variation in modernity, and emerging practices not only reflect global, national, and regional changes but also pre-existing cultural forms. Using the ‘localized modernity’ framework, I use the drink to connect broad processes of regional development to the cultural values and practices within Maraca.

For the Tsimané in Maraca, *shocdye* is a material through which cultural dimensions can be explored as they are formulated and reformulated through broad and abstract forms of development. Food, drink, and cooking can be used to advance social change but also act as forces of stability (Jennings and Bowser 2009). Douglas argues that drinking and drinks in particular construct an ideal world where ontologies and practices formulate patterns of everyday life (Douglas 1987). Cultural factors limit and define the attitudes and behaviors that accompany eating and drinking. How the drink is produced, why is it produced, the materials that compose it, when, by whom, and for whom—the answer to these questions and the uses of these foods and drinks penetrate social existence (Marshall 1979). Changing environments, including ecological, economic, and political, are often preformed through cultural processes of food production, distribution, consumption, and conceptualization. Understanding how these processes change over time provides a lens to understanding the internalization and negotiations of culture change

and the reformulation of identity (Duke 2011). By approaching contemporary *shocdye* practices, this paper offers an alternative perspective about anthropological issues related to modernity and development in Amazonia to demonstrate the ways in which ‘traditional’ drinks are used to ‘localize’ modernity. Using a cultural material, like *shocdye*, as a “tool and as a metaphor” (Wilson 2005:9), this chapter reveals how market dynamics stemming from regional development co-produce the commodification of food as well as the production of new indigenous identities that revolve around shifting economic systems.

FERMENTED BEVERAGES IN THE AMAZON

Traditional beers, or more broadly fermented beverages, have been used for a host of formal and informal practices globally (Mandelbaum 1979; Marshall 1979). In Latin America, fermented beverages have been important cultural signifiers of past empires and present ethnic groups because they embody flows of economic, political, environmental, and social processes. Iconic examples include the Aztec’s *Pulque*, which is made from the maguey plant, and the Inca’s *Aqha*, made by boiling Andean corn (Madsen and Madsen 1979; Mangan 2005). These drinks originated as religiously important drinks and revered as highly prized and consumed with specific regulations and respect (Bray 2009; Madsen and Madsen 1979; Mangan 2005). But through processes of Spanish colonialism, revolutions, and subsequent national developments, these indigenous brews changed not only in terms of how they are produced, but more importantly how and why they are consumed (Duke 2011, Mangan 2005). Current social practices in Latin America continue to value fermented beverages; throughout the region, indigenous beverages that involve boiled plants like rice, maize, manioc, and peanuts are referred to by the generic name *chicha*. These fermented beers are often consumed similarly to

industrially produced beers, despite the artisanal nature of their production (Orlove and Schmidt 1995). For example, immensely popular *chicherias* in Cochabamba, Bolivia provide a social opportunity to continue drinking *Aqha* through *chicha*, a highly alcoholic version of the drink that uses a yellow corn instead of purple corn (Perlov 2009). In San Borja and Yucumo, small restaurants and food vendors will strain boiled sprouted and ground maize and mix the drink with sugar. This *chicha* is consumed by locals, but also by Tsimané when they come into town.

Throughout Amazonia and the tropical forests of South America, fermented beverages continue to be key elements in indigenous life formally and informally, ceremoniously and socially (Labarre 1938; Lathrap 1970; Mowat 1989). The Tsimané, like many other indigenous groups in the Amazon, including the Matsigenka, Jivaro, Ka'apor, Cubeo, Conibo-Shipibo, Napo Runa and the Ticuna, have historically four major and often overlapping uses for fermented manioc beers: informal drinking; ritualized and formal drinking; the creation and demonstration of social relations; the maintenance of gender relations and responsibilities (see Balee 1994; Descola 1994; Goldman 1963; Goulard 2009; Heckler 2004; Hugh-Jones 1979; Johnson 2003; Uzendoski 2004). Dietler explains that understanding shifts over time and relates to how often a beer fits into each of these four categories. Additionally, how beer is used within these categories can provide insight into broader social change (1990).

To produce manioc beer, Amazonian peoples use both sweet and bitter manioc (*Manihot esculenta*), a highly starchy root tuber that grows natively in tropical South America. Manioc is a fairly drought resistant crop that can be stored in the ground from 12 to 24 months after it is mature (Mowat 1989). Nutritionally, it is a significant source of energy due to high levels of carbohydrates, thus making it more valuable calorically than other popular starches such as potatoes, rice, and wheat (USDA 2011, FAO 1990). Bitter manioc contains poisonous cyanide

components and needs to be highly processed before consumption. Sweet manioc, used by the Tsimané, has a very low concentration of the toxin and does not need to be processed prior to consumption (Sarkiyayi and Agar 2010). The Tsimané cultivate two varieties of sweet manioc: a pink variety and a yellow variety. The pink manioc is grown specifically for *shocdye* use. There are numerous recipes for beer, each group slightly alters how the beverage ferments, mashing it or masticating it, and additives such as corn, sweet potato, peach palm, sugar cane juice and plantains vary. For example, the Mastigenka Indians mix manioc with sprouted corn and sweet potato to ferment the beverage as opposed to masticating it (Johnson 2003). Daillant writes that for the Tsimané, their ingredients separate them from other neighboring groups in the region, particularly the Mosesten (2005). Historically, the Tsimané combine the manioc with maize and plantain to make a “complete beer.” Although they share many similarities with the Mosesten (for instance, a language), the Mosesten also use maize and manioc but never mix the two. Additionally, differences in the types of maize and manioc used and the thickness and potency separate the Tsimané’s *shocdye* from the Mosesten’s beer.

Informally, beers are consumed as a nutritious and thirst quenching beverage. This type of beer is consumed quickly after it is processed, often before it ferments, so it is non-alcoholic. The Achuar Jivaro of Peru and Ecuador drink this type of manioc beer, *nijiamanch*, as a replacement for water believing that ground water is not drinkable unless it is transformed into manioc beer (Descola 1994). As the beer ferments, it moves from mundane to ritual because alcoholic beverages can be used formally for special events and parties including marriages, births, and deaths (Goulard 2009, Hugh- Jones 1979, Johnson 2003). The Ka’apor in Brazil, for example, use manioc beer for baby naming events where the mothers of the babies who will be named serve the beer to each male in the village (Balee 1994). Other formal events that utilize

fermented manioc beers are shamanistic rituals. The Brazilian Ticuna use the beer known as *cashiri* during shamanistic rituals as a material connector between the forest spirits and the community by drinking large quantities in honor of the deities (Goulard 2009). The consumption of manioc beer it is also used to demonstrate, create, and maintain social relationships. The Cubeo of the Columbia Amazon sponsor large drinking parties where one of the main goals is for the sponsoring household to provide more beer than the visitors can consume. Women work diligently and purposefully to produce beer over a few weeks especially for the event. These large drinking parties serve to unify the clan—they also create and maintain status and rank within the clan through the serving, receiving, and reciprocating of drink (Goldman 1963).

Gender responsibilities and relations are deeply embedded in the production and distribution of beer. Heckler argues that women play a vital role in facilitating spirituality, nutrition, gender relations, and social networks in Amazonian populations (2004). This control is demonstrated in the production and distribution of manioc beer and remains as crucial today as it was in the past. Doboer's archeological explorations of the Conibo-Shipibo in Peru demonstrate that polygyny was a coveted goal attained by pillaging. The more wives, the better as women maintained the manioc fields and produced the beer, a vital step in producing the large drinking event that was used to advertise eligible daughters for marriage and lure in potential son-in-laws (Doboer 1986, 2001). In many Amazonian tribes, there is a deep and complex connection between the production of beer and the meat supply. For example, for the Mastigenka of Peru, beer is used as a replacement for meat. The less meat the male hunter brings home, the more beer needs to be consumed and served by his wife (Johnson 2003). This creates a tenuous power of provider relationship between the genders. Alternatively, the Napo Runa of Ecuador view manioc beer (*Asua*) as a material that encourages a friendly atmosphere for men, while meat

facilitates a friendly atmosphere for women. Women distribute meat that the hunter brings home, and men distribute manioc beer produced by women thus creating equal footing in social networking (Uzendoski 2004).

MANIOC AND SHOC DY E

From its material base, sweet manioc, the Tsimané derive significance for *shocdye*. In the oral myths collected and compiled by the Tsimané scholar Tomas Huanca, there is a recurring story:

There is thought to be a time on earth, when animals were people, and there was no manioc. *Jábäs* the mother of the *shatij* (agouti) made *shocdye* out of ap (a type of tuber). She invited the *curuj*, celestial people, to come and share the *shocdye* but they found it unsatisfying. The next time they were invited to drink her *shocdye*, they brought along manioc to satisfy their hunger. *Shatij* saw them eating their manioc, tasted it and liked it so much he asked them to come plant it for him. The *curuj* agreed. *Shatij* cleared the *chaco*, agricultural field, and when it was burning the *curuj* came back to earth with bundles of the manioc root to plant. They told *shatij* not to watch them plant because he would scare the manioc. The *curuj* planted the manioc and it grew big, quickly. *Shatij* disobeyed the *curuj* and watched them plant. When the manioc was thrown near him, it got scared and there were thunderstorms. The *curuj* were angry that *shatij* disobeyed them and said from now on, manioc will be difficult to grow and will take a long time. But then they showed him how to plant it and how to weed the field, but *shatij* ate manioc instead (2006, p. 55-58).

The themes that emerge from this myth highlight ideals enmeshed in both manioc and *shocdye*. First, there is the celestial importance of manioc (Huanca 2006). Manioc is a cultivar given to the earth as a gift. The knowledge of how to plant it and maintain it is both privileged and supernatural. This gives the plant a particular status not inherent in most other cultivated plants, which earns manioc a higher social value and generates respect in its production and consumption. Second, manioc is associated with the drinking of *shocdye*. This story suggests that *shocdye* might act as a vehicle for the consumption of manioc. The implication of the story is

that manioc is a replacement for ap (a tuber), and subtly demonstrates a better way of preparing the drink and elevates it to a more satisfying product. Third, the *shocdye* is produced by the female homemaker and shared by her, this demonstrates the important role of women in facilitating *shocdye* rituals. Finally, *shocdye* is consumed with friends, family, and neighbors (Huanca 2006). It is meant to facilitate the creation and maintenance of social relationships. These relationships are between human and human, but also between human and the supernatural.

There is a special relationship between females and *shocdye*. The ability to make *shocdye* is, in itself, a gift from the gods to women. In Riester's collection of Tsimané myths, the god *Dojitch* teaches women how to masticate the manioc to make it sweet. Then this knowledge is used to hold *shocdye* parties in honor of *Dojitch* and thank the god of the animals, *Jäjäba* (1993, p.155). In other myths, females continue to be responsible for this powerful and supernatural beverage. For example, the moon god, *Dovo'se's*, is a female and is known by the other gods for producing, storing, and offering *shocdye* in her house. This occurred before the other gods descended to earth to create people, animals, birds, fish, and plants (Huanca 2006). Through myths like these, the gendered responsibility of *shocdye* is intertwined with its heavenly position as a drink of the gods. This creates an important spiritual role for the female, who is believed to possess divine knowledge of how to create a celestial product and it is only through its production that the group is able to communicate with the supernatural. In many ways women hold the key to the continued spirituality of the Tsimané through the production of *shocdye*. Restrictions relating to producing *shocdye* while menstruating and after childbirth demonstrate the types of bewitching powers a woman possesses in her production of *shocdye*. There is a fear that if she makes *shocdye* while in either state (menstruating or post childbirth), it will spoil and she will

infect the *shocdye* with supernatural spirits that have the power to curse (Ellis and Aráuz 1998; Huanca 2006).

Community members consider women who do not make *shocdye* to be lazy. It is not only important for a woman to make *shocdye*, but it is important to be good at it and make it sweet. Women are respected for the sweetness of their *shocdye*—it is not uncommon for people to comment on her skill and the quality of her saliva. As girls enter their early teens, they become responsible for learning how to see the *shocdye* production through from start to finish—from planting and harvesting the crop of manioc to preparing the *shocdye* themselves. Young girls are encouraged by their mothers to take the initiative to make their own pot of *shocdye*. For example, one day, eight year-old Vicky served me an *erepaj*, a hollowed out fruit used as a bowl, of *shocdye* and stood next to me waiting for my reaction. After I commented on how delicious it was, Vicky smiled broadly and skipped away. Not understanding her unprecedented excitement over an *erepaj* of *shocdye*, I turned to her mother, who proudly explained that it was Vicky's first pot of *shocdye* and she had masticated it herself.

The processes of preparing *shocdye* for religious and social purposes are similar. The *shocdye* is prepared by peeling the manioc and then cutting it into small two inch pieces. The manioc is then boiled over a hot flame until it is soft. Originally, this was prepared in large ceramic jugs, but more recently large aluminum pots are used to boil the manioc. After it is cooled, the manioc is mashed with a large stick until it is mixed together into a thick mush. Once it is slightly cooled, the women begin to masticate the manioc by taking spoonfuls of the mush and swishing it around their mouths; they spit the liquefied manioc back into the pot and take another spoonful, repeating the process. About a quarter of the pot is masticated before the process is finished. When the women are finished masticating, the pot is covered with banana

leaves and left in the kitchen to cool in the shade. Before the *shocdye* is ready to be served, it is mixed with water and filtered through a *pasi*. The *pasi* is a woven sieve made from palm leaves that separates the fibrous strings of the manioc from the creamy liquid. The *pasi* is rested over an empty pot and the *shocdye* maker takes handfuls of the manioc and puts it on top of the *pasi*. In a circular motion, she moves her hand around the *pasi*, pushing the liquid through the narrow gaps in the weaving and capturing the fibers. If including maize in the *shocdye*, boiled and ground maize is added at this point. *Shocdye* slated for ritual purposes is always made from manioc and often mixed with maize. Manioc and maize mix is considered the “complete beer” and maintains the most potential for successful spiritual use (Daillant 2005). Once it is filtered and mixed, the *shocdye* is consumed immediately as a sweet drink or it is left to ferment a few days more until it is slightly alcoholic and slightly carbonated.

On an individual level, *Shocdye* is an important food source. *Shocdye* is also consumed to quench thirst and for nutritional importance. The consumption of *shocdye* provides useful caloric value from the dense carbohydrate value of its ingredients. It also provides access to water, which is drunk sparingly on its own. Other *shocdyes*, that serve as vehicles for maize and plantains, provide that similar values. Tsimané describe *shocdye* as something that fills up their stomachs, gives them strength, and helps them work in the fields. As Octavio put it most profoundly, “*Shocdye* is important because it gives you the strength to work in your *chaco* (agricultural field). *Shocdye* quenches your thirst and gives you the power to work after you eat. You eat, you drink *shocdye*, and you work.” Both men and women working in the fields take *shocdye* with them to provide refreshment and energy while they work long days in the hot sun, enjoying a small break from work to drink *shocdye* and chat. Children’s consumption of *shocdye* provides additional nutrition, as the unfermented beverage is fed to children before they begin to

eat solid foods. Young children enjoy sticking their fingers and spoons in the cooling pots and indulging in the boiled solids.

Shocdye plays an important role in maintaining relationships within and between households. In the Tsimané household, a gendered division of labor and a relationship between labor and food define male and female roles in the household. Every person has a particular role in the home, but each job is intricately connected. While hunting and fishing are primarily the responsibility of men, women are responsible for distributing meat (if appropriate), preparing and cooking food, and serving the *shocdye*. In this way, while a man provides one service, it is not completed without the participation of a woman. It is a Tsimané wife's responsibility to maintain connections with others by distributing food and drink. When a hunter returns home, his wife offers him *shocdye*. Neighbors come to share the drink and tell hunting stories, while the meat is distributed to immediate kin. One sunny day in mid October, Inocencio successfully went hunting in the early morning and returned in the afternoon with a large Quiti, collared peccary (*Tayassu tajacu*). After returning home, his wife Josefa constructed a grill made from the *cuchillio* tree trunks and began to break down the animals. Inocencio helped Josefa remove parts of the stomach and intestines to keep for luck the next time he goes hunting. While Josefa continued to prepare the meat, Inocencio went to bathe. But when he returned Josefa served him *shocdye* that she prepared earlier in the day in anticipation of his hunting success. Inocencio was joined by two of his brother-in-laws—they sat outside under the covered patio chatting while Josefa alternated between tending the meat and serving the *shocdye*. The men discussed where the hunting took place, what rifle he used, whether he took his bow and arrow, and when would be the next time he would go hunting. While Josefa worked, her children took handfuls of boiled manioc, separated by the *pasi*, and stuffed them in their mouths. In the evening, after a few hours

of roasting, Josefa chopped the peccary into smaller pieces to be distributed to her parents, brother and sister's families, and respective children. Wild meat and cooked meals are only shared with immediate kin. But *shocdye* is shared with everyone—visitors and family alike. *Shocdye* plays a central role in Tsimané social life, maintaining the ritual of *sobaqui*, or visiting, in which people go to others' homes to have *shocdye*. Gathering at the home of another Tsimané is a key element in the practice of *sobaqui*, or visiting. This practice of visiting other places is how Tsimané know other people but also social worlds and environments (Ellis 1996). It is only through the practice of *sobaqui* that that Tsimané expand their social worlds to create networks of safety by learning how to know others and actually knowing others. One of the primary ways that Tsimané practice *sobaqui* is with the presence of *shocdye*.

Although rarely practiced today, historically *shocdye* is one of the major material goods used in Tsimané' shamanistic practices and religious rituals. The *cocojsi* (shaman) shares the drink with the people involved in the ritual and supernatural beings in a special house called the *shipa*. The *shocdye* is used as an offering to the guardian spirits of fish and animals as well as the animal breeders. In these practices Tsimané' not only ask for good hunting and fishing outcomes, but also ask for the animals to reproduce and thank the gods for providing (Huanca 2006). *Shocdye* used for ceremonial and spiritual purposes is the responsibility of the *cocojsi*'s wife. In the past, the *cocojsi* and his wife would maintain a field with a large quantity of sweet manioc just for the purpose of making *shocdye*. Although the *cocojsi* had many wives, the first and eldest maintained the responsibility of preparing the *shocdye* (Huanca 2006). Restrictions relating to producing *shocdye* while menstruating and after childbirth made it difficult for the younger wives to produce *shocdye*. The *cocojsi*'s wife prepares four types of *shocdye* to be served in the *shipa* for ritual events—the types are differentiated by varying methods of filtering

the manioc and mixing it with pineapple and/or maize (Huanca 2006). In a shamanistic ritual, she offers each participant an *erepaj* of *shocdye* and they must drink the whole thing. *Shocdye* offerings to the gods depend on the active participation of the community in the ritual. People who are invited to the ritual are obligated to attend. Offering and drinking *shocdye* demonstrates a commitment by the people, the *cocojsi*, and the supernatural beings to maintain a healthy environment (Huanca 2006).

LOCALIZING MODERNITY THROUGH SHOCDYE

While *shocdye* is considered the backbone of Tsimané culture, the ability to maintain *shocdye* production, distribution, and consumption has been affected by major regional changes and the subsequent growth of capitalist relations. In the last half a century, large-scale migration and land and forest related policies have tied the Tsimané to national political activities and global and regional capitalistic systems. Indirectly, these changes have impacted how and in what capacity the Tsimané have survived on their traditional lands, how often they engaged with outsiders, and the market economy.

Changing access to land, deforestation, the arrival of markets, and an increase in interactions with outsiders have changed the way the Tsimané work to produce their livelihood, how they access food, and how they conceive of food. Increased interaction with the market economy has facilitated more frequent exposure to the goods and services of market towns and has augmented the desire for and reliance on purchased foodstuffs and other commodities. Tsimané are increasingly looking for ways to generate cash, most often by relying on wage labor, logging, and cash cropping. Specifically, agriculture has grown in importance as a way to make extra and steady cash in addition to providing foods. With changes to a livelihood so

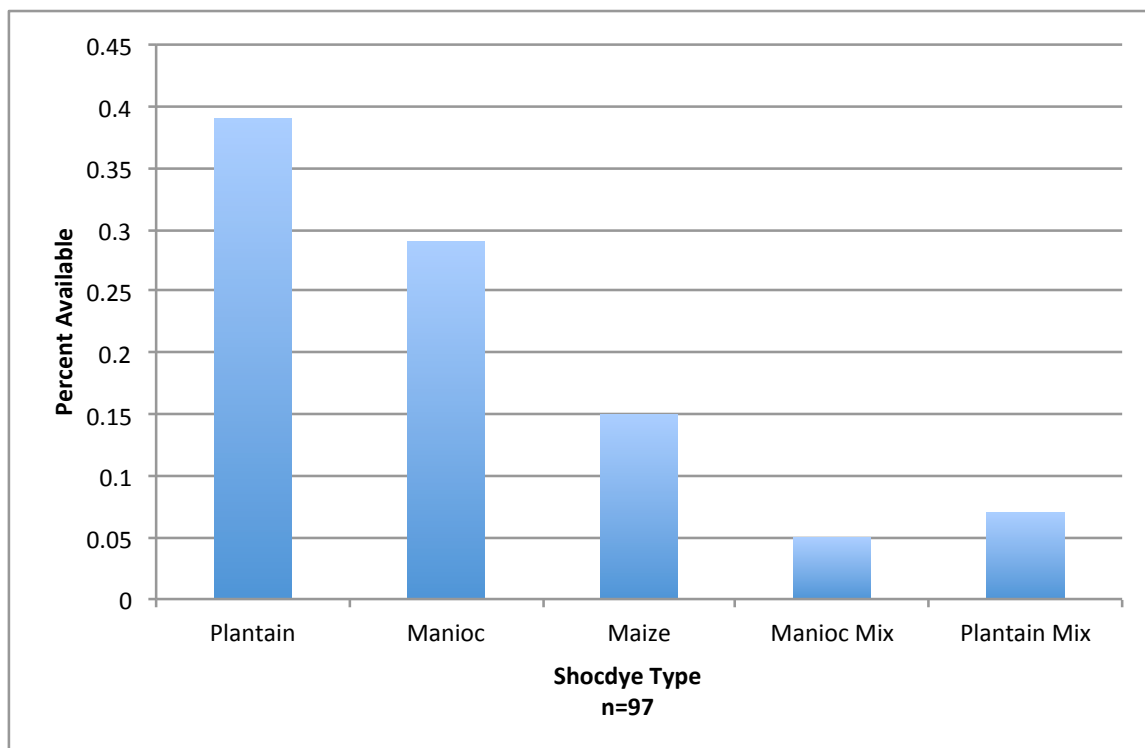
embedded in food production, transformations in the preparation and consumption of culturally significant practices and foods are inevitable.

As discussed in earlier chapters, the sale of plantains and rice has risen steadily due to the large market demand and high selling price. Tsimané are expanding their rice and plantain agricultural fields so that they can plant plantains that will yield enough to sell every two or three weeks and enough rice to sell after harvest. Eduardo explained, “If you have plantains, you can always get money. There are so many buyers, you just have to wait a short while to get a good price.” With an increase in rice and plantain production, there has been a significant reduction in the amounts of other traditional crops (Vadez 2004). Now, agricultural plots primarily cultivate rice and plantains with limited amounts of maize and manioc interspersed on the fringes. Many young families do not cultivate manioc at all. This is particularly profound among families that are heavily involved in logging initiatives and in communities closer to the market place (Vadez, 2004). I asked Javier and his son-in-law Gustavo why they no longer plant manioc. Javier, who is about 80 years old, said, “I don’t plant manioc anymore because I am old and sick. We leave it to the young people.” We both turned to Gustavo, who is in his early 40s and waited for him to justify his own limited manioc and lack of maize in his plot. Gustavo threw up his hands as if to say, “Why me?” and said, “I don’t have time to plant things like manioc and maize. I am busy with other work, like wood.”

Although the ceremonial uses of *shocdye* have faded, *shocdye* continues to be served after a long day in the field, after a hunt, and after a meal. Women of a single household continue to make *shocdye* an average of three times per month, which makes *shocdye* (of one type or another) available somewhere in the community almost every day of the week. But with a decrease in manioc production and an increase in plantain production, the ingredients are

changing. From the randomized time allotment scans and dietary recalls in all 17 households in the village of Maraca, I recorded 97 instances of *shocdye* being cooked or consumed. I used households as a unit of analysis because while individual Tsimané families retain personal ownership over raw ingredients, while extended families share a kitchen and eat from a single pot where cooked ingredients are communal, including *shocdye*. Figure 7.1 shows that plantain *shocdye* is available significantly more often than manioc or maize *shocdyes*. Year round plantains are clearly the most commonly used ingredients for *shocdye*, and are used in 46 percent of all beer, but manioc is still used often, in 34 percent of beers. Also significant is that the mixed beers, which Daillant points out define the Tsimané's beer and separate their beer from their neighbors, are consumed the least often of all types (2005).

FIGURE 7.1 AVAILABLE SHOCDYES BY TYPE



Plantains have replaced manioc as the key ingredient in *shocdye*. This beer is referred to as *canagdye'pere*, which means “cooked plantains”. As it becomes more common, it is taking on the social importance of manioc *shocdye*, and is now commonly referred to as *shocdye pere* (plantain beer). Referring to *canagdye'* as *shocdye* elevates its social importance, and places it in the same role as beer. Yet spiritually, it remains peripheral—the technique for making *shocdye pere* is almost identical to manioc *shocdye* except for one key factor: it is not masticated. It is significant that plantains are not masticated—it was the masticating that was taught to women by the god *Dojitch*, and it is the masticating that is thought to make the *shocdye* sweet. On its own, the plantains produce a sweet beer, but the individual success of the woman cannot be evaluated without her saliva in the beer. However, with men spending more time participating in logging and agriculture, combined with a decline in local animal populations, hunting has become a less frequent activity. While men continue to bring home meat, it is most commonly dried beef purchased in town. Dried beef has less social capital than wild meat and in many ways does not deserve the celestial importance of masticated beer. After purchasing domestic meat, there are no hunting stories to tell, no gods to thank, and nothing to be distributed. *Shocdye pere*, made from a sellable commodity, is a much more appropriate response to the purchased dried beef.

Shocdye continues to retain its social importance and it continues to demonstrate, create, and maintain social relationships between households. The acceptance of *shocdye pere* as an equal to manioc *shocdye* is slow but steady. While the overwhelming majority of manioc produced is earmarked for *shocdye*, there is a profound sense of remorse over the loss of manioc as its primary ingredient—like Octavio once said, “There is no more *shocdye*, there is no more manioc.” Similarly, Marco would often say to me regretfully, “There is no *shocdye*, we have no manioc,” then continue, seemingly contradictorily, to invite me to his house by saying, “We have

shocdye pere.” Inviting me to take part in *sobaqui* (visiting) and *shocdye* drinking, while reminding me that what is available is not ideal.

While manioc and maize, ingredients vital to the spiritual use of *shocdye*, remain conceptually important and continue to be used in *shocdye*, only 5 percent of all *shocdyes* recorded in the dietary recalls and time allotment scans were alcoholic. Three major shifts have occurred that have reduced alcoholic *shocdyes*. First, with the decline of shamanism, there is no spiritual reason to produce them. Without the performance of rituals, materials that can be used for rituals are not produced. Secondly, with the variety of food supplies dwindling, people don't want to wait until *shocdye* is fermented to drink; they want to fill up on it as a food source more rapidly. Thirdly, people are starting to look to liquor purchased in town for getting drunk. The issue of new alcohols penetrates other forms of Tsimané life, particularly parties, gatherings, and sharing. While already partially eliminated through the decline of shamanism, men are replacing highly fermented *shocdye* with potable alcohol, primarily ceibo, a distilled sugar cane drink with a 96 percent alcohol content, which is purchased in town to get drunk. The consumption of this beverage has led to alcohol abuse in town and frequently in communities closer to towns (Byron 2003).

These changes in alcohol use are partially related to changing opportunities for celebrations, including birthdays and other community wide festivities such the day of the community's establishment. These events, while still infrequent, are happening with more regularity. At these events, not only are prepared foods shared widely and beyond immediate kinsman, but also industrially produced beer, ceibo, and *shocdye* are in abundance. For example, for Carmen's 20th birthday party, her husband Miguel purchased 12 kilos of rice, six kilos of pasta, three cases of beer, five bottles of ceibo, a couple of bottles of hard alcohol, and some bags

of candy from the children. On the morning of the party, men from the community and Miguel's brother's families from neighboring communities arrived at the home of Miguel and Carmen. While the men began drinking, Carmen, her mother-in-law and her sister-in-law began cooking. They made two enormous pots of food: a chicken soup with pasta and a pork stew, both to be served with rice. While the food was being prepared, the men sat around inside the house drinking and listening to loud *cumbia* music. They were sufficiently drunk but 11 a.m. The women who cooked also drank beer. At 12:30 women and children began to pour into the house ready to partake in the meal. At 1 p.m. the food was dished out on a collection of plates from the extended household and each plate received a ladle of rice and a generous ladle of the stew of their choice. After the women and children were fed, they ran back to their homes to leave the men to continue drinking. At this party, instead of sharing *shocdye*, food and commodity drinks were shared. Tsimané' generally do not share food, particularly cooked foods, beyond the limitations of the immediate household. But more "Bolivian" style parties often include the killing of multiple domesticated animals for the purpose of feeding an extended group.

As the Tsimané become increasingly immersed in the market, they have also begun to incorporate commodity items purchased in town in the production and consumption of *shocdye*. Traditionally, maize is used to sweeten *shocdye*, and is often boiled, crushed with a stone, and then mixed with the boiled manioc. In contemporary *shocdye* production, it is no longer uncommon to use sugar as a sweetener in the beer and to sweeten maize *shocdye* itself with purchased sugar. In addition to ingredients, storage and production materials are also changing. Plastic bathing tubs and large aluminum pots have replaced the ceramics used to store *shocdye*. Metal grinders have replaced the large stone platforms and rounded rocks previously used to pulverize dried maize. This is particularly profound because these rocks are one of the only

inherited items the Tsimané have passed along a matrilineal line from mother to daughter. As plastic and metal goods are durable for a shorter time period, it is yet to be seen how this matrilineal inheritance pattern will be maintained. While less common, but becoming more frequent, is the use of metal grates instead of the traditional woven *pasi*. Although these new store bought commodities last longer and make *shocdye* production more efficient, the cultural knowledge associated with the production of these items has eroded. However, the ability to avoid reproducing them frees up significant amount of both women's and men's time, which can be used to do other activities, namely cash producing work. Many Tsimané, particularly young people, not only utilize these commodities, but also prefer to use them (Byron 2003).

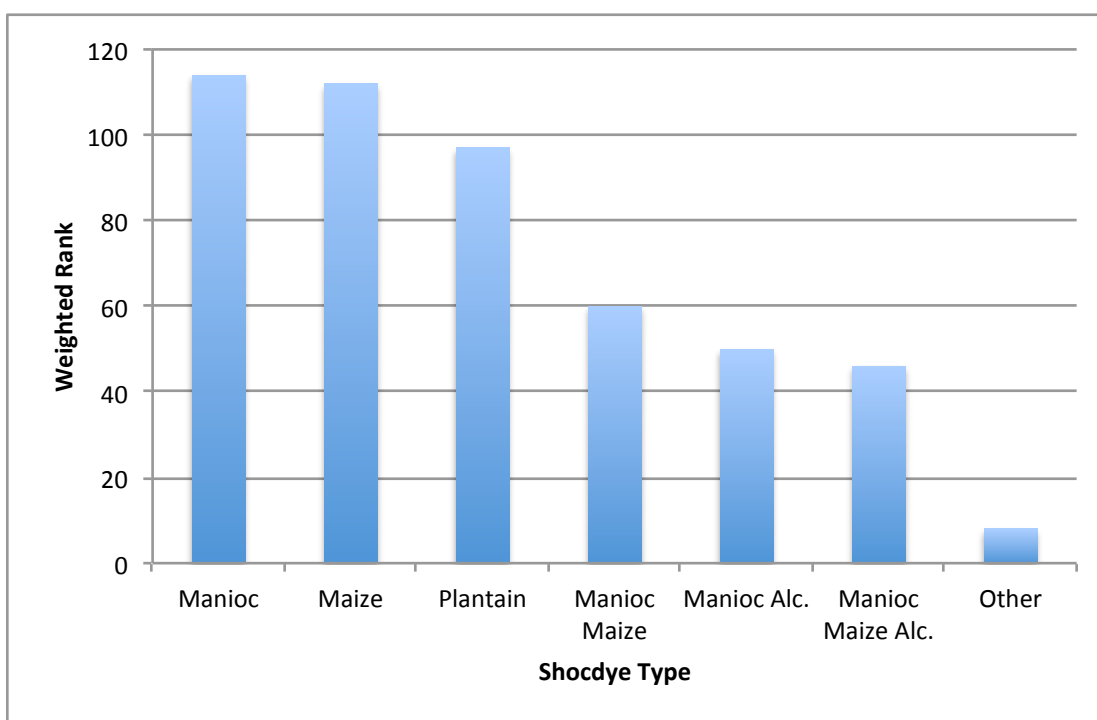
SHOCDYE PREFERENCE AND KNOWLEDGE

I asked 23 informants to rank what type of *shocdye* they preferred to drink. Informants were chosen deliberately to cover a spectrum of ages between adult men and women over the age of 16. The *shocdyes* were identified through preliminary research. *Shocdye* options included manioc, plantain, maize, manioc and maize, alcoholic manioc, and alcoholic manioc and maize. Although the two alcoholic *shocdyes* are made from the same ingredients and are referred to by the same name as their non-alcoholic *shocdyes*, their alcohol content can require people to treat them differently in practice. The rankings were weighted on a six-point scale.

Figure 7.2 demonstrates that manioc remains the most popular type of *shocdye*, followed closely by maize. The importance of manioc as a crop is embedded in how Tsimané think about *shocdye* religiously, mythological, and socially and it is a key aspect in how they desire it. Maize is also an important component in *shocdye* production as it is often used in conjunction with manioc to create a beer used for both shamanistic rituals and informal consumption. In this case,

we see that people covet the foods that they once had access to freely, and that they are key materials in their culinary traditions. Plantains, on the other hand, are a less popular ingredient in *shocdye*, but only slightly. Little by little plantains are becoming embedded in how Tsimané think about and accept *shocdye*. Alternatively, there are also emerging conceptions of what *shocdye* is not. For example, numerous informants refused to rank the alcoholic *shocdyes* at all, explaining that they no longer exist.

FIGURE 7.2 PREFERRED SHOC DY E



To expand on familiarity with the rarer forms of *shocdye*, informants were also asked if they have ever consumed beers made from peach palm or pineapple and if they knew when the appropriate time was to drink them. Beer made from peach palm is consumed after the rituals of the peach palm harvest in late January and February (Huanca 2006) and pineapple beer, which is a highly alcoholic beer made from corn or manioc and mixed with pineapple, was consumed by the *cocojsi* during rituals in the *cocojsi*'s house called a *shipa* (Huanca 2006). Seven out of 23

informants (30 percent) had never consumed the peach palm beer nor knew what it was. Many of the other informants knew when to drink peach palm and also enjoyed drinking it.

Overwhelmingly, the informants who knew, tasted, or drank peach palm beer were above the age of 30, regardless of gender. The implication of this is that peach palm beer is still processed but less so among young families. Alternatively, only four out of 23 (17 percent) informants had heard of beer from pineapple and three of them had tasted it, each mentioning the headache they had the day after drinking it. There was no evident pattern of who had knowledge of pineapple beer. Given these statistics, it is possible to draw the following conclusion: similarly to more standard *shocdye* practices, household rituals are more easily maintained while shamanistic rituals have eroded in knowledge and participation. The family maintains the peach palm rituals with each member in charge of different aspects of it, one of which is the responsibility of the women not to waste a single part of the peach palm, so she makes beer. Alternatively, the pineapple beer is part of a shamanistic ritual that is no longer practiced. With the end of shamanism, people no longer produce it, especially not in their own homes. This distinction between home brewing and shamanistic brewing speaks to the reduction in alcoholic *shocdyes*. Because alcoholic *shocdyes* were always used in shamanistic practices, their production has been reduced with the end of shamanism. However, because alcoholic beers are sometimes present in the home due to household relationships to the hunting and fishing gods and social rituals, their presence has not been fully eradicated, just significantly reduced.

CONCLUSION

Shifting *shocdye* practices reflect how Tsimané livelihood strategies are changing. An altered landscape stemming from continued deforestation by ranchers, loggers, and settlers,

followed by their own entrance into permanent settlements has resulted in shifts in Tsimané agricultural production, consumption, and labor. For the Tsimané, the process of becoming modern involves dynamic and subtle decision-making in which culturally significant practices are negotiated within the context of broad local, regional, and national ideas and practices. Although in many senses they are forced to look to cash as a way of contributing to their livelihoods, the terms of market participation and the associated cultural changes involve resistance and debate by allowing culturally significant materials, like *shocdye*, to be reevaluated, though not abandoned. It is through this understanding of *shocdye* that the localization of modernity among the Tsimané becomes apparent. The modern Tsimané practices emerge from pre-existing cultural practices, ideas, values, and materials but also from larger flows of economic, political, and environmental forces. The “disjunctures” described by Appaduri or the “frictions” described by Tsing emerge as pre-existing practices and beliefs that attempt to compensate for new processes, but something different emerges as the two systems clash (Appaduri 1996; Tsing 2004). Within these contemporary circumstances, continuous processes of change reformulate materials and practices to serve new purposes.

Shifts in *shocdye* production and consumption, from manioc to plantain, from alcoholic to sweet, and from ceramic to plastic demonstrate the role of capitalism in the cultural production of *shocdye*. But unlike in Counihan’s discussion of bread in Sardinia, the expansion of capitalism does not hinder *shocdye*’s ability to maintain social relationships within the household and between households. The continued production of *shocdye* exemplifies how the Tsimané are not abandoning their symbolic materials or practices; rather they are physically and socially modifying them to fit their current needs. Despite larger regional systematic changes, the Tsimané continue to practice a *shocdye* tradition that builds directly on ontological values, but is

manifested through newly incorporated ingredients and materials that are more representative of their current position in the region. As Christina taught me in the story at the beginning of this chapter, *shocdye* continues to be a defining activity for Tsimané women because it is something that gives them purpose in the creation of familial and household relations, but also with larger non-human entities. Although no longer used for formal shamanistic rituals, the production of *shocdye* continues to enable females to maintain some aspects of the spiritual relationship that connects the Tsimané to their environment. Additionally, the beer continues to maintain inter and intra household social relationships and moderate gender roles and responsibilities. Finally, it continues to provide necessary nutrition, aiding frequently when other food sources are scarce.

Similarly, as Eduardo exemplified, the continued consumption of *shocdye*, even in its altered forms, continues to mark Tsimané as separate from others—especially in a wider environment where capitalist relations have exposed the Tsimané to outsiders, but have also brought the outside world into community life. Through a material like *shocdye*, Tsimané are able to appropriate changing livelihood activities and commodities and contrive them in such a way that they continue to define what it means to be Tsimané. Continuities in *shocdye* production and consumption reflect larger patterns in contemporary Tsimané life, a continued relationship with the forest, dependence on a gendered division of labor, and the maintenance of strong social webs. Simultaneously, changes to *shocdye* also point to broader changes in Tsimané life: increased value on market commodities, cash cropping, and other forms of economic self-determinism. There is interconnectivity between new processes and old as values are redefined and subsequently subsistence practices are altered and new market initiatives are incorporated into livelihood production. In the example of *shocdye*, many of these processes revolve around a decline in manioc production and its connection to new agricultural ventures

and labor initiatives outside of the community. But the decline in manioc production also became appropriate as wild sources of meat became scarce and the relationship between manioc, the deities, and meat became less significant. However, manioc has been replaced with plantains, and new connections between women and men, gods and subsistence are being formed. While the continued production, distribution, and consumption of *shocdye* epitomizes the Tsimané cultural flexibility—a characteristic which has allowed them to survive despite constant encroachment of outsiders in their lands since the seventeenth century—current *shocdye* practices embody the difficulties and struggles that the Tsimané are encountering as they are increasingly included in the growth of the nation.

CHAPTER 8

CONCLUSION: “PROJECTS” AND THE FUTURE OF FOOD

In July of 2008, I was preparing lunch in the open-air kitchen outside of my house and Oscar, my research assistant at the time, was reading his new copy of the proposed constitution. He had received the tiny book a few days earlier when we went to hear President Evo Morales address the Tsimané. Morales came to San Borja to inaugurate the construction of a new electricity line cutting through the Beni as well as to promote his constitutional reform. He has been the first president to visit the Tsimané. As my water boiled, Oscar came out of the house. He said, “This constitution is better than yours.” “Why do you say that?” I asked. He opened the small constitution booklet and showed me Article 46 of Section III where it read, “*Toda persona tiene derecho: 1. Al trabajo digno, con seguridad industrial, higiene y salud ocupacional sin discriminacion y con remuneracion o salario justo, equitativo y satisfactorio, que le asegure para si y su familia una existencia digna.*”⁴⁸ Oscar explained, “Here it says that every Bolivian is entitled to work and to make money.” And then pointing to Article 47, “*Toda persona tiene derecho a dedicarse al comercio, la industria o a cualquier actividad economica licita, en condiciones que no perjudiquen al bien colectivo.*”⁴⁹ He continued, “Here it says we have a responsibility to each other.” A little confused I asked, “What do you mean by that?” He paused

⁴⁸ “Every person has the right to: 1. Dignified work, with industrial security, hygiene and occupational health without discrimination and with remuneration or fair wage, equivalent and satisfactory to assure a dignified existence to himself and his family.”- Author’s translation

⁴⁹ “Every person has the right to dedicate themselves to work, industry or whatever licit economic activity that does not harm the collective good”- Author’s translation

for a moment before answering. “It means that we are supposed to work in jobs we know how to do and jobs that we like, and that we help each other by doing them.”

Oscar’s interpretation of the new constitution demonstrates the ways in which Tsimané along the middle Maniqui River are applying contemporary politics to their way of life, particularly when it comes to work. They are looking for activities that not only provide cash, but also provide a particular quality of life. When Oscar chose those sections of the constitution related to work to discuss with me, he was demonstrating the type of issues that concern Tsimané in the middle Maniqui River region--they are interested in work that not only supports them financially, but also allows them to maintain the lifestyle they desire: one that balances subsistence practices and a market economy.

The need for work and cash permeates current decision-making processes and is often a point of contention between the Gran Consejo Tsimané and the Tsimané who live upriver. Disagreements have become particularly acute in debates over logging, which is becoming an increasingly popular form of cash-producing labor. While Tsimané on the middle Maniqui River are interested in developing initiatives that use government funds to support logging, cash cropping, and subsistence activities, the Gran Consejo is concerned about the longevity of the forest as a cash resource and is increasingly interested in using these funds to support projects related to intensive agriculture and food processing, particularly to curb logging upriver. Each, in their own way, is localizing their modernity through the prospects of government funding.

Morales’s post neo-liberal Bolivia promises autonomy and resources for historically marginalized groups such as the Tsimané. This marks the implementation of an alternative development model that has the potential for new forms of regional governance and dispersal of state benefits. Alternatively, the diversity of indigenous groups in the country and the large-scale

infrastructural needs of the country shift how ideas like *Vivir Bien*, and specifically notions of livelihoods and natural resource management, are placed into practice. While these issues have been explored in large-scale politicized debates, this dissertation points to internal discussions occurring within indigenous groups, where the concept of *Vivir Bien* is being debated in the context of localized experiences. As these national discussions are carried out within the context of Tsimané, questions of its implications for the future become poignant: Who benefits from these new resources? How are they allotted? And who decides?

THE POLITICS OF “PROJECTS”

One day in early October, while sitting around Marco’s patio after lunch listening to the mid-day messages on Tsimané radio, Alberto, Marco and Blanca discussed possibilities for “projects”. “Projects” refers to development initiatives sponsored by the Gran Consejo Tsimané and funded by the Bolivian government. Today’s messages from the Gran Consejo Tsimané reminded communities that they needed to apply for *personeria juridica* in order to request money for “projects”. The *personaria juridica* is a document that allows communities to petition the national government for funds. In this situation, petitions are filtered through the Gran Consejo Tsimané, who receive money from the national government and then allot the money to communities that have prepared the proper paperwork. Blanca offered a long list of “projects” that she wanted the Gran Consejo to provide for once they had completed the proper paperwork. Her list included cows, pigs, ducks, chocolate, mandarins, oranges, pineapples, chickens, and sugar cane. While she wanted to consume some of these things, she hoped to simply produce and sell the other items. Among those she hoped to sell were cows, pigs, chickens, chocolate, and

oranges. The men supported her ideas and commented on how great it would be if the Gran Consejo would give them these things and support them in the marketplace.

However, the items Blanca listed are only moderately related to the kinds of support the Tsimané in communities like Maraca can actually receive. There remains a distinct difference between what projects the Tsimané upriver imagine and wish to receive from the government and the ones they actually expect the Gran Consejo to provide. Eligible projects reflect what the Gran Consejo considers “big picture issues”. These projects are related to communal health and education for communities upriver, preservation of the greater forested area, as well as the types of market practices in which communities located closer to town are interested. Many of the current proposed projects of the Gran Consejo and the Mayor’s office parallel the rhetoric of the national government by claiming to enable the Tsimané to be less vulnerable to people taking advantage of them and controlling the flow of resources. The objectives of these projects are to give Tsimané more access to products that will improve their health and will aid their continued subsistence survival. Tsimané leaders envision long term development projects funded by the government that promise to “change the lives of the Tsimané” as the *sub-alcalde* put it:

“For many years the Tsimané were used. There was no help and there were so many traders. Now they know that, with the new government, they can change their lives. They have started talking about projects and they have an idea of how they can find help. There were small projects before, but the Tsimané never knew if they would continue. Now that there are projects in the communities, the Tsimané are expecting and demanding changes.”

While many of the proposed “projects” like school construction and clean water tanks would prove helpful to Tsimané along the middle Maniqui River, they do not reflect the types of market practices Tsimané along the middle Maniqui are interested in engaging in. Tsimané upriver are trying to continue surviving off the forest while also simultaneously trying to increase

their purchasing and selling power in the marketplace. Their literal and figurative distance from the market and their attachment to the forest makes it increasingly challenging for them to gain an upper hand in their financial relationships. Absent from the government projects is an attempt to aid the Tsimané living far from town to gain control over their financial opportunities.

Relating to the solicitation of projects for Tsimané upriver, the *sub-alcalde* said, “When we do a project, we don’t think about the cash return. We think about what they plant and what they can consume.” The plans for upriver communities are focused on Tsimané maintaining a primarily subsistence lifestyle with a slight augmentation in cash cropping; the Gran Consejo is not considering the idea that Tsimané upriver are attempting to balance both subsistence and market economies.

With a successful political affiliation between Tsimané and MAS, the Gran Consejo Tsimané has been able to attract financial support from the national government. With this attention, there is an overwhelming sense among Tsimané leaders that more and more funding and development will come to the Tsimané, and that they themselves will be able to decide how it is distributed. Indeed, money is currently being siphoned into the Tsimané community via national funding campaigns like the *Fondo de Desarrollo Para los Pueblos Indigenas Originarios y Comunidades Campesinas e interculturales* (FDPPIOYCCI – The Development Fund for Original Indigenous Peoples and Peasant and Intercultural Communities), more popularly known as the indigenous fund, which is supported by the direct tax on hydrocarbons (*el impuesto directo a los hidrocarburos*, IDH). At the time of research, the Gran Consejo had been allotted over 7 million Bs. (1 million US dollars) from national government funds for projects in the communities related to agricultural production, domesticated animals, water

purification, and building schools.⁵⁰ Additionally, the *Sub-Alcalde*'s office was awarded additional funds for the expansion of the Gran Consejo Tsimané buildings in San Borja to house and support visiting Tsimané. Tsimané officials now find themselves more actively moderating relationships between the national government, the mayor's office, the Tsimané municipality, and the Gran Consejo Tsimané. Many of these officials see the coordination between the offices as a positive step in the Tsimané becoming visible beyond San Borja.

Many Tsimané in upriver communities know that there are more opportunities for “projects”, but what they are, how procure them, and who actually gives the money remains unclear. Tsimané in these communities will be able to access the fruits of these projects through the use of the *personería jurídica*. The Gran Consejo is already in possession of a *personería jurídica*, which allowed them to apply to the TCO in the 1990s and includes 55 communities within the TCO. New processes for funding related to indigenous autonomy requires that each community with a school maintain their own *personería jurídica* in order to request money for projects. The national government considers the political positions required for maintaining a school in the community strong enough to separate their decision making process from the Gran Consejo Tsimané.⁵¹ Individual communities are now required to submit all the required *personaria jurídica* paperwork in order to petition the Gran Consejo Tsimané, as the funding holder, for any type of project to be carried out within the community. This process is complicated, unclear, and requires significant amounts of money and time in order to be completed. Although, there is little representation of Tsimané living upriver in the Tsimané

⁵⁰ Interview with President of the Gran Consejo, Felipe Meyer on February 8, 2011

⁵¹ There are five primary positions within the community (*Corregidor*, *OTB*, *Junta Escolar*, Treasurer, Secretary). Community members were not exactly elected but were confirmed in their positions by other members of the community. The requirements of these jobs are vague and there is little leadership within the community. These jobs are mostly put into practice for signing documents.

government, Tsimané upriver still support Tsimané politicians in elections, they listen carefully to the messages of the Gran Consejo on the radio, and they follow their instructions to the best of their ability. Tsimané upriver trust the Gran Consejo and generally do what is best for the greater Tsimané. This might explain why they are diligent at their attempts to fill out the *personeria juridicas*, the official document to request money from the government for “projects”, but simultaneously, are defiant in the ways they interact with wood by not trusting the fulfillment of larger projects or the follow-through of the national funding.

In July 2010, months before the conversation with Blanca took place, the community of Maraca began the process of completing paperwork for the *personaria juridica*. Community members were unsure about the directions, how to write the solicitations, or how to accumulate the data asked of them. The Gran Consejo Tsimané gave a list of instructions to the *junta escolar* (education representative) that asked for a community census, a map of the community, a letter of solicitation, a notarized history of the community including the election of officials, and a notarized description of the community in a *libro del acto*.^{52,53} Community members not only needed assistance getting organized and carrying out the work, but also needed assistance in paying for the paperwork.⁵⁴ After multiple attempts to submit the paper work and the sale of many plantains to raise money for the fees, the community submitted the paperwork in August

⁵² A *libro del acto* is a book in which community activities are recorded

⁵³ The community teacher had an idea of what to do, but she wanted to charge each family money for her help. Community members were furious with her as they view it as part of her job. This was part of a long, drawn-out battle to find a replacement teacher for the community. They asked me to step in and help instead.

⁵⁴ The cost of the notary was 150bs (\$21) and the *libro del acto* was 25bs (\$3.60). The cost of travel to and from San Borja for two men, with housing and some food is about 50bs (\$7.14)- they went to San Borja twice for the purpose of dealing with the paper work.

2010.⁵⁵ They were told they would hear back by September and then they were told to wait until October, and then they were told they needed to wait until November.⁵⁶ In November, I accompanied the *Corregidor* (village leader), the *Junta Escolar*, and another member of the community who spoke Spanish well to the Gran Consejo to check the status of the paperwork.⁵⁷ Over the last week, messages on Tsimané radio had implied that the deadline to ask for projects to be implemented was approaching. The residents of Maraca were concerned that they would miss out on an opportunity.

At the Gran Consejo's office, the men talked with the *sub-alcalde* in charge of the *Personaria Juridicas* for the communities. He explained that the Tsimané could not simply ask for whatever projects they wanted, rather the Gran Consejo Tsimané was taking suggestions in order to petition the government for large projects that can be implemented over many communities. The *sub-alcalde* asked the men what they needed. They shrugged because they were not sure what the correct answer was. The *sub-alcalde* asked, "Do you have a school?" They nodded. He responded, "Then you should ask for a water pump." Although, suggested in radio messages, the men were not asked about agriculture, domesticated animals, or about production for the market. The whole process of asking for these "projects" was obscure to the Tsimané in Maraca. They understood that with this document they could ask for things. They thought they could have whatever things they wanted. They were very interested in the water

⁵⁵ In addition to administrative help I was asked for some financial help. The notary cost 150bs (\$21). I gave 75bs (\$10.70) and the community paid the other 75bs, collecting an average of 5bs per household.

⁵⁶ At the end of January, the community members asked me to go the Gran Consejo again and check on the status of the *Personaria Juridica*. The sub alcalde pulled out an enormous pile of *personaria Juridicas* that were sent back from the national office because of mistakes. Maraca's was not among them, which was a good sign, but the that pile of paper work represented dozens of communities who were unable to get the paperwork done correctly on their own. The Maraca *Personaria Juridica* was still not finished though.

⁵⁷ The *Corregidor* insisted that he come as well explaining that he had better communication skills in Spanish and therefore could understand the political situation.

pump suggested to them, but they were also interested in agricultural products they heard about on the radio and they were particularly interested in gaining access to vaccines as well as the maintenance of a road from the highway to the river so that they could more easily transport cash crops and timber. The *sub-alcalde*'s reaction indicated that it had already been decided what the Tsimané from upriver should be asking for. On one hand this has to do with government regulated funding interests, which dictate what will inevitably be funded, but it also represents the Gran Consejo's approach for funding Tsimané living upriver.

In contrast, for Tsimané closer to town where there is a more prominent reliance on the market for all types of food, proposed projects are focused on the cultivation of crops, but also their processing and sale outside of the immediate area. The interim president of the Gran Consejo explained the projects already in motion for communities close to San Borja:

“The Tsimané present projects to us like agricultural production for the men to plant more rice so we are asking for machines to help them send rice to La Paz and also internationally. Like manioc and cotton, we can also take the *chibe* (manioc flour) and sell it in La Paz. The Tsimané will benefit. The goal of the Gran Consejo is to help the Tsimané improve in the community: giving more seeds to produce more, and then the machines to harvest and produce a final product to send to La Paz to sell. In this way the Tsimané are rewarded with money for their work.”

These plans are mostly relevant to communities closer to town where the limited availability of land and proximity has led to their heavily market-based economy as well as dramatically reduced the amount of food they produce for themselves. In these areas, Tsimané want to move away from raw materials and into final products. Tsimané in communities upriver, like Maraca, are attempting to maintain their subsistence production, but are also increasingly engaging in the market by working in wood and with cash crops. For these Tsimané, food processing is a giant leap from their current activities, and many are not interested in participating in it—they explain

that it requires too much time away from the community and it is not work they know how to do. They would prefer assistance maintaining crop diversity and cash crops simultaneously as well as assistance in developing the timber trade.

TOWARDS THE FUTURE OF FOOD AND LIVELIHOODS

This dissertation discussed how broad forms of development over the last half a century have affected the ways Tsimané are able to produce a livelihood. By focusing on a variety of alimentary practices, I demonstrated how these developments are experienced and negotiated in everyday life. Over the last century, the social and natural landscape of the region has changed and altered the ability of the Tsimané living along the middle Maniqui River to maintain a subsistence lifestyle that relies solely on hunting, gathering, fishing, and agriculture. The Tsimané now take part in a wide range of activities to support subsistence and food production and yet also need cash to purchase both food commodities and other market products. I argued that a variety of food related processes—production, conceptualization, consumption, and distribution—reflect this balance between subsistence and market-based livelihood activities. Although their diet primarily consists of a limited number of food commodities, cash crops, and river fish, the ways in which food is valued is shaped through the production of culturally significant dishes and forest knowledge. Furthermore, the Tsimané utilize both the cooking and sharing of food as well as subsistence and market-based livelihood activities to maintain inter and intra household activities.

Through a discussion of current alimentary practices, I showed how the production, consumption, distribution, and conceptions of food reflect and formulate a ‘localized’ modernity. I argued that this ‘localized’ modernity offers a deeper approach to understanding new forms of

indigenous practice, knowledge, and values which, in turn, reflect the ways that multiple historical flows of political, economic, and social processes are negotiated throughout the local context of the Tsimané. This research has particular importance in understanding the relationship between indigenous identity, forest use, and capitalist practices among lowland Indians in Bolivia. As Tsimané look towards the future, they approach emerging debates over indigenous politics, livelihood production, and natural resources through these localized experiences.

The contemporary needs of the community can be understood in relation to both history and current political environments. I highlighted past forms of development in the region, which have shifted territorial rights and the ecology of the region. Ranching, logging, and colonization by highland settlers not only disenfranchised the Tsimané from their land, but also changed the ecological dynamics of the region by making historical modes of food production less successful. These changes in the region also led to an expansion of local towns and market places by increasing access to commodities and opportunities for labor. However, Tsimané who still live a moderate distance from town, like those in Maraca, practice both subsistence techniques for accumulating food provisions as well as market-based activities. Through three related approaches (time allotment, dietary practice and cognition, and the examination of *shocdye*), I showed how shifts in livelihood production have shaped new relationships between how food is produced, consumed, and conceived. This serves to argue how these questions of forest use and autonomy rest on complex formations of contemporary indigenous self-identity, needs, and the values that might be controversial to those with different experiences or intentions.

First, I demonstrated that although the Tsimané maintain a moderate distance from the marketplace, they practice both forest-based and market-based livelihood activities. These activities have been affected by a depletion in forest foods, but also because Tsimané are

increasingly interested in purchasing both food and other commodities. However, I argued that Tsimané were not willing to engage regularly in market activities until recently because the terms of labor were not favorable. Tsimané in Maraca prefer to be their own bosses, prefer to work with extended family members, and prefer to spend time in the forest. Although interested in commodities in the past, the types of day labor available took them away from their communities as well as eliminated the ability to work at their own leisure. In this discussion, I also demonstrated that women continue to maintain their typical household activities, but simultaneously augment their work in agriculture to fill responsibilities left by their husbands working in wood.

Secondly, I discussed the relationship between conceptions of food and consumption of food. I demonstrated that the Tsimané diet is limited to just a few ingredients—primarily cash crops such as plantains and rice, river fish, and *charkey* (dried beef). However, Tsimané maintain extensive knowledge of food items, the overwhelming majority of which are forest raised or hunted animals, fish, plants, or birds. I argued that this knowledge of diet maintains a relationship with the forest and its potential as a food source. I also argued that Tsimané are able to maintain ties to food, even with changing availabilities of particular food items, through the maintenance of particular cooking techniques. For example, the preparation of *jona*. Although Tsimané supplement certain ingredients for others, the process of cooking them in a familiar way ties the contemporary diet to the past.

Lastly, using the example of *shocdye*, I substantiated how contemporary livelihood patterns and conceptions of foods shape the modern production of culturally significant practices. *Shocdye* is equated with life to the Tsimané, but changing agricultural practices, changing hunting and fishing patterns, and the disappearance of the *cojcosi* have altered how it is

produced and consumed. Shifts in *shcodye* production and ingredient preferences point to the ways that Tsimané incorporate new livelihood practices into the production of culturally meaningful materials. The contemporary abundant production of plantain *shocdye* does not replace manioc or maize beers; instead, it facilitates the maintenance of social and gender relationships within a diversifying economy. Like in livelihood production, women continue to maintain an importance in community-based social life, which serves to reformulate and to sustain a sense of Tsimané identity within a region in continuous flux.

In sum, this dissertation offers a contemporary perspective on the relationships between livelihoods and food among the Tsimané. I argue that food and food related processes are not only shaped by broad and indirect forms of development, but are moderated by them and formulate how they take root in everyday life. By closely examining livelihood and food related activities of the Tsimané through a framework of the ‘localized’ modernity, this dissertation offers context for the ways in which national political debates over indigenous autonomy, capitalist activities, and natural resource management are reconstructed by small indigenous groups, like the Tsimané, on a local level in the Bolivian lowlands.

Tsimané are increasingly seeing themselves in terms of national indigenous politics. Tsimané leaders have thrown their support towards MAS; as a result, they have benefited significantly from indigenous-centered funding initiatives. The Bolivian government has paid increased attention to the Tsimané following the successful candidacy of the Jorge Añez, the president of the Gran Consejo Tsimané and member of the MAS party, into the mayoral position in the town of San Borja. Tsimané leaders see their new visibility in the greater nation state as a key step in achieving self-sufficiency for the larger Tsimané community.

Similarly to being on a national level, new political opportunities for the Tsimané are coupled with politicized debates over indigenous autonomy, capitalist activities, and sustainable uses of natural resources. The ways the Gran Consejo conceives of development “projects” reflects that, focusing on “nation wide” development and by creating a duality between subsistence and work. Contradictions emerge through questions of what is best for the larger Tsimané population, what is best for communities, what is best for individuals, and who is entitled to make these decisions. Differences remain between what Tsimané leaders envision for the greater Tsimané population and how those living away from the towns of San Borja and Yucumo along the Maniquí River (like in Maraca and Iuvasichi) understand these new opportunities as each weighs their histories and their contemporary responsibilities against their futures.

As I have demonstrated, this separation between subsistence and work does not reflect the realities of life along the middle Maniquí River. In communities like Maraca, the forest provides opportunities for both subsistence purposes and the accumulation of cash; there is a desire to preserve the forest but there is a simultaneous need to exploit it, together these intentions ensure food production and survival. Instead of a singular idea of the types of work acceptable for all Tsimané, how can the the Gran Consejo Tsimané transform the idea of indigenous autonomy into new and diverse models of forest management that reflect subsistence practices as well as the need for cash and commodities? How can Oscar’s interpretation of work as something that not only provides cash but also ensures a high quality of life built on cultural values be implemented within a group like the Tsimané?

This is not to argue that “projects” related to basic rights and needs like water or schooling are not vital, rather it is to question how livelihoods can be thought about in addition to

these programs in a more comprehensive manner that considers the importance of cash and commodities in contemporary life. What do these new “projects” mean for the future of food if support for work and cash-based activities is only aimed at those closer to town? This analysis of contemporary relationships between livelihoods and food informs this conversation by demonstrating the ways in which histories of the region have formulated modern life. This not only illustrates the areas through which contemporary practice and values are constructed, but it can lay the ground work for formulating development plans that take change over time and its meaning in different regions of Tsimané territories seriously.

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APPENDIX 1: FREE LISTED FOODS, ORDERED BY SMITH'S S

	Tsimané Name	English Name	Spanish Name	Scientific Name	FRQ	Avg. Rank	Smith's S
1	Quití	Collared peccary		<i>Tayassu tajacu</i>	44	14.18	0.576
2	Ñej	Gray brocket deer		<i>Mazama Americana</i>	35	14.51	0.458
3	Oyoj	Brown capuchin monkey		<i>Cebus apella</i>	36	15.75	0.452
4	Arosh	Upland rice		<i>Oryza sativa</i>	45	22.31	0.447
5	Ibiqui		Achachiru	<i>Garcinia gardneriana</i>	48	26.10	0.44
6	Sonare'		Surubi	<i>Pseudoplatystoma fasciatum</i>	43	21.98	0.438
7	Vonej		Sábalo	<i>Prochilodus nigricans</i>	41	21.17	0.438
8	Pere'	Plantain		<i>Musa balbisiana</i>	43	24.88	0.427
9	Naca'	Paca		<i>Agouti paca</i>	34	16.29	0.425
10	Emej	Wild turkey- Spix's Guan		<i>Penelope jacquacu</i>	33	18.91	0.397
11	Tsocot		Ocoro	<i>Rheedia acuminata</i>	43	26.19	0.377
12	Tavava		Tachaca	<i>Pterodoras granulosus</i>	36	20.86	0.377
13	Opaj	Razor-Billed Currasow		<i>Mitu tuberosa</i>	31	19.71	0.374
14	cävädye'	Jua		<i>Paulicea lutkeni</i>	35	21.43	0.372
15	Tobiri		Pacusillo	<i>Schizodon fasciatum</i>	33	21.49	0.366
16	Uru'	Howler Monkey	Manechi	<i>Alouatta seniculus</i>	30	17.23	0.366
17	Väsh	9 bandend-long nosed armadillo	Tatú	<i>Dasypus novemcinctus</i>	28	18.04	0.35
18	Mumujñi	White-lipped Peccary	Chanco de Tropa	<i>Tayassu pecari</i>	26	17.69	0.33
19	Shi'	Tapir	Anta	<i>Tapirus terrestris</i>	29	18.97	0.326
20	Paquisdye'		Paleta	<i>Urubim lima</i>	26	17.92	0.306
21	O'yi	Manioc	Yuca	<i>Manihot esculenta</i>	35	27.91	0.305
22	Shicuruty			<i>Hemisorubim platyrhynchos</i>	27	17.19	0.305
23	Isbara'	Night Monkey	Mono Nocturno	<i>Aotus azarae</i>	26	23.81	0.292
24	Chu'	Coati	Tejon	<i>Nasua nasua</i>	22	20.41	0.276

25	Atawa	Chicken	Pollo	<i>Gallus domesticus</i>	29	29.35	0.263
26	Shätij	Brown Agouti	Jochi colorado	<i>Dasyprocta variegata</i>	24	22.71	0.254
27	Tara'	Maize	Maize	<i>Zea Maiz</i>	30	27.93	0.252
28	Ivijjnadye'		General	<i>Phractocephalus hemioliopus</i>	25	29.76	0.236
29	Oto	Capybara	Capiguara	<i>Hydrochaeris hydrochaeris</i>	24	30.50	0.219
30	Maraca	Orange	Naranja	<i>Citrus sinensis</i>	24	32.88	0.208
31	Chichi'	Squirrel Monkey	Chichilo	<i>Saimiri sciureus</i>	19	26.26	0.207
32	Voyo	Kinkajou	Monomichi	<i>Potos flavus</i>	18	23.00	0.205
33	Viroj	Sugar cane	Caña	<i>Saccharum L.</i>	25	32.80	0.204
34	Odo	Spider Monkey	Marimono	<i>Ateles chamek</i>	18	24.78	0.193
35	Väj	Peach palm		<i>Bactris gasipaes</i>	23	34.65	0.191
36	Cajsare'		Dorado	<i>Alminus sp</i>	20	29.20	0.178
37	Tovij		Pava campanilla	<i>Pipile cumanensis</i>	16	22.63	0.177
38	Cochij	Pig	Chancho	<i>Suidae sus</i>	18	27.89	0.177
39	Fideo	Pasta	Fideo		23	29.26	0.174
40	Quijbo	Forest turtle	Peta		16	25.25	0.169
41	Charkey	Dried beef	Charkey		23	30.65	0.164
42	Jajru'		Majo	<i>Jessenia bataua</i>	19	31.53	0.164
43	O'oyoj	Southern tamandua (anteater)	Oso hormiguero	<i>Tamandua tetradactyla</i>	15	24.47	0.162
44	Pincushi		Blanquillo	<i>Callophrysus macropterus</i>	16	25.75	0.157
45	Vaca	Cow/ beef	Vaca	<i>Bos primigenius</i>	17	31.06	0.155
46	Boyadye'			<i>Leporinus trifasciatus</i>	17	27.53	0.153
47	Na'me		Pacay	<i>Inga cf. ruiziana Don.</i>	16	30.13	0.151
48	Jona	Stew			9	13.00	0.15
49	Shere Shere		Benton	<i>Hoplais malabaricus</i>	14	33.57	0.149
50	Manaij		Motacu	<i>Attalea phalerata</i>	18	34.00	0.142
51	Shajbe	Giant armadillo	Pejiche	<i>Priodontes maximus</i>	12	24.33	0.14
52	Bojmo			<i>Curimatella meyeri</i>	12	22.50	0.138

53	Vatse		Zapato	<i>Lituratus disjunctivus</i>	11	33.64	0.124
54	Jutiru		Bagre	<i>Pimelodus sp. (gr. maculatus blochi)</i>	13	27.69	0.123
55	Cochivi'	Small green parrot	Lorito	<i>Brotogeris spp.</i>	13	34.77	0.123
56	Binca		Pata de Anta	<i>Passiflora triloba</i>	17	39.35	0.122
57	Limonara	Sweet Lime	Lima	<i>Citrus limetta</i>	16	40.25	0.114
58	Cajna		Chonta chiquita	<i>Bactris riparia</i>	14	37.71	0.114
59	Toronja	Grapefruit	Toronja	<i>Citrus paradisi Macf.</i>	16	42.25	0.11
60	Caij	Sweet potato	Camote		16	40.25	0.109
61	Cojnono		Pacay corto	<i>Inga sp.</i>	14	37.36	0.109
62	Yushi	Giant Anteater	Oso bandera	<i>Myrmecophaga tridactyla</i>	11	33.36	0.108
63	Vututu		Tumor	<i>Psophia leucoptera</i>	14	31.71	0.107
64	Băcāj	Southern Amazon red squirrel	Ardillas	<i>Sciurus spadiceus</i>	11	36.91	0.106
65	Fofor		Perdiz	<i>Tinamus major</i>	13	41.15	0.102
66	Marase'		Huarachi	<i>Ortalis motmot</i>	11	35.36	0.096
67	Chae'		Pacu	<i>Characidae</i>	9	23.89	0.094
68	Vishirij		Pacay	<i>Inga punctata willd.</i>	13	45.08	0.093
69	Pato	Duck	Pato	<i>Cairina moschata</i>	10	35.60	0.093
70	Jo'sa		Jatuarana	<i>Brycon sp.</i>	9	23.56	0.092
71	Puña		Yayu	<i>Hoplerythrinus sp.</i>	9	44.11	0.091
72	Cotyij			<i>Pimelodella</i>	8	23.63	0.088
73	Shiare'		Cachurru	<i>Cynopotamus cf. amazonus</i>	8	22.63	0.088
74	Tiribu'			<i>Cheilodinium cognatu</i>	11	46.27	0.084
75	Azucar	White sugar	Azucar		14	38.86	0.081
76	Sisij		Simbau	<i>Hoplosternum thoracatum</i>	9	44.67	0.08
77	Shivajnarety		Tojono	<i>Learius marmoratus</i>	8	27.75	0.08
78	Na'fa		Isigo	<i>Tetragastris altissima (Aublet)</i>	10	30.20	0.077
79	Voton	Yellow armadillo	Tatú	<i>Euphractus sexcinctus</i>	6	21.83	0.076
80	Sardina	Canned sardines	Sardina		14	38.71	0.076

81	Chocolati	Chocolate	Cacao	<i>Theobroma cacao L</i>	9	40.33	0.076
82	Pofi	Papaya	Papaya	<i>Carica papaya L.</i>	9	38.00	0.076
83	Co'ro		Carancho	<i>Hypostomus</i>	7	37.57	0.073
84	Manco	Mango	Mango	<i>Mangifera indica</i>	10	38.90	0.073
85	Cum			<i>Astyanax bimaculatus</i>	6	24.50	0.07
86	Oto'		Paloma	<i>Columba subvinacea</i>	8	34.38	0.069
87	Ashasha	Giant lemon	Limon	<i>Citrus limon L. Burn</i>	10	46.90	0.068
88	Nabaty		Cachurro	<i>Aphiodon vulpinus</i>	9	37.33	0.068
89	Irimo'	Pirana	Palometa piraña	<i>Serrasalmus spilopleura</i>	8	49.25	0.067
90	Foife			<i>Crypturellus cinereus</i>	8	43.75	0.065
91	Tyutura		Palma real	<i>Mauritia flexouosa</i>	11	39.91	0.064
92	Oi'		Tujo	<i>Psarocolius decumanus</i>	7	39.00	0.064
93	Macdarina	Mandarine	Mandarina	<i>Citrus reticulata</i>	11	47.82	0.064
94	U'va	Red/green macaw		<i>Ara chloroptera</i>	5	23.00	0.063
95	Varishi	Common opossum	Carchupa	<i>Dipelphis marsupialis</i>	6	39.33	0.062
96	Merique	Pineapple	Piña	<i>Ananas comosus</i>	9	33.44	0.062
97	Cebolla	Onion	Cebolla	<i>Allium cepa</i>	7	37.14	0.061
98	Pan	Bread	Pan		10	42.90	0.06
99	Copinaty		Palometa	<i>Mylossoma duriventre</i>	7	42.29	0.059
100	Bonoja			<i>Potamorhina altamazonica</i>	7	34.29	0.057
101	Ucare'	Tayra	Melero	<i>Eira barbara</i>	6	50.67	0.056
102	Coco	Coconut	Coco	<i>Cocos nucifera</i>	7	42.43	0.056
103	Cojcoj	Jicama	Ahipa	<i>Pachyrhizus tuberosus</i>	11	33.64	0.055
104	Shie'			<i>Coragyps atratus</i>	5	29.80	0.054
105	Arina	Flour	Harina		10	44.10	0.053
106	Cu'na		Pacay	<i>Inga crestediona Benth ex Seeman</i>	6	33.33	0.053
107	Ishij'			<i>Pimelodella</i>	6	39.33	0.053
108	Meme	Turtle	Tortuga		6	39.00	0.053
109	Fäjfäj	Grey fronted dove	Chaisa/ paloma	<i>Leptotila rufaxilla</i>	7	50.86	0.051

110	Sere papa		Palometa real	<i>Astronotus cf. ocellatus</i>	5	41.40	0.051
111	Carape'		Manguari	<i>Ardea cocoi</i>	6	44.33	0.05
112	Shandia	Watermelon	Sandia	<i>Citrullus c. lanatus</i>	8	41.88	0.049
113	Shiva	Chestnut front macaw		<i>Ara severa</i>	7	37.86	0.049
114	Macha	Banana			6	49.83	0.048
115	Varaj	Small frog	Rana pequeno		5	46.20	0.047
116	OjñI	Water	Agua		3	8.33	0.046
117	Café	Coffee	Café		5	40.40	0.046
118	Coti	Guava	Guayabo	<i>Psidium guajava L.</i>	5	40.40	0.045
119	Bachona	White-tailed deer	Ciervo	<i>Odocoileus blastocerus</i>	4	31.75	0.044
120	Dyabaj	Peanut	Mani	<i>Arachis hypogaea</i>	7	38.71	0.042
121	Yurishi	Wood Stork	Cabeza seca	<i>Mycteria americana</i>	7	57.29	0.042
122	Cajno	Cormorant	Cuervo	<i>Phalacrocorax brasilianus</i>	5	40.40	0.042
123	Vicoi'			<i>Pouteriamacrophylla (Lam)</i> <i>Eyma</i>	4	43.00	0.042
124	Buvei'		Achachiru grande	<i>Rheedia cf. Brasiliensis</i>	6	51.00	0.04
125	Aceite	Oil	Aceite		10	42.40	0.04
126	Samapi			<i>Cichla ocellaris</i>	5	46.20	0.038
127	Shocdye	Beer	Chicha		3	14.00	0.038
128	Jüpare			<i>Rhea americana</i>	3	35.33	0.038
129	Fen	Egg	Huevo		4	20.50	0.037
130	Jaruj	Yellow fruit			7	47.71	0.037
131	Tsojtsoj	Brazilian porcupine	Puercoespina	<i>Coendou bicolor</i>	5	42.40	0.036
132	Awaru			<i>Amazona amazonica</i>	5	49.00	0.036
133	Bejqui'		Paquio	<i>Hymenaea courbaril</i>	4	32.25	0.036
134	Sui'tyi'			<i>Sternopygus macrurus</i>	4	43.50	0.035
135	Pajcha			<i>Geotrygon montana</i>	3	19.67	0.034
136	Utiuvu			<i>Pseudopimelodus zungaro</i>	6	60.50	0.033
137	Dyiñeya	Guineo	Guineo	<i>Musa xacuminata</i>	5	58.40	0.033
138	Galleta	Cookie	Galleta		6	45.00	0.032

139	Movai'		Ambaibillo	<i>Pourouma cecropiifolia</i>	6	47.33	0.032
140	Piyuyure			<i>Jabiru mycteria</i>	5	54.60	0.032
141	Jiji		Coquino	<i>Chrysophyllum sericeum</i>	3	51.00	0.031
142	Oveja	Sheep	Oveja		5	50.20	0.03
143	Pashe			<i>Cichlasoma boliviense</i>	3	41.33	0.03
144	Chaja'			<i>Chauna torquita</i>	2	26.50	0.027
145	Neta	Puma	Puma		3	59.33	0.026
146	Erei			<i>Leucophtalmus</i>	2	23.00	0.024
147	Corivavaj		Achachairu pequeno	<i>Rheedia brasiliensis</i>	2	42.00	0.024
148	Chiviya			<i>Aramides cajanea</i>	3	34.67	0.023
149	Uveveruj	Giant otter		<i>Pteronura brasiliensis</i>	3	44.33	0.023
150	Tomsis			<i>Leporinus cf. friderici</i>	2	18.50	0.023
151	Viruij		Pacay delgado	<i>Inga</i>	2	15.00	0.023
152	Mujpe		Leche leche	<i>Sapium marmieri Huber</i>	2	20.00	0.023
153	Leche	Milk	Leche		3	52.67	0.023
154	Besej				2	31.50	0.023
155	Pisimi	White-tailed deer	Urina	<i>Mazama gouazoubira</i>	2	43.50	0.023
156	Isinu'	Sting ray		<i>Otamotrygon cf. histryx</i>	2	44.00	0.022
157	Saca'vadye'				3	45.67	0.021
158	Yupi	Sugar drink mix	Yupi		4	58.00	0.021
159	Enojno'				3	54.33	0.02
160	Queraj			<i>Pteroglossus castanotis</i>	2	55.00	0.019
161	Confite	Candy	Confite		5	58.20	0.019
162	Bo	Mushrooms	Hongos blancos		1	1.00	0.019
163	Ma'se		Mbaibillo	<i>Pourouma sp.</i>	3	35.33	0.019
164	Rabaj'rabaj			<i>Tetragonopterus argenteus</i>	2	39.50	0.018
165	Chicre	Gum	Chicle		1	7.00	0.018
166	Chacanagdye	Cooked plantains			1	9.00	0.018
167	Pise'rej			<i>Annona reticulata L</i>	4	63.25	0.017

168	Jamiity'dye Oy'is	Yuca dishes			1	10.00	0.017
169	Zanahoria	Carrot	Zanahoria		2	57.50	0.017
170	Curi		Toronjil	<i>Lantana cf. Aristat</i>	1	7.00	0.017
171	Ishi Ishi				3	74.33	0.017
172	Coro coro			<i>Mesembrinibis cayennensis</i>	3	46.67	0.017
173	Jo'			<i>Parabuteo unicinctus</i>	2	40.00	0.016
174	U'puyu			<i>Piper laevigatum Kunth</i>	1	10.00	0.016
175	Yubibi			<i>Ramphastos</i>	3	62.33	0.016
176	I'nishuj			<i>Inga adenophylla</i>	2	32.50	0.016
177	Jee			<i>Tigrisoma lineatum</i>	1	17.00	0.016
178	Chivo	Goat			5	62.00	0.015
179	Rojro'		Huevo de peta	<i>Leonia racemosa</i>	1	15.00	0.015
180	Tara muij	Cooked corn			1	7.00	0.015
181	Vinaj			<i>Stylogyne cauliflora</i>	1	13.00	0.015
182	Iya'			<i>Ara ararauna</i>	1	25.00	0.015
183	Merej			<i>Moenkhausia sanctaefilomenae</i>	1	27.00	0.014
184	Ijsi'ta pimi		Nui pequena		2	69.50	0.014
185	Mete	Small armadillo	Tatu pequeno		1	31.00	0.014
186	It ^soj	Eel			2	68.00	0.014
187	Soda	Soda	Soda		3	67.67	0.014
188	Ijsi'ta pomo		Nui grande		2	70.50	0.014
189	Ijeri	Agouti	Jotchi pintado con colla		3	74.33	0.014
190	Syaj siya			<i>Triportheus cf. angulatus</i>	1	29.00	0.014
191	Otyi			<i>Amazona farinosa</i>	1	12.00	0.014
192	Tara' Tara'			<i>Licaniabrittoniana</i>	2	71.50	0.014
193	Veya		Chocolatillo	<i>Duguetia spixiana Mart</i>	2	68.00	0.013
194	Niribi			<i>Gymnotus carapo</i>	2	62.00	0.013
195	Tiribu' odoty		Negro	<i>Cheiloclinium cognatu</i>	1	36.00	0.013
196	Vujvuri				1	33.00	0.013

197	Sharatyity			<i>Rhamphichthys rostratus</i>	1	40.00	0.013
198	Uaruv			<i>Momotus momota</i>	1	37.00	0.013
199	Cayon		Cayuj	<i>Anacardium occidentale L.</i>	1	22.00	0.012
200	Bitiru			<i>Guatteria sp.</i>	1	41.00	0.012
201	Bitire			<i>Attalea phalerata</i>	1	42.00	0.012
202	Shiricaty				1	44.00	0.012
203	Pi'sere	Cherimoya	Cherimoya	<i>Annona sp. annonaceae</i>	2	61.50	0.012
204	Aceituna	Olive	Aceituna		2	74.50	0.012
205	Papa	Potato	Papa		2	36.50	0.011
206	Tserac tserac'			<i>Mouriri sp.</i>	1	48.00	0.011
207	Shobo	Squash			1	8.00	0.011
208	Visisi	Small duck			2	80.00	0.011
209	Bu'nai			<i>Calyptanthus lanceolata Berg</i>	2	47.50	0.011
210	Fa'	Chili peper			1	23.00	0.011
211	Palta	Avocado	Aguacate		3	60.33	0.01
212	I'ja			<i>Piaya cayana</i>	1	24.00	0.01
213	Apia	Pink guineo	Guineo rosado		2	78.50	0.01
214	Chorizo	Chorizo	Chorizo		3	75.33	0.009
215	Boj			<i>Tinamus guttatus</i>	1	25.00	0.009
216	Tsafa'	Ice cream	Helado		1	64.00	0.009
217	Catsare	Totai palm			1	65.00	0.008
218	Emejreque			<i>Melanerpes cruentatus</i>	1	61.00	0.008
219	Cashcaria	Quinine		<i>Cinchona cf. officinalis L.</i>	1	71.00	0.007
220	Ijsita		nui	<i>Pseudolmedia laevis</i>	1	27.00	0.007
221	Fudye'			<i>Claravis pretiosa</i>	2	74.50	0.007
222	Amere			<i>Uchenipterus nuchelis</i>	2	52.50	0.007
223	Pimienta	Pepper seasoning	Pimienta		2	48.50	0.007
224	Quequeb			<i>Cyanocorax chrysops</i>	1	36.00	0.007
225	Manteca	Lard	Manteca		2	27.50	0.007
226	Tomate	Tomato	Tomate		1	69.00	0.007

227	Va'a Va'a	Fox	Zorro	<i>Atelocynus microtis</i>	1	65.00	0.007
228	Mavisho'			<i>Panaque sp.</i>	1	77.00	0.007
229	Coshifore	Small alligator	Lagarto		2	92.50	0.006
230	Co'ro' Sheca'		Carancho	<i>Hypostomus</i>	1	78.00	0.006
231	Co'ro' Ca'pe'		Carancho	<i>Hypostomus</i>	1	79.00	0.006
232	Queso	Cheese	Queso		2	88.00	0.006
233	Ococoriyo			<i>Spizaetus tyrannus</i>	1	41.00	0.006
234	Cocomaj				1	83.00	0.006
235	Itsiqui	Jaguar	Tigre	<i>Panthera onca</i>	1	83.00	0.005
236	Chibe	Manioc flour	Chive		1	21.00	0.005
237	Abebe	Small fish			1	84.00	0.005
238	Bur	Big frog			1	85.00	0.005
239	Coroma	Honey	Miel		1	86.00	0.005
240	Va'shta''tas			<i>Psectrogaster curviventris</i>	1	87.00	0.005
241	Viroj Daroro	Sugar cane			1	88.00	0.005
242	Viroj Tsontrsosi	Sugar cane			1	89.00	0.005
243	Viroj Java	Sugar cane			1	90.00	0.004
244	Chanqueque	Pressed brown sugar	Chancaca		1	82.00	0.004
245	Meruj			<i>Batrachops sp.</i>	1	23.00	0.004
246	Jere'dyis			<i>Inga sp.</i>	2	73.50	0.004
247	Tsanaj			<i>Cecropia polystachia</i>	1	95.00	0.003
248	Cojtyi'roj			<i>Aramus guarauna</i>	1	96.00	0.003
249	Parijna			<i>Pandion haliaetus</i>	1	97.00	0.003
250	Techi			<i>Phylloscartes orbitalis</i>	1	53.00	0.003
251	Corishij	Pigeon pea	Gandul		1	59.00	0.003
252	Queñedye'			<i>Megalonema sp.</i>	1	48.00	0.003
253	Oijnis			<i>Melastomataceae Aciotis</i>	2	45.50	0.003
254	Buisi'			<i>Leg. Mimos</i>	1	102.00	0.002
255	Buyujna'			<i>Egretta sp.</i>	1	55.00	0.002

256	Vapeyu'			<i>Platalea ajaja</i>	2	83.00	0.002
257	Shipi' - ipi			<i>Aratinga weddellii</i>	1	89.00	0.002
258	Vadaca		Pachio grande	<i>Passiflora sp.</i>	1	97.00	0.002
259	Cocope'			<i>Bactris major</i>	1	69.00	0.002
260	Atun	Tuna	Atun		1	107.00	0.001
261	Charara			<i>Ceryle torquata</i>	1	92.00	0.001
262	Ñadada		Huevo de perro	<i>Tabernaemontana arcuata</i>	1	108.00	0.001
263	Jora			<i>Eurypyga helia</i>	1	93.00	0.001
264	Trivo	Wheat berries	Trigo		1	110.00	0.001
265	Tamarindo	Tamarind	Tamarindo		1	97.00	0.001
266	Totop			<i>Passiflora sp.</i>	1	111.00	0.001
267	Tara daradye	Wild corn			1	27.00	0.001
268	Soroca			<i>Sapotaceae</i>	1	113.00	0.001
269	Tsam'		Guajo	<i>Paragoniates alburnus</i>	1	96.00	0.001
270	Cojma		Almendrillo	<i>Pouteria torta (Mart.)</i>	1	67.00	0.001
271	Chi Papaj			<i>Mikania sp.</i>	2	86.50	0
272	Chebechebe			<i>Jacana jacana</i>	1	97.00	0
273	Shimimij			<i>Lamontichthys sp.</i>	1	101.00	0
274	Vuijcu	Frog			1	66.00	0
275	Odo odo'			<i>Toulicia reticulata</i>	1	74.00	0
276	Ududuj			<i>Porphyrola flavirostris</i>	1	98.00	0

APPENDIX 2: LIST OF PILE SORT ITEMS			
Tsimané Name	Spanish Name	English Name	Scientific Name
Arrosh	Arroz	Rice	<i>Oryza sativa</i>
Atawa	Gallina	Chicken	<i>Gallus gallus domesticus</i>
Azucar	Azucar	White sugar	
Băcäj	Ardillas	S. Amazon red squirrel	<i>Sciurus spadiceus</i>
Cajna	Chonta	chonta	<i>Bactris riparia</i>
Cebolla	Cebolla	Red onion	<i>Allium cepa</i>
Charkey	Charkey	Dried beef	
Chocorate	Cacao	Cacao	<i>Theobroma cacao</i>
Chu'	Tejón	S.American coati	<i>Nasua nasua</i>
Co'ro	Carancho	Small armored catfish	<i>Hypostomus</i>
Cochij	Chancho	Pig	<i>Sus</i>
Coti	Guayabo	Guava	<i>Psidium guajava</i>
Fideo	Fideo	Dried Pasta	
Galleta	Galleta	Cookies	
Ibiqui	Achachairu	Bacupari	<i>Garcinia gardneriana</i>
Isbara'	Mono Nocturno	Night monkey	<i>Aotus azarae</i>
Jajru'	Majo	Patawa	<i>Jessenia bataua</i>
Mana'i	Motacu	Urucuri	<i>Atallea phalerate</i>
Mumunjni	Chanco de tropa	White lipped peccary	<i>Tayassu pecari</i>
Na'me	Pacay	shimbillo	<i>Inga ruiziana</i>
Naca'	Jochi Pintado	Paca	<i>Agouti paca</i>
Ñej	Guaso	Red Brocket Deer	<i>Mazama americana</i>
O'oyo	Oso hormiguero	Collared anteater	<i>Tamandua tetradactyla</i>
Odo'	Marimono	Spider monkey	<i>Ateles chamek</i>
Oto'	Capiguara	Capybara	<i>Hydrochaeris hydrochaeris</i>
Oyi	Yuca	Manioc	<i>Maniopot esculenta</i>
Oyoj	Mono silbador	Brown capuchin monkey	<i>Cebus apella</i>
Pe're	Platano	Plantain	<i>Musa xbalbisiana</i>
Pofi	Papaya	Papaya	<i>Carica papaya</i>
Quti'	Taitetu	Collared peccary	<i>Tayassu tajacu</i>
Rimonaraj	Lima	Sweet lime	<i>Citrus limetta</i>
Sherej Shere	Benton	Trahira	<i>Hoplias Malabaricus</i>
Shi'	Anta	Tapir	<i>Tapirus terrestris</i>
Sijsij	Simbao	Brown hoplo catfish	<i>Hoplosternum thoracatum</i>
Sonnare'	Surubi	Barred sorubim	<i>Pseudoplatystoma fasciatum</i>
Tara	Maize	Maize	<i>Zea Mays</i>

Tsocot	Ocoro	Lemon drop mangosteen	<i>Rheedia acuminata</i>
Vaca	Vaca	Cow	<i>Bos</i>
Väij	Chima	Peach Palm	<i>Bactris gasipaes kunth</i>
Väsh	Tatú	Nine-banded armadillo	<i>Dasyus novemcinctus</i>
Vonej	Sabalo	Black prochilodous	<i>Prochilodus cf. nigricans</i>
Voyo'	Monomichi	Kinkajou	<i>Potos flavus</i>

APPENDIX 3.1: FOODS ITEMS CONSUMED (RECORDED IN DIETARY RECALLS)		
Tsimané	English	Percent Present
Pere'	Plantain	0.7611
Arosh	Upland rice	0.2638
Aceite	Oil	0.2193
charkey	Dried beef	0.1676
Vonej	Sábalo	0.1515
Fideo	Pasta	0.1337
Cebolla	Onion	0.1016
Manco	Mango	0.0749
Tobiri		0.0713
O'yi	Manioc	0.0570
Quití	Collared peccary	0.0463
Shandia	Watermelon	0.0410
Arina	Flour	0.0321
Tara'	Maize	0.0285
Café	Coffee	0.0267
Sardinas	Canned sardines	0.0214
Papaya		0.0196
Shicuruty		0.0160
Uru'	Howler Monkey	0.0143
Azucar	Sugar	0.0143
Ñej	Gray brocket deer	0.0125
Cochij	Pig	0.0125
Dyabaj	Peanut	0.0125
Merique	Pineapple	0.0125
Pan	Bread	0.0125
Vāsh	9 banded-long nosed armadillo	0.0107
Shiare'		0.0107
Atawa	Chicken	0.0107
Cum	Small fish	0.0089
Paquisdye'		0.0089
Sonare'	Surbi	0.0089
Tavava		0.0089
Viroj	Sugar cane	0.0089
Soda	Soda	0.0089
Shi'	Tapir	0.0071
Boyadye'		0.0071

Cävädye'		0.0071
Yupi	Drink mix	0.0071
Copinaty		0.0053
Chocolati	Chocolate	0.0053
Palta		0.0053
Coroma	Honey	0.0053
Manaij	Motacu	0.0053
Ceibo	Palm alchol	0.0053
Fen	Egg	0.0053
Manteca	Lard	0.0053
Naca'	Paca	0.0036
Bojmo		0.0036
Jutiru		0.0036
Nabaty		0.0036
Pincushi		0.0036
Vaca/ bife	Cow/ beef	0.0036
Cojcoj	Jicama	0.0036
Cu'na	Pacay	0.0036
Limonara	Sweet lime	0.0036
Pimienta	Seasoning/ packet	0.0036
Salchicha	Hot dogs	0.0036
Emej	Wild turkey- Spix's Guan	0.0018
Fofor		0.0018
Isbara'	Night Monkey	0.0018
Marase'		0.0018
Mumujñi	White- lipped Peccary	0.0018
Oto	Capybara	0.0018
Opaj	Razor-Billed Curasow	0.0018
Oyoj	Brown capuchin monkey	0.0018
Shätij	Brown Agouti	0.0018
Voyo	Kinkajou	0.0018
Amere		0.0018
Cajsare'		0.0018
Cotyij		0.0018
Irimo'	Pirana	0.0018
Ishij'		0.0018
Shere Shere		0.0018
Siya Siya		0.0018

Bejqui		0.0018
Macha	Banana	0.0018
Caij	Sweet potato	0.0018
Coco	Coconut	0.0018
Cebolla Japonesa	Green onion/ scallion	0.0018
Shobo	Squash	0.0018
Toronja	Grapefruit	0.0018
Tsocut	Ocoro	0.0018
Chanqueque	Pressed brown sugar	0.0018
Queso	Cheese	0.0018
Tomate	Tomato (canned)	0.0018
Te	Tea	0.0018
Fa'	Chili pepper	0.0018
Atun	Tuna (canned)	0.0018

APPENDIX 3.2: ADDITIONAL FOODS ITEMS CONSUMED (NOTED IN OBSERVATIONS)		
Ivinagdye		
Dyiñeya	Guineo	
Ibiqui	Achachiru	
Coro		
Sisij		
Odo	Spider Monkey	
Cococillo		
Jaruj		
Na'me	Pacay	
Coca	Coca leaf	
Binca		
Cofite	Hard candy	
Galleta	Cookie	