Marketing Medicines: Conceptualizing Cultural Identity and Livelihood among Market Vendors in Asunción, Paraguay

by

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A Thesis presented to The University of Guelph

In partial fulfilment of requirements for the degree of Master of Arts in Public Issues Anthropology

Guelph, Ontario, Canada

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ABSTRACT

MARKETING MEDICINES: CONCEPTUALIZING CULTURAL IDENTITY AND LIVELIHOOD AMONG MARKET VENDORS IN ASUNCIÓN, PARAGUAY

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This thesis investigates the ways in which the selling and utilizing of medicinal plant remedies in Asunción, Paraguay intersects with conceptualizations of Paraguayan cultural identity, traditional gendered knowledge systems, and with the socioeconomic realities of vendors and consumers. Engaging with anthropological theories of the political economy of health, cultural identity, and the socioeconomics of women workers in Latin America, it explores how the use of indigenous healthcare practices engages with notions of Paraguayan identity and traditional knowledge, including the transmission of gendered knowledge. Through data collected in semi-structured interviews with market vendors of medicinal plants in Asunción, this thesis investigates the connections between indigeneity and land, cultural and symbolic identity and food, and the livelihoods of medicinal plant vendors, in order to argue that the selling of these traditional plant medicines in the local markets of Asunción solidifies Paraguayan identity by providing daily affordable access to consumable symbols of “Paraguayaness.”
ACKNOWLEDGEMENTS

First and foremost, I would like to thank my advisor, Dr. Elizabeth Finnis, who has been an exceptional mentor throughout this process. Not only did Elizabeth provide me with the opportunity to complete fieldwork in Paraguay, but she has been extremely helpful and encouraging throughout my academic career both as an undergraduate and graduate student. She is a wonderful person, a brilliant researcher, and her support is what has guided me through my own development as a researcher.

Secondly, I would like to thank my committee member, Dr. Sally Humphries, for her continuous encouragement during my time at the University of Guelph. Sally has helped to guide and improve my skills as a social researcher throughout both undergraduate courses and through the process of refining my thesis. Her expertise always provides me key perspectives to consider.

I would like to thank my external examiner, Jeji Varghese, for the attention she has given to my work, and for her input and feedback. It has been a pleasure to get to know her this year.

At the Universidad Nacional de Asunción, I would like to extend my heartfelt thanks to Profesoras Fatima Candía Romero, Maria José Aparicio Meza, and Clotilde Benítez, without whom my research would not have been possible. Not only did they work hard to help find me research assistants and knowledgeable faculty with whom to conduct secondary interviews, but they are the warmest, most welcoming people, and helped me to feel at home in Paraguay. I look forward to the possibility of getting to work with them again in the future.

I would also like to thank Daniela Aguero and Guillermo Achucarro at the Universidad Nacional de Asunción. Daniela has been an ideal research assistant, and always made herself available to help translate my interviews and transcripts from the various markets in Asunción. She provided me with valuable insight into my research, and is also a wonderful person and friend. Guillermo provided me with much appreciated translation during my interviews and presentations at the Universidad, and is always offering his assistance. I appreciate his hard work and his friendship.

At the University of Guelph I would also like to thank all of the faculty and staff who have provided me with support over the past two years: Ed Hedican, Renee Sylvain, Shelagh Daly, and everyone whom I have gotten to know in the department.

Thank you to the Social Sciences and Research Council of Canada for their generous funding.

Finally, I would like to thank my family for being a constant source of support and encouragement throughout my academic career, my husband for never ceasing to believe in me and my abilities, and my friends for their love and inspiration.

Thank you.

Heather
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Chapter 1

Introduction

This thesis is based on approximately eight weeks of fieldwork conducted from June to August, 2011 in Asunción—the capital city of Paraguay. Speaking with nineteen market vendors of traditional plant medicines in three primary markets, I sought to ascertain how the livelihoods of these vendors are affected by their roles as distributors of traditional natural medicines, and by the socioeconomic and cultural realities of the use of these products. This thesis considers the intricate economic, cultural and historical factors involved in providing and consuming traditional medicines within a medical pluralistic society and, specifically, within an urban environment in which biomedicine and pharmaceuticals are also largely present.

My focus on these particular themes stems initially from my interests in the connections between the physical and cultural dimensions of health and healthcare. Prior to my research I contended that conceptualizations of physical health and wellbeing emerge within specific cultural contexts, and this fieldwork highlights the value in this approach. Furthermore, it must be noted that my additional interest in gender roles in relation to the family and healthcare have also influenced the focus of this project and that, in undertaking this research, my own identity as a Canadian woman has impacted my methods of data collection, through my interactions with vendors and in approaching the Spanish language in conversation and in the literature as a non-native speaker. With respect to my own positioning as a researcher, I have striven to be reflexive in my analysis; so as to both acknowledge my own interests while allowing the data to speak for itself.

I incorporate the socioeconomic, historical, and cultural context of the selling and consuming of traditional plant remedies in order to argue that the selling of these traditional plant
medicines in the local markets of Asunción solidifies Paraguayan identity by providing daily affordable access to consumable symbols of “Paraguayanness,” through the use of indigenous healthcare practices. I argue that socioeconomic and geographic accessibility allows for these plants to conceptually unify Paraguayan identity. Furthermore, I argue that by working with these plants women market vendors in particular secure not only their livelihoods, but the traditional transmission of gendered knowledge.

Research Location

The city of Asunción lies along the Rio Paraguay in the Southern half of the country and is the industrial and political centre of Paraguay. While the crumbling roads and deteriorating buses are common examples of Asunción’s poor infrastructure, the socioeconomic structuring of the city demonstrates extremes; the crumbling shanty town settled next to the downtown harbour sits in sharp contrast to the impressive, walled-in estates lining the guarded streets of wealthy residential neighbourhoods. This socioeconomic diversity is mirrored in both the city markets and in the utilization of country’s contemporary medical frameworks; be it biomedicine or non-institutionalized healthcare options such as medicinal plant remedies. While market vendors of traditional medicines negotiate their livelihoods predominantly within the informal sector, they too occupy a variable socioeconomic position, dependent upon the financial foundation on which their businesses are built, and upon the income they subsequently generate. Although the demand for traditional plant remedies currently remains both consistent and significant, the profit obtained from selling such products is marginal in comparison to that of biomedicine, and lack of government support renders it a difficult business, despite substantial preference for the use of traditional medicine. While some vendors maintain larger, indoor shops allowing them to
organize their plant products along sturdy concrete shelving units on the walls, other shops consist of a simple table and wooden stool set up along the sidewalk of a market alley, with plants arranged in bunches and piles without the packaging and branding of better established stores.

The markets themselves further reflect the socioeconomic instability of the medicinal plant vendor; while the majority of the city’s markets are visibly lacking in infrastructure and organization, some vendors benefit from selling their wares in more structured, affluent setting. My interviews with sellers of traditional plant remedies reflect this socioeconomic range of medicinal plant vending. The majority of my interviews were conducted with vendors at the Municipal Market Number Four—Mercado Cuatro as it is commonly known, and at the Agroshopping market. Other interviews took place at Mercado Abasto in San Lorenzo (a section of the greater city of Asunción), along the median of a busy intersection, and at the small collection of market stands in front of the Hospital del Seguro Social. Each market involved in my investigation is located in a distinct urban area, and thus tends to draw a particular kind of patronage.

Mercado Cuatro is a large, sprawling market in central Asunción, with vendors selling a range of products, furniture, clothes, and foods, and produce. Both the market itself and its retailers are visibly lacking in funds and support, and the clientele who shop there represent a wide socioeconomic range of the city’s population. In contrast, Agroshopping is a smaller, once a week, more structured market that operates in a wealthy area of town, primarily catering to an upper class clientele. Agroshopping is primarily a fruit and vegetable market, and the vendors able to run a more economically stable business due to the organization and infrastructure of the market. Like Mercado Cuatro, Mercado Abasto lacks stable infrastructure and supporting funds,
but it is significantly smaller than Mercado Cuatro and lacks the variety in the goods being sold. Abasto is primarily an agricultural market, and is located on the outskirts of Asunción, in the sub-section of San Lorenzo. As my primary research locations, Mercados Cuatro, Abasto, and Agroshopping are discussed in detail in Chapter Three: *Community Background and Methodology*.

**Medicinal Plants in Asunción**

The use of traditional plant medicines in Paraguay is a common and visible practice. The consumption of these products is firmly incorporated into daily life in Asunción, and hence the cultural and practical significance of the plants and the ways in which they are used are immediately evident. As I describe in detail in my analysis chapters, medicinal plants are consumed throughout the day in order to both prevent and treat illness, and the of drinking medicinal plant infusions in hot maté or cold tereré is one of the most immediate discernible social customs. Yet grasping the importance of medicinal plant products requires investigation into how their use is intertwined with the socioeconomic and cultural realities with which the plants are entangled. While this thesis moves beyond the ecological and economic considerations of medicinal plant products in order to examine the roles of market vendors of these remedies and how these plants are incorporated into Paraguayan identity, ongoing investigations in Asunción into the ecological and botanical dimensions of the plants have provided essential information in which to ground my research.

My investigation has been conducted in conjunction with an ongoing project connected to the faculty in the Human Ecology school at the Universidad Nacional de Asunción, exploring the agricultural products in Paraguayan markets. In addition, the University maintains a garden that
supports the ongoing study of the growing and use of native medicinal plants, and I was able to investigate both this garden and the Jardin Botanico de Asunción. The latter forms part of a large, forested park within the capital city, where hundreds of species of medicinal plants—both native to Paraguay and of foreign origin—are grown and maintained as part of an ongoing biodiversity and educational project. These gardens provided me with pivotal botanical information regarding the plants, their origins, and the manner of their growth; however they also indicate an interest in maintaining both the biodiversity of Paraguay’s natural flora, as well as an intricate system of treating illness and maintaining health. Consequently, after a discussion of my methodology and of the community of Asunción and the markets that served as my primary field sites, I move into a discussion of my research methods and participants, including both the Jardin Botanico de Asunción and the medicinal plant garden at the University as additional sites of investigation.

**Contextual Analysis**

In order to integrate the themes of socioeconomics, tradition, medicine, and cultural identity into my discussion of the vending of traditional plant medicines in Asunción, I engage with political ecology and anthropological theory in cultural identity. These theories are integrated into the frameworks of health, land, and food and plant consumption. While a detailed treatment of this literature is provided in Chapter Three: *Literature Review and Scholarly Context*, the themes of political ecology and cultural identity are integrated throughout my analysis chapters. These chapters discuss the socioeconomics of plant medicines, women as caregivers and keepers of knowledge involving plants and health, and plant medicines and Paraguayan identity.
Incorporating a political ecology approach to understanding the roles of medicinal plant vendors in Paraguay highlights the political and socioeconomic factors that influence their position in the economic supply and demand chain. Additionally, it situates vendors within the cultural and historical contextual relevance of the plant remedies themselves. The fundamental role of these factors is examined in Chapter Four: *The Socioeconomics of Health and Plant Medicines*, where I illustrate how the availability and use of these plants in relation to biomedical care and pharmaceuticals, governmental and administrative constraints, and social and economic implications of Paraguay’s political and geographic context, are pivotal factors to determining the livelihoods of plant vendors.

Scholars such as Bryant and Bailey (1997:2-3) emphasize the necessary consideration of state influences in both economic and environmental activities and the impact that political activities may have at the local, regional, and global levels. At the same time, Mechanic (1994:471) in his discussion of promoting health in developing nations, points out that health-related behaviours are influenced to an overwhelming degree by daily routine and the organization of everyday settings and activities; thus they do not rest solely in the personal decisions of individuals. Hence, medicinal plant vendors are situated at the junction of the socioeconomic and political realities, as well as the daily sociocultural health beliefs and routines of the general Paraguayan population. In this way the livelihoods of these vendors are fastened to a web of interconnecting social, cultural and political contexts; dependent upon economic political motivations favouring revenue-based health programs and practices, as well as deeply-rooted traditions that utilize local flora and traditional herbalists as their day-to-day healthcare strategies.
Moving from this foundation in the political ecology of health, I then consider literature connecting foods and medicines, in order to illustrate how cultural identity is connected to the physical body, focusing on the consumption of plants and plant products. Tying perceptions of the body and the relationship between the Self and the Other to the consideration of social power relationships, the construction of self-identity in relation to food and plant consumption also incorporates key themes of political ecology. I discuss the crucial role that Guarani tradition and heritage plays in the association of medicinal plant use with Paraguayan identity, the literature of scholars such as Etkin (2006), Bordi (2006), and Pieroni and Price (2006) in order to address the local and global connections between food, health, and identity. In doing so, I take special consideration of the socioeconomic positioning of women vendors, both within the Latin American economic context, and in the perspective of their traditional roles within the family in respect to healthcare and food provision.

Chapter Five: Women as Caregivers and Keepers of Knowledge, addresses the position of women vendors within the informal economic sector, with particular reference to their roles in relation to Paraguay’s ambiguous institutionalized healthcare system. Furthermore, in this chapter I highlight the work of women in urban markets, and by utilizing literature by scholars such as Sautu (1980) and Wainerman et al. (1980), I discuss the market vending of traditional plant medicines within the context of women’s traditional roles within the family unit. Building upon this literature and the content of my interviews with the vendors, I address the roles of women in the administration of traditional plant medicines, and the ways in which gender factors into the knowledge of the medicinal properties of plants. In doing so, I also concentrate on the particular role taken on by the plant vendor when it comes to prescribing and providing remedies.
In analysing medicinal plant remedies as an essential aspect of local conceptualizations of Paraguayan identity, it is pivotal to examine the literature that addresses the Paraguayan historical and contemporary contexts. Thus, in reviewing the literature relevant to my research, I utilize literature by Patrinos (1994), Hetherington (2009), and Vásquez-León (2010) among others, in order to include the indigenous context that connects Paraguayan medicinal plants with the country’s Guarani heritage, as well as with the current politics of land tenure and agriculture. The contemporary selling and use of medicinal plant remedies in Paraguay maintains an ideological connection with the history of both yerba maté—used in a hot tea infusion—and with the knowledge generated and shared by the Guarani. This conceptual link is lacking in the relationship between Paraguayans and the biomedical system that is now unavoidably present in cities such as Asunción.

In Chapter Six, *Medicinal Plants in the Formation of Paraguayan Identity*, I evaluate the concepts of social and national identity and their relation to medicinal plants and physical health. The chapter builds upon the literature addressing health and food ingestion in order to illustrate how plant medicines are incorporated into the conceptualization of the healthy body alike to the consumption of healthy foods. Furthermore, this final analysis chapter brings together my evaluation of the socioeconomic, political, ecological, and cultural components of the vending of medicinal plant medicines in order to assemble an understanding of the identity of the medicinal herbalist—the *yuyero*. As businesspeople, providers of medicine, and keepers of traditional knowledge, I ultimately explore how they negotiate their identities as members of society and as mediators of health and illness.

Following my review of relevant literature, in discussing my methodology and community background I introduce the country of Paraguay and, specifically, the city of
Asunción. I detail my primary research sites of Mercados Cuatro, Abasto, and Agroshopping, and outline my research methods and sites of additional investigation. Succeeding this section is a comprehensive review of scholarly literature, including relevant anthropological theory and specific examinations of the socioeconomic, historical, and ecological context of Latin America and Paraguay. I then move into my analyses of the socioeconomic, gendered, and cultural aspects of medicinal plant medicines in the formation and maintenance of Paraguayan identity.
Chapter 2

Literature Review & Scholarly Context

Theoretical Foundation

My analysis incorporates several theoretical positions into the context of traditional medicinal plant vending and consuming in Asunción, Paraguay. I particularly rely on political ecology and cultural identity approaches, integrating them into the frameworks of health, land, and food and plant consumption in order to integrate the themes of socioeconomics, tradition, medicine, and cultural identity. Following a discussion of these theoretical lenses, I will consider some additional literature that addresses the marketing of traditional medicines in other parts of Latin America. I will then outline some of the relevant scholarly literature documenting the particular species of medicinal plants available and utilized within Paraguay.

Political Ecology and Health Accessibility

While tradition and cultural health frameworks have a fundamental role in the determination of conceptual accessibility to healthcare structures, incorporating a political ecology of health approach allows for the inclusion of state-ascribed factors influencing healthcare choices. Such factors can include availability and cost of healthcare facilities, practitioners, and medicines, among others. This framework identifies political and economic factors as determinants of biological health, having emerged within the field of medical anthropology as a response to calls for macro health systems models in the 1970s. The value of incorporating a political ecology of health perspective lies in its emphasis on the connections between politics, socioeconomic status, and quality of health. Seeking the integration of political
considerations and analysis of healthcare systems into health service research, the political ecology of health approach to anthropology addresses the political and economic influences on disease (Mayer 1996: 444). Such a development within medical anthropology can be related to theoretical developments in sociology, clinical medicine, and international public health, and the linking of these fields of study (Hunter 1985: 1297). In striving to understand the structural processes motivating the intricate relationships between health, environment, and the economy, a political ecology of health merges population health and political ecology, which highlights the politicization of the environment and the role of power relations therein (Richmond et al. 2005: 351). Thus, as Richmond et al. (2005:352) emphasize, health must be understood as involving more than biological processes and the physical environment, but also as resulting from social and political processes.

Harper (2004:295) writes that the incorporation of political ecology into a perspective focusing on health can provide a wide-ranging analytical framework that can be used to understand both geographical and social disparities in health, and how they interact. Furthermore, she postulates that an interdisciplinary approach to the study of human-environment relationships would best contribute to the understanding of the ways in which the social and environmental are interconnected, and that the discipline of anthropology can provide key insights into this connection. Where methodologically political ecology analyzes both micro and macro levels of individual, familial, community, national, and international economic interaction, anthropology works to contextualize the local level and provide case-specific information, ultimately contributing to more complex discussions of human interaction with the environment. Harper also asserts that anthropological perspectives “draw out the cultural meanings and practices through which people perceive, use, and live in their environments”
The concepts of culture and of political ecology thus complement each other because culture both draws from the environment, and gives meaning to it (Harper 2004:297). The qualitative methods utilized within anthropology, such as participant observation and ethnography, have also challenged Western biomedicine’s privileging of elite scientific discourses, and have increasingly revealed alternative ways of knowing and experiencing illness and disease within different contexts (King 210:42).

The political ecology of health perspective also emphasizes both local meanings of poverty, and the conditions that make individuals either more or less susceptible to physical and psychological stressors such as hunger, malnutrition, and disease; this entails the examination of the structural inequalities and social relations that underlie poverty (Leatherman 2005:50-51). In its focus on conditions of poverty and the socioeconomic and political contexts of illness, a primary influence on the political ecology of health approach in anthropology lies in the field of Third World political ecology, which developed in the early 1970s (Bryant & Bailey 1997:10). This model suggests that environmental problems facing the Global South are manifestations of broader political and economic structures; of a series of unequal power relationships (Bryant and Bailey, 1997:2-3). In Chapter Four of this thesis, the Socioeconomics of Health and Plant medicines, I illustrate how the political and environmental impacts of these unequal power relationships affect Paraguayan systems of healthcare. Bryant and Bailey (1997:13) review works by early scholars who helped shape this paradigm such as Ehrlich et al. (1968), who influenced growing interest in the connections between politics and environmental change, and Neumann and Schroeder (1995), who focused on a more complex understanding of human-environment interaction as mediated by structures of power relations. Baer (1996:453) emphasizes that human health is affected by an environment that is impacted and shaped by the
interaction of natural and sociocultural forces. Furthermore, he argues that although environmentally-induced diseases are not a new phenomenon, they have become more severe with the proliferation of industrialization and a capitalist world system.

Bryant and Bailey (1997:12-14) suggest that within the context of contemporary globalization, Third World political ecology must link the local processes of production with the larger political economy in order to explain human-environment experiences. Third World political ecology, they explain, developed as part of a wider process of change within fields of environmental research in the social sciences and humanities, which was instigated in the 1960s. They highlight human ecology, cultural ecology and ecological anthropology as key contributors to the shaping of this field of research (1997:15). Furthermore, academics trained in political geography such as Bryant and Bailey, Schroeder, and Blaikie are scholars of significant influence on the approach. Consequently, Bryant and Bailey suggest that Third World political ecology can be characterised as geography-based, yet maintaining strong links to anthropology and sociology (1997:17). While it examines the political dimension of human-environment interaction, it also takes into account the “politicised environment” from the perspective of the main actors’ interests and actions (Bryant and Bailey, 1997:27). Although my research stems from an anthropological academic background, human geography approaches can play a substantial role in my study in both a local and transnational scale. While the local geography surrounding Asunción influences the natural materials available to create the products sold by the market vendors, national and international politics also affect what farmers cultivate, as well as the land available to work with. Thus, as far as the origin and availability of the materials composing natural medicinal remedies are related to the maintenance of vendor livelihoods, geography is a key factor. Kalipeni and Oppong (1998:1638) discuss geography as a factor in the
context of human agency, in their study of the implications for health and disease of the refugee crisis in Africa. They contend that the ways in which actors such as farmers, pastoralists, and industrial companies influence environmental change is important to the “web” characterizing the environment itself. Furthermore, they propose that the structure of human agency is pivotal, and that human agency includes whether institutions allow or restrict the actions of the agent. As I will discuss in Chapter Four, the Socioeconomics of Health and Plant Medicines, in the context of Paraguay access to land can be subject to such instrumental institutional controls.

Finnis (2007:343) applies a political ecology of health approach to her study of dietary transitions in the Kolli Hills, India, suggesting that geographic and environmental contexts are also intricately entwined in the effects of dietary transitions on smaller communities. She demonstrates how anthropological methods combined with a political ecology approach can be utilized to analyze the local-global politics of environmental change (2007:345). In his study of livelihood diversification in South-Western Niger, Batterbury (2001:456) also discusses the importance of what he refers to as the “micropolitics” of social change and decision making, in the context of how residents of Fandou Béri have responded to adverse environmental change, and how this affects their livelihoods. He postulates that change within this landscape is driven largely by livelihood activities; that is, the pursuit of welfare and survival, which is impacted by overlapping social, economic, and environmental forces. Through a focus on livelihoods, Batterbury (2001:437) invokes a political ecology approach, illustrating how the landscapes created by this rural African community are diversified through human activities, biophysical processes, and their interrelations. He writes of the centrality of bridging the local political ecology with patterns of livelihood dynamics and resource use.
Taking into account the political-ecological context in which women market vendors are working is key to addressing their understandings of their livelihood. Given that these vendors are selling natural herbal remedies, the natural materials available within the ecological landscape are fundamental to their functioning within the urban markets. Thus, any politically or ecologically influenced changes in the geographical landscapes from which vendors acquire their materials largely influence the livelihoods of these women and their families. Other studies have investigated how political interests are incorporated into ecological experiences, such as Meade’s research (1976) on land development in Malaysia, which examined how government sponsored clear cutting of the jungle influenced the transmission and frequency of malaria (Mayer 1996:445). Mayer (1996:447) writes that the need to set a problem or phenomenon into the broader social and economic context, as well as to connect the national and global scales, is a key common theme to political ecology analysis, and in a later article Mayer goes on to suggest that a basic question of disease ecology asks how human-environment relations and social activities can result in fundamental alterations in the biological environment, as well as in the social and economic context (2000:942). Leatherman (2005:52) also cites this as a central theme to political ecology of health. Furthermore, Leatherman contends that a second pivotal theme within the political ecology of health is the focus on the social relations of production that structure poverty, inequality, and exploitation, shaping material conditions and experiences at the local level. Furthermore, as Harper (2004:296) points out, political ecology is a theoretical foundation which does not claim to be value-neutral, and that often research involving this perspective is applied to policy in order to achieve goals of social equity.

Using a political ecology of health approach is particularly useful for my analysis of traditional medicines in Asuncion, as the socioeconomic strategies and opportunities for women
market vendors in Paraguay are relevant to conceptualizations of livelihood and quality of life. Furthermore, in the contemporary global environment, the availability and distribution of organic resources and land for the cultivation of natural remedies has an impact on the livelihoods and economic conditions and choices of the vendors selling these remedies.

**Cultural Identity and Ingestion; food and medicine**

For more than thirty years anthropologists have examined the idea of the “self” and perceptions of self-identity as cultural constructions (Lock 1999:47). While scholars such as Mach (1993:5) have based arguments upon the notion of self-identity emerging from modes of classification of the larger world, or within systems of symbolization, others have focused on the interaction between self-identity and the physical body, combining, as Lock (1999:51) does, concepts of identity, culture, and physical health. This latter approach is central to my analysis of the position of traditional plant medicines within Paraguayan cultural identity. Drawing on discussions of medical, cultural, and symbolic identities is key in understanding the ingestion of these remedies as both a personal and societal practice. Accordingly, an exploration of anthropological literature concerning the relationship between the consumption of particular foods and cultural identity is of particular relevance.

Mach (1993:4-9) concentrates on the relationship between individual identity and one’s surrounding social and cultural reality. The contemporary world, he writes, involves more acute interaction between human groups due to increasing mobility and cross-cultural contact between individuals. As a result, defining the self at the personal level involves answering the question of who one is in relation to other people and, at the social level, who one’s social group is in relation to other social groups. In demarcating these identities, Mach (1993:6-7) asserts that
people ascribe specific qualities to groups in order to organize and classify their social reality, thus creating a conceptual and symbolic model of the world. Thus, he continues, all identification is contextual as we define ourselves in relation to others. Furthermore, Mach links the formation of individual and cultural identity with power relationships within the social world—a critical factor, he writes, to the establishment of identity in relation to other individuals and social groups. Positioning within the social world is thus dependent also upon experiences of authority and subordination.

Lock (1999:46-47) also considers cultural identity within the context of power relationships. Cultural difference, she emphasizes, cannot be discussed without attending to gender and class distinctions, as well as any other forms of hierarchy created and maintained by those within positions of power in a given societal structure. In considering Paraguay, one can thus argue that women market vendors’ conceptualizations of self-identity and their positions within larger notions of Paraguayan cultural identity are formed in part by how they are situated within the Paraguayan social system. Lock (1999) further applies her discussion of identity to the subject of health, and the relationship between selves, subjectivities, health, and the state. She contends that both government and medical establishments tend to simplify the idea of health to a physical condition, despite its mental, spiritual, and sociocultural constituents. She argues that it is imperative to consider the ways in which people actively incorporate or resist ideas about health, and how these responses relate to their awareness of self within society (1999:49). Since categories of culture, self-identity, and health are flexible and contested, the ways illness and health practices affect people’s lives are therefore based upon intricate conscious and subconscious meanings and narratives (Lock 1999:51). My research with market vendors of
plant medicines in Asunción has included giving attention to such narratives as they are contextualized within the experiences of my participants.

The interaction of identity and health is further examined by Maynard (2007:2-3), who furthers the discussion to speak of “medical identity.” He specifically considers the medical practitioners in the various forms in which they come, and their identities as caregivers. He argues for the socially mediated nature of health and medical identities. Placing medical identity within the social realm, Maynard (2007:2) writes that, “understanding the myriad ways in which we ‘embody’ larger groups, while at the same time helping constitute them, remains deeply fascinating.” As social identities are entwined with daily activities, he postulates that individual and social identities of those engaged in medicine are interwoven with the very work that they do. While I discovered that not all market vendors of medicinal plants in Asunción would identify as healers, they are at the very least providers of healing, and consequently the ways in which they identify as Paraguayan necessarily engages with the medicinal plants themselves.

The consumption of food as a central process to the formation of cultural identity is discussed within a Northern Nigerian ethnographic context by Etkin (2006:3-4), who addresses the health implications of foods as well as the cultural constructions and social negotiations of diet. McIntosh and Zey (1998:132) place gender analysis within the centre of this dialogue, discussing women as “gatekeepers” of consumption within the home and thus playing a central role in the sociocultural positioning of food. Bordi (2006:97-98) discusses processes of globalization as they influence the ways in which food interact with cultural identities. She explores the effects of the increasing influx of western agro-industrial products into the Mexican food market, and the subsequent explosion of “authentic” Mexican food production. The invasion of Western products into food markets spanning the globe has, she argues, not replaced
local consumption habits, but has rather contributed to a process of hybridization. Thus, she examines the ways in which indigenous women within Mexico City and Toluca harness a nationalist nostalgia for “authentic” Mexican food through the selling of handmade tortillas, tacos, and other products made with coloured maize. Bordi’s work provides a perspective through which to consider the selling of natural plant medicines within Asunción, and the emphasis that is placed upon the traditional nature and Guarani origin of the remedies. Moreover, as I will discuss in further chapters, the predominance of traditional medicines as means to treat both every day and, at times, acute illnesses, is also part of a larger system of medical hybridity wherein Western medicine is also utilized. The symbolic nature of traditional Paraguayan medicine, however, often overrides this occasional and specific use of synthetic pharmaceuticals.

Leitch (2003:440-441) also discusses the symbolic nature of food and food consumption in her analysis of the Slow Food Movement in Italy and its relationship to European identity. She contends that food and other consumable items have historically been central as cultural symbols in both colonial and postcolonial nationalist struggles. The assumption of her paper is that deepening European concerns over food policy are linked to larger questions involving European identity and moral economies, hence connecting the consumption of certain foods with the imagination of Europe in both its past and future. Following this consideration of imagined identities, I argue that the motivations behind Paraguayan preferences for locally grown medicines have deeper roots than simply those of convenience, cost, or perceived efficacy; they are part of a larger system of the conceptualization of “Paraguayaness.”

In her analysis of food plants as medicinal and the social roles of women, Price (2006:66-75) establishes links between the physical environment and environmental change, the marketing of plant foods, and the socioeconomic positioning of women within Northeast Thailand. She
discusses the passing down of knowledge of functional and medicinal plant foods as principally a gender-based process between women and girls. She also argues for the pivotal role of mothers in the consumption practices of the household and for the importance of this role in the nutritional health of the family. This builds upon Volpato and Godínez’s (2006:213) work on the promotion of health through the consumption of medicinal foods in Cuban households. The consumption of foods as medicines is also evaluated in Vanderbroek and Sanca’s (2006:273) article on the consumption of food medicines in the Bolivian Andes and Ladio’s (2006:297) work on the gathering of wild medicinal plant foods in Northwest Patagonia.

Links among food, health, and identity have been established by Ladio (2006:297-299) and Caplan (1997:1-3), who account for both the chemical-taxonomical bases of selection and use of medicinal food plants, and for the socioeconomic and cultural dimensions of plant usage, such as the division of labour, gender role differences, and the distribution of knowledge surrounding the plants and remedies. Caplan (1997:3) in particular highlights the significant role of culture in determining what is classified as food. She also explores the political nature of food consumption—as political power and interests impact ideas of “healthy” foods (1997:18), so do they influence insights into the medical maintenance of health. In the following three chapters I will draw on this literature in order to integrate the subjects of medicinal plants, health, and identity within the context of Paraguay, and to explore how they relate to sociopolitical and economic influential factors. First, however, I examine the scholarly framework of the marketing of traditional medicines, moving into the Paraguayan context that situates my study in socially, politically, and economically.
Marketing Traditional Medicines

The selling of traditional plant medicines in the urban markets of Asunción is a practice inextricably linked not only to Paraguayan identity, but to the country’s historical, sociopolitical, and economic context. As Nilda, a grandmother and medicinal plant vendor in Mercado Cuatro explained to me while sitting at her cart one afternoon, understanding *poha ñana* (medicinal remedies) is not simply a matter of knowing the plants and how to use them. Rather, one must come to know something of Paraguay’s political, social, and culturally history. I will add that understanding the cultural relevancy of the selling and usage of these traditional remedies also involves contextualizing it within a contemporary sociopolitical framework that addresses socioeconomic participation, agricultural reforms, and biomedical structure and accessibility. Accordingly, in this section, I address the scholarly context surrounding my focus on the vendors of traditional plant medicines in Asunción, providing the framework for my analysis of identity and traditional knowledge transmission.

As yet there has been very little scholarly research completed regarding the selling of agricultural products at Paraguayan markets. Some research has been done as part of the larger research project of which this study is a constituent, developed by Dr. Elizabeth Finnis of the University of Guelph, in collaboration with the Universidad Nacional de Asunción. However, the University library for the faculty of Agricultural Sciences contains an abundance of literature regarding the medicinal properties and uses of Paraguay’s flora. Maria José Aparicio, professor in the Agricultural Sciences Faculty, participated in an ethnobotanical research project in 1997 during which interviews were completed with sellers in Asunción’s five marketplaces, including Mercado Cuatro, in order to learn about the plants being sold by predominantly women vendors. Although they observed market activities, this study was completed over a decade ago, and since
then academics such as Hetherington (2009), Vasquez-León (2010) and Finnis, et al. (forthcoming 2012) involved in research projects involving Paraguay’s flora and agricultural production have focused largely on the rural agricultural community outside of Asunción, and the production of primarily food crops. Consequently, while there is considerable literature within Paraguay concerning the country’s wild plant life, much of this material is inaccessible internationally, and nothing that I have found considered the sociocultural positioning of market vendors within urban environments such as Asunción.

The marketing of traditional medicines and the roles of women within this process have, however, been documented within other South American contexts, such as Sikkink’s (2010:2-3) study of women and the commercialization of traditional medicine in Bolivia. Sikkink finds that while in Bolivia the popularity of traditional remedies is due in part to the notion of an “old” cultural practice, the market system is consistently changing, integrating truly traditional substances with non-native and even biomedical ones. Thus, she discusses the impact of the globalization of pharmaceuticals on the local market health systems, concluding that despite incorporation of pharmaceuticals into these systems, traditional medicines remain in principal demand for both socioeconomic and cultural reasons; traditional cures are generally more affordable than manufactured medicines, and the Andean people preserve a commitment to traditional and indigenous products. Within Paraguay, I have found that the markets of Asunción function in a similar situation. Medical pluralism, as will be discussed Chapters Five and Six, is negotiated through a combination of socioeconomic capacity and cultural association.

Agadjanian (2002: 260) also considered the activities of women vendors in Bolivia, focusing on experiences of competition and cooperation among street vendors in La Paz-El Alto. Agadjanian concentrates on the contemporary socioeconomic contexts of these vendors in
relation to implemented structural adjustment programs. He states that the shrinking of the state apparatus that accompanied structural adjustment policies has led to a rapid increase in informal employment in urban areas due to the closure of numerous industrial enterprises. A feminization of the informal sector has resulted because women have been forced to find work following their husbands’ unemployment, and yet this has not functioned to alleviate families’ socioeconomic insecurities. Sikkink (2010:48) defines the informal sector as “a space in which people can create their own business and opportunities, circumventing some of the restraints present in the formal economy.” Thus described, Mercados Cuatro and Abasto of Asunción represent significant segments of the city’s informal economic sector.

In addition to Bolivia-based investigations, there is research examining women’s market vending and the marketing of traditional plant medicines within other South and Central American countries including Peru (Babb 1984), Chile, (Torri 2010), Ecuador (Miles 1998), and El Salvador (Ferguson 1983). In her study of the situation and nature of women’s petty commerce work in urban, undeveloped Peruvian economies, Babb argues that women’s work within the informal sector is representative of their role as caretakers within family and society. She contends that the socioeconomic position of women marketers is ambiguous, as is their reproductive/productive roles as subsistence providers and servants through the selling of products that feed, clothe, and shelter society (1984:48). Within this perspective, the marketing of traditional plant medicines can also be placed within this caretaking role. Consequently, in speaking to Paraguayan women market vendors, I have taken into consideration vendor's discussions of typical responses to illness within the family. In her study on the use of Mapuche traditional plant medicines in Araucanía, Chile, Torri (2010:132) writes that not only do these plants possess symbolic and religious meaning, but that socioeconomic and geographic barriers
to accessing Western medicine also contribute to the prevalent use of herbal medicines as the primary method of addressing illness. Furthermore, Torri (2010:136-138) addresses the process of knowledge transmission from generation to generation, and how medicinal plants are also used on a regular basis as preventative action. Consequently, the use of traditional natural medicines is based upon a number of factors that impact people’s healthcare decisions on both socioeconomic and cultural levels.

Miles (1998:207-209) analyzes the medical pluralistic context of medicine marketing in urban Ecuador, discussing the coexistence of biomedicine, folk medicine, and traditional medicine in the southern city of Cuenca. Her data has shown that medicinal plants are utilized for common physical complaints; this intersects with my findings in Asunción, in that many vendors cited indigestion, nervousness, and headaches as frequent ailments treated by herbs. Moreover, Miles has found that while local herbal products are sold and fresh local plants can be purchased in the markets, many plant products are grown outside of the region, originating from other Latin American nations such as Peru, or even from North America or Asia. As will be discussed in my analysis of my data, the origin of natural plant remedies within Paraguay is a complex and multidimensional subject, drawing together both ecological and ideological issues. Miles’ work is also particularly relevant because she addresses the matter of rural-to-urban migration within the context of medicinal plant usage and marketing. As the marketing of traditional plant medicines in Paraguay’s capital is unavoidably linked to historical and contemporary issues of land tenure, privatization and capitalist economic integration, both rural-to-urban migration and commuting are key components to the socioeconomic context of market work.
Ferguson (1983:53) considers a comparison of Salvadoran marketing of pharmaceuticals and the introduction of Western medicine to community centres of traditional healing and plant medicines. In discussing the problematic nature of the pharmaceutical industry within the developing world, she points out that poor integration of Western pharmaceutical care into traditional healing systems often results in improper use of pharmaceuticals such as antibiotics. She addresses the synchronous utilization of Western medicine and traditional plant medicines and the possible adverse effects on health (1983:41). In Asunción, this has proven a particularly salient issue among market vendors of plant medicines, many of whom stressed the dangers of concurrently consuming both types of medicine without adequate knowledge of their effects.

Ceuterick et al. (2008:342) have studied Columbia\textquotesingle s traditional medicines within an international context, concentrating on cross-cultural urban ethnobotany in London, England. A primary focus of their work involves the transmission of ethnobotanical knowledge with rural-to-urban migration. They also investigate the medical pluralistic practices that arise with the coexistence of traditional and Western medical systems. The authors argue that the use of traditional remedies within this migrant population is influenced by various factors of practicality, including the illnesses commonly experienced and the perceived effectiveness of the remedies. Furthermore, Ceuterick et al. (2008:355) conclude that despite the importance of perceived efficacy, people still use plants that are difficult to find or not necessarily pharmacologically effective. Many of these findings hold relevance to the medicinal plant sellers and consumers of Asunción. It became clear during my fieldwork that issues of practicality contribute to determining both the use of traditional medicinal plants and biomedical pharmaceuticals.
Paraguayan Context

Indigeneity and Land

The socioeconomic and ideological framework within which market vendors of traditional plant medicines work in Asunción is definitively interconnected with Paraguay’s socio-historical and economic context. While my research fills in a considerable literary gap in scholarly publication, relevant studies of Paraguay have been conducted in the areas of medicinal plants and the Guarani (Reed 1996; Reed 1995), the neoliberal attempts at restructuring the Paraguayan health care system (Rosenbaum 2000), the privatization of rural land (Hetherington 2009; Vasquez-León 2010), language, education, and earnings in Asunción (Patrinos et al. 1994), the participation of women in economic activity within the country (Wainerman et al. 1980; Sautu 1980), and the history of women’s roles as caregivers (Ganson 1990; Reber 1988).

Patrinos et al. (1994: 57) have examined the position of Guarani speakers within Asunción, adding that as of 1994, while the number of indigenous people in Paraguay numbers only 2.5% of the total population and very few indigenous people were documented as residing in the capital city, only 7% of the country’s total population identified as being monolingual in Spanish. This renders the country the most bilingual nation in Latin America, and thus it is not surprising that the majority of natural plant remedies are known by their indigenous names. In investigating the economic activity of Asunción residents according the language spoken and sex, Patrinos et al. documented that both women and monolingual Guarani speakers earn less than men and Spanish or bilingual speakers. Consequently, monolingual Guarani speaking women earn the lowest wages comparatively. Accordingly, it is unsurprising that, while Guarani words were sometimes used during interviews, especially in reference to plants, all my
interviews with market vendors were conducted primarily in Spanish. If competency in Spanish is necessary in Asunción in order to improve economic capacity, then market men—and women in particular—whose work in the informal sector produces lower wages than more solidified forms of employment, likely find it necessary.

The historical economic significance of yerba mate has been examined by Reber (1985:32). She discusses the specific method by which yerba mate has traditionally been harvested, as well as the relationship of Paraguayan growers with both the state and the Jesuit missionaries. During the first sixty-five years of the 19th century, she writes, the Paraguayan economy was dependant on yerba mate production (1985:52). Such historical context provides an important foundation for comprehending the current position of yerba in the contemporary formal and informal urban economies. As my interviews revealed, many medicinal plants are incorporated into the daily practice of drinking mate (a hot drink) or tereré (mate's cold counterpart). The way in which the Guarani have historically interacted with the natural environment thus informs their utilization of both yerba mate and medicinal plants, and Paraguayan association of medicinal plants as traditional and culturally symbolic.

More recent literature on Paraguay is concerned with contemporary campesino struggles with the restructuring of agrarian land ownership. Hetherington (2009:225) studies the effects of growing privatization of Paraguayan land for the purposes of large-scale industrial agriculture, illustrating the ways in which neoliberal agricultural reforms have affected the livelihood of small farmers and their families, in that many have been forced to sell their land and migrate to urban areas such as Asunción. He points out the significant impact that such agricultural reforms—largely informed by the Inter-American Development Bank—have on a country that is both historically and currently primarily agrarian. Finnis et al. (forthcoming 2012) examine
strategies of small landowners in a rural community of Paraguay in order to understand agricultural struggles at the local level, constrained by barriers of commercial agriculture and land privatization.

Vásquez-León (2010:69) further addresses the lack of government support for small farmers and the effects of this on farmer autonomy and livelihood, in her study of two Paraguayan agricultural cooperatives. Such attention to the governmental impact on small landholdings is relevant not only due to its influence on Guarani communities and culture, but also on the accessibility of land on which wild medicinal plants can be found and the livelihoods of vendors selling these plants. Consequently, my analysis considers vendors’ perceptions of government support regarding their work as plant vendors.

**Medicinal Plants**

Reber has addressed the historical harvesting and commercialization of yerba (1985:29-32); she states that Paraguayan yerba has historically been considered superior to its neighbouring Brazil and Argentina. She writes that yerba maté was originally harvested by the indigenous population, and that the industry consisted of four operations: the gathering, preparation, conveyance to a storehouse where it was packed, and the subsequent transport to markets. During the seventeenth century, the Jesuit Missions created plantations on which to grow and harvest the plants, but with their departure in 1767, harvesting became dependant on wild yerba, and new secular plantations were created.

Information regarding the specific species, preparation and use of the medicinal plants that can be found growing in Paraguay is thus relevant to issues of physical health and socioeconomic, traditional longevity, biodiversity, and environmental change and sustainability.
Schmeda-Hirschmann and Bordas (1990:163-164) completed a survey of the variety used in both traditional Paraguayan medicinal plants and economic plants used within rural markets, in order to identify the components of medicines sold by herbalists. They stress the pivotal role played by traditional medicine among the Paraguayan people, pointing out that while many plants are indigenous to the region, some are species that have been introduced from Europe, by Spanish settlers. In conducting interviews within rural areas and markets, Schmeda-Hirschmann and Bordas (1990) conclude that the plant remedies utilized contain many biologically active chemical constituents, and that such plants include species of Chamomile and Echinacea.

Herbalists, or médico ñanás, hold expertise in these remedies, and prescribe and sell them to be prepared as infusions in mate or tereré, which are typically prepared in a gourd and made with yerba mate leaves of the *Ilex paragariensis* plant.

Due to inadequate availability of public health programs, Schmeda-Hirschmann and Bordas contend that the use of such traditional medicinal plants is the most available alternative for healing. The poor, they continue, depend on these remedies almost exclusively (1990:170). Beyond this monetary perspective, however, I will argue that the persistent trade of traditional medicinal plants such as the Guarani named *Yagueyete Ka’á* (herb of the tiger) and the annual preparation of *carrulín* for August 1st (as August is traditionally a difficult month agriculturally) represent more than a financially accessible mode of healthcare. Rather, these plants can consistently be found throughout the urban markets of Asunción because of the ways in which they tie Paraguayans to a sense of cultural identity that transcends socioeconomic lines.

The medicinal plant species specifically being sold in Asunción’s Mercado Cuatro are discussed by Basualdo et al. (1991:86), who have identified thirteen species being sold within the market, eleven of which are native to Paraguay. The authors contend that the preservation of
Guarani knowledge regarding the use of medicinal plants results at least in part from Paraguay’s isolation as a nation, and from its official bilingualism in both Spanish and Guarani. Although they are primarily concerned with the quantitative data and taxonomy of the plants, because their data was gathered in two locations key to my research, it provides key insight into the products being sold at Mercado Cuatro, or studied at the Universidad Nacional de Asuncion.

In addition to studies available within North American databases, the library of the Ecología Humana faculty at the Universidad Nacional de Asunción contains a wealth of books, reports, and theses focusing on the country’s natural pharmacopoeia. Figueredo (1997:22) concurs that medicinal plants continue to be the first form of therapy utilized in both rural and urban households in order to treat illness. They are consumed daily within mate or tereré, he writes, and the remedies (poha) are prescribed by healers. In addition to discussing the individual plants and their uses, Figueredo (1997:1-2) also argues that the cultivation of traditional medicinal plants among Paraguayan farmers is an alternative way to encourage diversification. The possibility of including medicinal plants within productive farming systems, he writes, provides another contribution to environmental conservation. By contrast, the potential vulnerability of Paraguay’s traditional medicinal plants is considered by Jiménez (2009:12, 23-24), who cites that the extraction of plants from the wild is a widespread practice among the country’s population, and is contributing to declining populations. In response to this environmental strain, Jiménez (2009:12) explains that in order to reduce pressure on wild areas while maintaining economic sustainability for the people, a group of primarily women and girls initiated a project in 2007 entitled, “Protection and Sustainable Use of Natural Resources in the Amoriguamiento Zone,” involving three key protected areas for conservation. This project, supported by the International
Union of Conservation of Nature Netherlands, seeks to address issues of overharvesting and destruction of wild habitats where medicinal plants are found (2009:23).

In the next chapter, I introduce my field sites and methodology. I provide an orientation as to the social and geographic context of Paraguay and specifically the city of Asunción, including a detailed description of Mercados Cuatro, Abasto, and Agroshopping—my primary interview and participant observation locations. In proceeding chapters I offer my analysis, arguing that practicality in terms of both economics and geographic accessibility is highly influential to the ways in which Paraguayan plant remedies are utilized. Their wild growth in unoccupied areas of the countryside and their subsequent broad availability within city markets provides both physical and financial access for a greater percentage of the population than does Western medication. Moreover, perceived efficacy of the plants, while a critical factor of utilization, is not uniformly based upon pharmacological data—rather, as I will contend, is more closely entwined with the cultural positioning of the plants within Paraguayan society and identity. As my data will reveal, the utilization of medicinal plant remedies reaches beyond that of economic accessibility. Because vendors unanimously asserted that all types of people within Asunción purchase these products, preference for the plants cannot be confined to specific demographic details. Consequently, my analysis considers both the specific experiences of plant vendors, but also the broader sociocultural implications of the regular usage of medicinal plant remedies.
Chapter 3

Field site Background and Methodology

Paraguay is a central, landlocked country in the middle of South America, bordered by Bolivia, Brazil, and Argentina. The Rio Paraguay divides the Eastern and Western regions of the country into two distinctly different areas. The capital city Asunción is surrounded by countryside and several smaller towns such as San Lorenzo and Luqué. It remains a largely agrarian country (Vásquez-León, 2010:56) with a low population density of 6.5 million residents (United Nations, Department of Economic and Social Affairs, Population Division, 2011), 43.9 percent of whom live in rural areas. The agricultural industry employs 45 percent of the workforce, and the majority of these workers are small landholders (Vásquez-León, 2010: 56). The socio-political history and contemporary context of Paraguay establish Asunción as an appropriate and interesting field site for this subject of investigation. Having emerged from dictatorship in 1989, the Colorado Party continued to rule until 2008, culminating 35 years in power. The Paraguayan people now struggle to cope with neoliberal restructuring of both the healthcare and land ownership and distribution systems (Vásquez-León, 2010: 56). The cultivation of traditional medicinal plants is being affected by land loss and the destruction of forested areas due to the proliferation of intensive industrial agriculture and ranching (Reed, 1996: 158). This commercialization of agriculture has largely increased landlessness (Hetherington, 2009: 226-230) and subsequent urban migration, and thus may affect the livelihood of market vendors who grow their own plants to use in traditional remedies that they sell in Paraguay’s capital city, Asunción.
Socioeconomically, Paraguay ranks among the poorest nations in Latin America, with high maternal and infant mortality rates, and a high rate of population growth (Vásquez-León, 2010: 56). Since it is significantly an agrarian nation, detriments in the agricultural industry, specifically for small landholders and non-industrial farmers, are responsible for much of Paraguay’s low socioeconomic status. This is the result of an agrarian development strategy undertaken during the 35-year military dictatorship of Alfredo Stroessner, from 1954-1989. Moreover, his political party, the Colorado Party, remained in power until 2008 and continued these policies. During Stroessner’s regime, state-benefiting agro-exports were privileged at the expense of peasant farmers (Vásquez-León, 2010: 56). Furthermore, state-imposed changes in land ownership policies have rendered many small farmers incapable of paying off their land, forcing their migration to urban centres and leaving their land available for industrial agriculture (Hetherington, 2009: 225). As Hetherington (2009:225-227) explains, legislative reforms in land ownership during the Stroessner regime revoked the rights of unproductive large landholders to claim vast amounts of land from which campesinos had previously acquired their plots. Campesinos could now acquire unproductive lands through a redistribution system allotting them derechas (rights) that they must pay off in order to acquire titulos (titles) of official ownership.

As foreign industrial agriculture began to seek Paraguayan land for mass production (such as soy production) foreign producers began to buy both titulos and derechas in various stages of repayment. For indigenous peoples and campesinos with no formal land ownership (yet who, due to historical land ownership practices, had acquired land through buying the rights to make improvements known as mejoras), conflicting land laws also nullified their rights to land. Thus, the introduction of titulos allowed foreign producers to buy land at prices unquestionably out of reach from campesinos, and to lay legal claim to them (Hetherington, 2009:230-231). This
redistribution of land and diminishing of small campesino land holdings has implications for the sale of natural health remedies in the market stalls and shops of Asunción. The origin of the herbs and other natural ingredients used in these products is crucial to understanding the socioeconomics involved in marketing them. Consequently, the origins of these ingredients as well as the history of residence for the shop and stall owners will be subjects of inquiry during my research.

Asunción: Asunción is divided into two distinct city sections: the historical old downtown and the new (and distinctly wealthier) downtown. While in wealthier areas enormous shopping malls sport designer labels throughout the city the poor infrastructure is evident in the crumbling sidewalks and unfinished high-rise buildings. The presidential palace is located in the old downtown next to the ports at the Rio Paraguay. While horse-drawn carts can still be found rolling along the sides of main streets, the auto industry is prominent in the city, and the traffic is heavy. City buses are rundown and often appear to be falling apart, but they make the city easily accessible via public transit, and also provide regular routes through surrounding towns and countryside. Many vendors of traditional plant remedies rely on these buses for their daily commutes into Asunción—some of whom live in nearby towns such as Luqué, and others who come from towns several hours away by public transit, such as Nueva Columbia.

Agroshopping: Located in an above-ground parking garage at the Mariscal López shopping centre, the Agroshopping market boasts a privileged location within a wealthier area of the city. While the shopping centre is not the most expensive in Asunción, it is also not a place in which one can expect to seek out bargains. Occurring on Tuesdays, Agroshopping has been a weekly
event for the past thirteen years, and celebrated its birthday during one of my visits at the end of July. Unquestionably less noisy and hectic than the busy streets at Mercado Cuatro, vendors patiently await for patrons to inquire about their products. They are, however, immediately available to weigh, price, and make sales, and those with whom I spoke in both interviews and casual conversation were pleasant and friendly. Dispersed among the tables young boys carry wicker baskets, and for a small fee will carry your purchases.

There is a general sense of organization at Agroshopping that sets it apart from the other markets of Asunción. Rows of vendors are lined up defining paths for shoppers to easily browse one table after the other. Vendors at Agroshopping arrange their wares on wooden tables prescribed by the market administration, and thus this market also lacks the significant variation of stall size and infrastructure that one finds at the other markets throughout the city, such as Mercado Cuatro and Mercado Abasto (See figure 1.)

Figure 1: Agroshopping, June 28, 2011
One notices the visible demographic differences in between Agroshopping and the other markets. To begin with, the sellers themselves are uniformed in green Agroshopping shirts. In observing the patrons, I noticed expensive clothing such as fur coats. Furthermore, on several different occasions I distinguished English among the din of voices, or ran into members of the American Peace Corps who claimed that Agroshopping was “the place” to shop for produce. One of interview participant, a professor at the Universidad Nacional de Asunción, also discussed his preference for buying his medicinal plant capsules at Agroshopping, readily admitting that it is the more expensive market to frequent.

Primarily a farmer’s market, the products at Agroshopping are solely food or food-related, and the majority of tables offer an assortment of fresh fruits and vegetables, including lettuce, tomatoes, apples, oranges, bananas, corn, peppers, onions, and potatoes. Two stalls offer a selection of corn and grain flours. Eggs are readily available, as are a variety of cheeses and nuts. Two vendors sell ready-made Asian cuisine, and one offers a collection of baked goods. At the far end of the rows of stalls is a butcher. Within this assortment of products are four stalls offering medicinal plant remedies. Two are operated by women and provide a collection of both fresh and dried plants, while another is run by a very friendly and animated man who is originally from Chile, and sells only bottled capsules and liquids—“glycerines.” Finally, the fourth small table offers either powdered or liquid Stevia—more widely referred to in Paraguay by its Guarani name, Ka’a He’e. Deriving from a plant native to the region, Ka’a He’e is in its natural form substantially sweeter than sugar, providing a healthy alternative for foods as well beverages, and is used in Paraguay in medicinal teas, maté and tereré.

Browsing the tables at Agroshopping is nothing short of enticing to the senses. Fruits and vegetables are brightly coloured, plump, and unquestionably fresh, despite the fact that much of
the produce is imported from neighbouring countries such as Chile, Argentina, and Brazil. There are many pre-made food items including breads, pastries, and Asian cuisine that are rather exquisite to look at and tempting to smell. Several food stands are set up on the outskirts of the vendor area, offering pre-made traditional Paraguayan snacks, including *sopa Paraguaya*, *chipa guazu*, and empanadas, as well as freshly squeezed juice blends. It is nearly impossible to browse the market without indulging oneself in a quick bite. Moreover, pre-made foods offered by the vendors at Agroshopping are reflective of specialty items one may find in North America, including sushi, gourmet cakes, specialty breads, and spiced cheeses. It quickly becomes obvious that, while the market can easily become an essential weekly indulgence for those who can afford it, it is not for the budget-conscious or average family-feeding Paraguayan.

The infrastructural divergence between Agroshopping and Mercados Cuatro and Abasto is striking. While vendor tables at the latter two markets are often visibly falling apart, Agroshopping is equipped with fully functioning and neatly arranged tables that, being indoors, are not subject to weather. Furthermore, because the market occurs once a week, tables are taken down and re-erected each week, saving the stalls from rapid wear of use. The produce sold at Agroshopping is notably more expensive than that of Mercado Cuatro or Mercado Abasto. Table 1 as follows illustrates price differences of staple fruits and vegetables across these three marketplaces:

<table>
<thead>
<tr>
<th></th>
<th><strong>Agroshopping</strong></th>
<th><strong>Mercado Cuatro</strong></th>
<th><strong>Mercado Abasto</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Apples</strong></td>
<td>10 000/kg*</td>
<td>1000/unit</td>
<td>85 000/22kg</td>
</tr>
<tr>
<td></td>
<td>1500/unit</td>
<td></td>
<td>5000/3 units</td>
</tr>
<tr>
<td><strong>Bananas</strong></td>
<td>3000/kg</td>
<td>2500/kg</td>
<td>3000/kg</td>
</tr>
<tr>
<td></td>
<td>5000/kg</td>
<td>4000/kg</td>
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<tr>
<td>Produce</td>
<td>Price 1</td>
<td>Price 2</td>
<td>Price 3</td>
</tr>
<tr>
<td>--------------</td>
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<td>----------</td>
<td>-------------</td>
</tr>
<tr>
<td>Carrots</td>
<td>4000/kg</td>
<td>2000/kg</td>
<td>2000/kg</td>
</tr>
<tr>
<td>Corn</td>
<td>7000/g kernels</td>
<td>5000/g kernels</td>
<td>5000/kg kernels</td>
</tr>
<tr>
<td>Garlic</td>
<td>2500/unit</td>
<td>1000/unit</td>
<td>35 000/3 kg 1000/unit</td>
</tr>
<tr>
<td>Lettuce</td>
<td>1000/kg 2000/kg 2500/kg</td>
<td>2000/kg 1000/head</td>
<td>4000/5 units</td>
</tr>
<tr>
<td>Mandioca</td>
<td>2000/kg 1000/kg 1000/kg</td>
<td>2000/kg 4000/5 units</td>
<td></td>
</tr>
<tr>
<td>Garlic</td>
<td>2500/unit</td>
<td>1000/unit</td>
<td>35000/3 kg 1000/unit</td>
</tr>
</tbody>
</table>
| Onions       | 4000/kg 4800/kg | 3500/kg 3000/kg | **Multiple prices per item are based on either significant differences between vendors or multiple dates of observation.**
| Oranges      | 13 000/kg 15 000/kg | 8000/half dozen 40 000/100 units |
| Pepper       | 22 000/kg red 10000/kg green | 2000/unit green 8000/kg green |
| Potatoes     | 3500/kg 4000/kg | 2500/kg 3000/kg | 20 000/10kg |
| Strawberries | 15 000/kg | 10000/kg 12000/kg | 10 000-15 000/kg |
| Tomatoes     | 6000/kg small 8-10 000/kg large | 2000/unit 5000-8000/kg |

*Prices are listed in guarani (local currency.)$1 CAN = Gs3, 896.93

**Mercado Cuatro:** Mercado Cuatro is a crowded, cramped bustling market place in the heart of Asunción that occupies a vast number of city blocks. A large number of city buses run along to two main streets through the market. Walking through, one must weave one’s way around hanging clothes and stands of shoes, toys, electronics, jewellery, foods, fabrics, and leather goods. On either side are vendors inviting you to check out their goods; “Adelante, adelante!” At times one uncovers an entrance to the labyrinth of indoor shopping malls that thread throughout the streets in between the sidewalk shops and stalls. Occasionally, one will come across a stall or store within this hustle that sells herbal remedies. Similarly, there are a small handful of them lining the busy streets of Avenidas Peru and Silvio Petrirossi. However, many of the medicinal...
plant vendors are settled in the quieter areas of the smaller side streets within the Mercado, where it is possible to hear oneself talking over the din of shoppers, vendors, and traffic.

Some of these vendors have small indoor stores, the shelves of which are lined with a range of medicinal options, including dried and fresh plants and herbs, liquid or “glycerine” concoctions, balms, tablets, and powders. Additionally, many of these tiendas offer a selection of votive candles and incenses exhibiting pictures of the Virgin Mary or Baby Jesus on their packaging. Occasionally, the odd book of spells can be found among the paraphernalia, as well as items labelled things like “monkey head”, which are claimed to come from the Guarani people. The packages of herbs are often labelled with the marca (brand) of the store. Others have none.

Many of the vendors have only street-side tables set up with their smaller selection of remedies, usually consisting of mainly dried or fresh herbs and plants. Often these small stalls, much like the indoor stores, are in visible disrepair. Some vendors lack stalls or carts altogether and lay their plants along blankets on the sidewalk. The vendors are both men and women, although there are more women than men. Sellers who I interviewed ranged in age from the 40s to 60s and 70s; however I sometimes saw younger vendors. Socioeconomically, Mercado Cuatro is significantly more accessible to the general population than is Agroshopping. Both observation and interviews revealed that vendors and customers are less wealthy at Mercado Cuatro, and the prices of goods and poor infrastructure reflect this. Figure 2 depicts vendors and shoppers along one of the Mercado’s quieter side streets.
Stepping down off of the bus and entering into the maze of Mercado Cuatro can be overwhelming for the inexperienced. While often vendors selling specific goods tend to be concentrated in specific areas, there are multiple sections of sellers offering fruits and vegetables and medicinal plants, and with no signage to indicate these areas it is easy to become disoriented or lost, as the main streets along the bus routes quickly disappear. The vendors themselves are most often friendly and happy to offer directions, however the sheer size of the market renders it impossible for even them to have it memorized in its entirety. One is left to establish particular visible landmarks to symbolize the locations of the various sectors, such as prominent and permanent stalls or unique crossroads.

Adding to the overwhelming size and layout of Mercado Cuatro is various sights, sounds, and pungent odours that one is engulfed by at different points throughout the streets and avenues. While the narrow sidewalks along the main streets are close to the outskirts of the market, it is easy to become quickly bewildered in the tunnels of clothing hanging above and to either side of
pedestrians as they try to weave their way through and around all types of pants, shirts, sweaters, coats, hats, scarves and shoes. This area of the market is not for the claustrophobic or those who require an amount of personal physical space. This area, like the market in its entirety, is lacking in security personnel, and this particular section is the most packed and bustling, although the abundance of fabric somewhat mutes the sounds of vendors advertising their wares and customers negotiating prices.

Other sections of the market are more intense to other senses. A series of inner streets are occupied by an abundance of fruit and vegetable vendors. The area is poorly covered by old and collapsing orange tarps that, while they do not adequately protect vendors or shoppers from the weather, cast a bright hazy glow along the stalls. Traversing these streets following heavy rain, one risks falling victim to an unexpected downpour of water from the pools that collect in the folds of the material. The produce sections of Mercado Cuatro exist both along these outdoor avenues and in the rundown indoor sections. Within both areas one can find vendors of fish and meat products, neither of which are refrigerated, and the majority of which are not kept at all chilled with ice. To those accustomed to buying meat at a grocery store these areas of the market can be somewhat shocking, as butchered livestock hang openly from hooks and still-live chickens, turkeys, and other fowl are held in tiny metal cages. The smell of the meat sections of the market is unmistakable and can easily become overwhelming. While the indoor sections are poorly ventilated they are just as packed-in as the outdoor areas, and the tarps and crowded stalls of the streets outside do not provide much fresh air.

Considering the noises, smells, and cramped lanes of the produce and apparel sections of the market, entering the sectors predominantly occupied by medicinal plant vendors can be somewhat of a sensory relief. Often plant vendors are lined along quieter open-air avenues that
lack the makeshift tarp roofing, and thus have a more spacious feel to them. Interestingly, the plant vendors do not tend to advertise their wares or prices as vocally as vendors within other sections, although they are quick to divulge what they have in stock and the deals they can offer you upon noticing your interest. Furthermore, they are swift in prescribing an appropriate remedy for your needs, and to explain how each remedy is used most effectively. These traditional plant vendors along the quieter streets of Mercado Cuatro comprise the bulk of my interview participants.

**Mercado Abasto:** Mercado Abasto is unique in comparison with both Mercado Cuatro and Agroshopping due to both its location and the orientation to which the products here are targeted. Located in San Lorenzo on the outskirts of Asunción, the market is not far from the Universidad Nacional de Asunción, and its location renders it convenient for farmers to bring their produce in from the surrounding countryside. Setting up as early as four or five in the morning, vendors here primarily offer produce in bulk amounts, selling by the kilogram or by the dozen in large sacks or crates. Many stalls are set up in concrete nooks within centre buildings, while others lay their wares out on tables in a sheltered middle platform. A parking lot lies in the middle of the open-air market, and vendors and customers alike drive their trucks in, in order to transport large quantities of fruits and vegetables. It is common for one to also find horse-drawn wooden carts parked in these areas—an indication of the socioeconomic and agricultural orientation of the sellers. Moreover, the smells at Abasto are unpleasantly striking and difficult to ignore; the combination of horses, donkeys, and large quantities of unrefrigerated meat become overwhelming in some areas. Across the street from the market, customers who buy in bulk in order to re-sell in more centrally located city markets such as Mercado Cuatro wait at the bus
stop, where drivers pause for longer than usual in order for patrons to pile on large crates and sacks. Figure 3 depicts the quantities available for purchase at the market.

![Figure 3: Produce supplied and sold at Mercado Abasto](image)

Because many customers purchase products at Mercado Abasto in order to re-sell them, the market is busiest in the pre-dawn morning, and thus my trips to the market later in the day found it to be significantly quieter and emptier than both Mercado Cuatro and Agroshopping. As a result, I felt much more conspicuous walking by stalls and taking note of the products and prices. Interestingly, Mercado Abasto is significantly lacking in traditional plant vendors, containing only two who I could find, and only one of whom was willing to participate in an interview.

**Fieldwork**

After completing two weeks of field site orientation and observation in July, 2010, my primary research was conducted over a two month period, from June to August 2011, in Asunción, Paraguay. I utilized two primary methods of data collection: participant observation
and semi-structured interviews. I commenced my data collection process with an initial two-week period of participant observation in Mercado Cuatro, Mercado Abasto, and Agroshopping. During this time I observed and took notes on the structures and atmospheres of the markets, the estimated socioeconomic levels of both vendors and consumers, the routines of interaction between sellers and clients, and estimated approximate ages and ratios of men to women vendors and clients. I also paid particular attention to the products being sold, noting the names and forms of the plants (whether they were fresh, dried, powders, liquids, balms, or capsules), prices, and which plants appeared to be most frequently purchased. As a participating customer in all three markets, I made casual conversation with sellers, inquiring as to the country or region of origin of the plants and what plants best treat certain ailments. I purchased several different plants in fresh, dried, solid, and liquid form, many of which I utilized as a balm or tea. Discussing these products with the vendors was an important way to make myself a familiar and friendly presence and to begin to build rapport within the markets.

Warren and Karner (2010: 151) write that the interview is not only a social interaction in itself, but that it also provides the opportunity to “observe the life-world of the interviewee.” Participating as a customer allowed me to experience some of the dialogue and relationship-building characteristic of many interactions between vendors and buyers of medicinal plants. Conducting interviews while participants were working also allowed me to monitor more closely their interactions with clients. Over the course of eight weeks I conducted 22 in-depth semi-structured interviews, 19 market vendors, and 3 with faculty members at the University. I found that 19 interviews with vendors achieved an adequate level of data saturation given my time constraints. As faculty members at the Universidad Nacional de Asunción are positioned quite differently from the vendors themselves, I utilize these interviews as “secondary,” or supportive
in providing contextual information regarding the plants and Paraguayan society. Interviews were conducted primarily in Spanish, and occasionally in a combination of Spanish and Guarani, with the aid of a translator. While I possess working knowledge of the Spanish language, I lack fluency and thus determined that a translator would provide clarity. Two faculty interviews were conducted in a combination of English and Spanish. Vendor participants consisted of four men and fifteen women urban market vendors between the ages of twenty and ninety, who sold both fresh and dried medicinal plants and plant-based products in Paraguay’s capital city. Secondary interviews were conducted with one man and two women faculty members of the Human Ecology (Ecologia Humana) school at the Universidad Nacional de Asunción.

Of my interviews with market vendors, three were conducted at Agroshopping, two were conducted at a cluster of vendor carts in front of the Hospital del Seguro Social I.P.S. (Instituto de Previsión Social) on Santisimo Sacramento, and one was conducted on the median of the road in front of the hospital. One interview was conducted at the Mercado Abasto in San Lorenzo (a district of the greater Asunción area), and twelve were conducted at Mercado Cuatro—the largest urban marketplace in the city. While my primary research question asks how the selling of traditional herbal products in local markets in Asunción shapes, and is shaped by, local cultural conceptions of quality of life, my fieldwork also sought to discover what role these products have in empowering and enhancing the economic security of women vendors. Thus, while I deemed it both significant and relevant to speak to male vendors and university faculty members, my interviews were principally conducted with women vendors. This was based upon both my research goals and, as I discovered, the male/female ratio available within a convenience sample. However, in completing secondary interviews with members of the faculty at the Universidad Nacional de Asunción, gaining perspectives from members of two socioeconomically distinct
professions has contributed to the construction of more comprehensive picture of the positioning of traditional plant medicines within Paraguayan society. The following table (Table 2) shows the demographic data of traditional medicine vendors who have participated in my study.

Table 2: Demographics of traditional plant vendors

<table>
<thead>
<tr>
<th>Location</th>
<th>Mercado Cuatro</th>
<th>Agroshopping</th>
<th>Mercado Abasto</th>
<th>I.P.S. Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Participants</td>
<td>12</td>
<td>3</td>
<td>1</td>
<td>3²</td>
</tr>
<tr>
<td>Ratio of women to men</td>
<td>10/2</td>
<td>2/1</td>
<td>1/0</td>
<td>2/1</td>
</tr>
<tr>
<td>Average age of Participants*</td>
<td>56</td>
<td>52</td>
<td>Unknown³</td>
<td>47</td>
</tr>
<tr>
<td>Average # of children</td>
<td>6</td>
<td>1.5</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Average # of years working at this location</td>
<td>24</td>
<td>4</td>
<td>30</td>
<td>22.3</td>
</tr>
</tbody>
</table>

I asked the ages of participants as well as the number of years they have been working at the interview locations in order to gather an idea of the sustainability of their positions as vendors of natural plant medicines in their receptive markets. Furthermore, the number of children of each respondent indicates part of the degree of socioeconomic responsibility the participants have, or have had, in providing for dependents within their households. While some vendors work with their spouses, others are single parents and the only providers in their households. Others vendors work within a family enterprise, and thus their children or spouses

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¹ Given the size of Mercado Cuatro, the approximate number of total vendors and plant vendors specifically is unknown. In Agroshopping I counted approximately 4 tables with medicinal remedies on display. In Mercado Abasto I was only able to locate 2. In front of the I.P.S. hospital there were 4.

² This includes the participant who was located on the median of the road on Santisimo Sacramento.

³ Not all participants disclosed their age. Some participants preferred to given an approximate age, and some not at all. As a result the average age has been calculated using only the number of participants who disclosed their exact age.

³ Participant did not disclose her age, however it is estimated that she is in her late 30s or early 40s.
work with them selling plant medicines. Details of this data will be discussed in the analysis
section of this thesis.

In order to obtain my research population I utilized convenience sampling, beginning
with vendors who had time and were willing to talk with me. This proved the most effective
form of sampling to use, as the availability and willingness of individuals to speak with me was
highly variable dependent on a number of factors, including time of day and the level of rapport
that I was able to establish. Occasionally I was able to make use of snowball sampling when
vendors had suggestions of other individuals who may like to participate.

My first semi-structured interview was conducted on Tuesday, July 5, 2011 at
Agroshopping, and my final interview took place on Wednesday, August 10. My interview
questions were designed to gather information regarding the use of natural plant remedies in
comparison to biomedical pharmaceuticals, Paraguayan identity and medicinal culture,
socioeconomics, and gender roles. Interviews with market vendors were conducted entirely in
Spanish and Guarani, and I employed Daniela Aguero, student from the Human Ecology
department, Universidad Nacional de Asuncion, to help with translation. During my interviews I
incorporated free-listing, asking participants to list the remedies that they believed are the most
useful and that are sold the most.

While conducting my interviews I continued my participant observation within the
markets. In addition to these methods of data collection, I also frequented the library of the
Faculdad de Ciencias Agrarias at the Universidad Nacional de Asunción, where I was able to
triangulate my data through an analysis of literature and theses containing valuable information
regarding the medicinal flora of Paraguay. This information has proven extremely useful, and it is
not all readily available within Canada. Furthermore, the university’s campus contains a small

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4 See Appendix 1: Key Interview Questions
botanical garden that is maintained by *Ecologia Humana* students. This garden contains medicinal plants that are native to Paraguay, and are the same species as those being sold in the markets and consumed throughout the city. By spending time on campus I was also able to engage in valuable casual conversations with both faculty and students within the *Ecologia Humana* school regarding the selling and use of traditional medicinal plants, as well as their perceptions of the importance of the plants to Paraguayan identity. Through these conversations I learned of the *Jardin Botánico y Zoológico de Asunción*—the city’s botanical garden which contains over 500 species of medicinal plants both native and introduced to Paraguay. Upon visiting the *Jardin Botánico*, I was able to note additional significant information regarding the cultivation and uses of traditional medicinal plants. Figure 4 portrays some of the medicinal plants grown at the *Jardin Botánico*.

![Species of medicinal plants at the Jardin Botánico, Asunción, Paraguay](image)

Figure 4: Species of medicinal plants at the *Jardin Botánico*, Asunción, Paraguay
**Ethical Considerations:** In accordance with the University of Guelph’s Research Ethics requirements I applied for and received ethical approval to conduct my research. Of primary importance to the ethical conduction of research with human participants, I achieved informed consent prior to commencing interviews. Since I was working with a socioeconomically marginalized population and, as I learned from some informants, not all vendors had the required permission or certification to sell their products in established urban marketplaces such as Mercado Cuatro, I deemed it most appropriate to obtain oral consent. Additionally, I required my research assistant to sign a confidentiality agreement in order to protect the privacy of my participants.
Chapter 4

“*If you don’t have money you are dead in Paraguay:*”
The Socioeconomics of Health and Plant Medicines

This chapter is a discussion of socioeconomic positioning of medicinal plant vendors in Asunción, and of the availability and use of these plants in relation to biomedical care and pharmaceuticals. Related interviews with vendors in Mercados Cuatro, Abasto, and Agroshopping included discussions about the costs of obtaining plant stock and operating a plant store or stall, the availability and expenses associated with the use of medicinal plants and pharmaceuticals, and the presence or lack of government support for the medicinal plant industry.

I begin this chapter with a discussion of the people and processes involved in the transmission of wild medicinal plants from to the inner markets of Asunción from the surrounding countryside. This includes an analysis of governmental and administrative constraints and developments that affect both city vendors and countryside suppliers. I then integrate political ecology perspectives in order to address the social and economic implications of Paraguay’s political and geographic context on the medicinal plant industry. Intimately connected to these issues are the instances in which the individual production or distribution of medicinal plants is amalgamated into cohesive cooperatives, providing opportunity for expansion. Finally, this chapter closes with a consideration of how both plant-based and biomedical medicinal products are utilized when encountering illness in Paraguay.

Mercados Cuatro, Abasto, and Agroshopping stand apart from each other in several primary socioeconomic characteristics. Agroshopping is located in at Shopping Mariscal Lopez,
an expensive shopping mall in an elite section of town, and both its location and its clientele reflect an economic minority of the urban population that is noticeably wealthier than the other two markets. In contrast, Mercado Abasto is located in San Lorenzo, far from both the downtown and shopping centres of Asunción. Much of the produce sold at Abasto can be purchased in bulk, and resold in inner city markets such as Mercado Cuatro. Both Mercados Abasto and Cuatro are primarily open-air, although Mercado Cuatro has a series of indoor hallways and makeshift malls stretching throughout its many blocks. Both lack the degree of organization and quality of infrastructure present to the vendors at Agroshopping.

Yet, despite their differences of location, much of what vendors had to say regarding the socioeconomics of medicinal plant vending and usage was similar. I begin this chapter with a description of a particular salient interview I completed at Mercado Cuatro, which paints a detailed picture of the socioeconomics of plant vending within Asunción. Moving on from this, I provide an analysis of the ways in which traditional plant medicines factor into both the personal economic conditions of vendors and consumers of these products, as well as within the greater Paraguayan agricultural and medical structures.

**From the Countryside to the Market**

One wet Sunday morning I sat down with Esther⁵, a 43-year-old medicinal plant seller in Mercado Cuatro. Located down a quiet side street in a section of the market predominantly occupied by plant vendors, Esther’s small indoor store and sidewalk stands provide her with more infrastructure than many of the sellers around her, whose wares rest on rickety metal carts or are lain out on blankets across the ground. This type of space, however, comes at additional

⁵ Pseudonyms have been used for all interview participants to protect confidentiality.
cost in the market, and while all the vendors pay rent, the expense of occupying such a space is rising. Esther’s store itself is a concrete room filled with shelves of dried plants, some loose and some ground and packaged. She also exhibits a selection of packaged remedies, composed of various plant combinations and intended to treat specific ailments. On a shelf in the front corner is a small television. Esther sits on a low chair, packaging manzanilla (chamomile) and stapling them shut with cardboard labels, while her husband and young son watch Bend it Like Beckham. While she purchases her plants from other sellers who collect them from the countryside, packing the plants herself allows her to save money and to exhibit her own marca (brand) on them. Sundays in Mercado Cuatro are quiet, and aside from some open stores it is eerily empty compared to weekdays. For this reason, on a previous visit when I first introduced myself, Esther specifically asked me to return on a Sunday morning so that she would have time to talk.

Esther has four children; two boys and one girl work with her and her husband in the store. Like the majority of medicinal plant vendors whom I spoke to, this is Esther’s only paying job and the only location on which she operates a store. As we talked, we were periodically interrupted to allow her to make sales as cars pulled up, or for her to answer business calls on the phone. While not all vendors in Mercado Cuatro operate on such a formal level, with her own marca, business cards and telephone line, Esther is fairly well established here. There are many rules and regulations to work in the market—one needs a permit and certification from the Ministry of Health in Paraguay, and with all of the permits required rendering it difficult for vendors to adhere to the required product regulations, she does not believe the government is very supportive of her work. Some of the vendors, she explained to me, may not want to speak with me because they are fearful of the police coming to check certification that they may not have. This is likely why many vendors appeared too suspicious of my presence in the market to
participate in an interview, despite my best attempts to explain the nature of my project. Esther, however, counts herself lucky because she started her business fourteen years ago, when starting up a store here was less expensive. Despite the minimal space her shop provides and her grievances with the unsupportive market administration, Esther does not consider herself to have any significant problems with running her business—even though while we were talking the torrential rain completely flooded the roadway, rendering it nearly impossible for cars or pedestrians to access her store, and prompted a scramble to bring her outdoor stands in out of harm’s way.

Upon my inquiry into the accessibility of traditional plant medicines for her to sell, she explained that it is generally not expensive to buy the plants from farmers or from the sellers who pick them from the countryside, however not all the popular plants sold grow native to Paraguay, and thus some plants such as manzanilla and boldo are more expensive to stock because they come from other places. Moreover, while the prices of plants years ago were cheaper for vendors such as herself to purchase from sellers, now it is more expensive—Esther believes this is due to their popular demand. Years ago, she claimed, the plants were a “gift”; one could buy a large amount for only Gs 1000, and now this is no longer the case.

While the increasing cost of purchasing medicinal plants for resale in markets such as Mercado Cuatro is likely due in part to excessive demand, it is unlikely that this is the only contributing factor. It must be emphasized that demand for these plants is immense; the consumption of maté and tereré is a daily practice within Asunción and is consumed in vast quantities. In the mornings it is common to find street vendors temporarily set up on corners, at bus stops, and on road medians selling fresh plants which customers add to their sizeable termos (thermoses). While species such as manzanilla and boldo are used medicinally for specific
ailments, they are also consumed on a daily basis, like to one’s ritual morning cup of coffee. Consequently, when considering the socioeconomic implications of supply and demand for medicinal plants, the frequency of non-specific consumption must also be accounted for—particularly because, since extended use is pivotal to the plants’ efficacy, the daily consumption of these plants is also exercised as preventative health measures.

While the majority of medicinal plant vendors with whom I spoke did not mention concerns about the available supply of plants, faculty members at the Universidad Nacional de Asunción expressed apprehension about the continuous unregulated gathering of wild medicinal plants, and strongly emphasized a need for conservation in order to maintain biodiversity. As Carmen, a professor in the Agricultural Sciences Faculty, said, there are now too many people harvesting the plants from the countryside and bringing them into the cities to sell. Given the volumes at which Paraguayans consume maté and tereré, she worries about what will happen should these plants disappear from Paraguay. This concern was reiterated in a subsequent interview with Alfredo, also a professor in the Agricultural Sciences Faculty at the University. Alfredo asserted that during the process of meeting high market demand, and due to a lack of protective or regulatory measures, some medicinal plant species are pulled from the soil by their roots, destroying the ability of the plants to regrow. Yet he also maintains that this danger has not yet reached the marketplace, where vendors of medicinal plants are still able to make a good living. With my market vendor participants affirming that business is steady, the abundance of wild plants available for medicinal use remains in question.

The existence of public land and small farmer holdings is also of significance to the livelihoods of medicinal plant vendors, as the encroachment of large-scale industrial agriculture on these lands influences both individuals and families living within close accessibility of
countryside plant species, as well as others who venture to the countryside to gather these plants from free lands. Hetherington (2009:224) writes that contemporary mass production of soy within the Paraguayan countryside has led to significant deforestation, pesticide pollution, and pressures on small landholders to sell their plots. In addition, Reed (1996:158-160) identifies the impact of industrial agriculture on rural Guarani communities as it moves steadily into Paraguay’s forested areas. As these communities lose territory and members are increasingly pushed into urban areas, it is not only the plants themselves that become at risk, but the cultural heritage of their use. According to Reed, by 1989 almost one quarter of Paraguay’s commercial production derived from agriculture and ranching, principally from commercial crops such as soybeans, wheat, and cotton. As the government has attempted to convert as much of this land as possible into suitable land for commodity production, roads have been cut and forests have been cleared in order to bring these products to international markets. While indigenous Guarani communities have been continuously pushed off their productive lands, it is ironic that Western medicines have been offered free of cost to subsidize the costs to their health that have resulted from the shrinking freedom to live off the land and access their own traditional plant medicines (Reed, 1996:158).

**A Political Ecological Approach to Medicinal Plant Supply and Demand:**

Bryant and Bailey (1997:3,7) emphasize that the ways in which countries in the Global South promote environmentally destructive activities for the purposes of economic profit are largely a result of unequal power relationships within a global capitalist system of political-economic processes. Such countries, they write, have been incorporated into the European-dominated economic order primarily so as to provide certain products for consumption or
manufacturing in Europe and North America. Environmental degradation within Latin America has resulted, with large areas of forest cleared for timber or to provide space for cash-crop monocultures such as cotton. Fundamental to Bryant and Bailey’s discussion of Third World political ecology is the connection between the politicized environments in the Global South and the wider (destructive) processes of production and consumption that occur on global and transnational scales. Furthermore, it is necessary to consider the differentiated social and economic impact of environmental change on the local scale, as the livelihoods of medicinal plant vendors within Asunción depend upon the steady supply of particular plant species, their diversity, and sustainability.

In his discussion of livelihood diversification in South-Western Niger, Batterbury (2001:437,457) centres on a “local political ecology,” concerned with the dynamics of livelihood and resource use and human material practices. He emphasizes that local realities of resource access and livelihoods exist within certain negotiable contexts involving broader processes and institutions, including the globalized economic system. Furthermore, Mayer’s (2000:942) exploration of disease ecology focuses on questions of “how changing human-environment relations and social activities can result in fundamental alterations in the interaction between people, the biological environment, and the broader social and economic context.” This perspective provides a valuable lens with which to consider the livelihoods of medicinal plant vendors in Asunción, and their relation to larger socioeconomic issues involving developments in agriculture and international markets, biodiversity, and the sociocultural relationship between vendors and the ecological environment. As agricultural expansion changes the physical relationship between Paraguayans and their landscape, its effects on rural communities and urbanization also alter people’s social relationships and how the landscape is incorporated into
these relationships. Reed’s (1996:158-160) assessment of the enlisting of Guarani healers in order to dispense Western medicines to treat health problems within the rural indigenous community brings to light critical connections between health and the physical and cultural links to the natural environment. In attempting to introduce biomedical products into the community, Reed (1996) found that the Red Cross health team was met with resistance when members of the Guarani community actively identified and resisted health programs as institutions of integration into the larger state. He further determined that biomedicines alleviated only physical symptoms of larger structural problems involving land loss and industrial agricultural expansion. The reduction of Guarani communities to a few small reservations along the Brazilian border has resulted in what he has classified as both physical and social health problems such as malnutrition, tuberculosis, leishmaniasis, and suicide.

Although Asunción is a large urban centre and the countryside is not readily accessible without transportation, the conveyance of medicinal plants from rural lands into the city involves a network of interpersonal socioeconomic connections, beginning with the rural process of harvesting or gathering the species, and concluding with the selling of plants within the urban marketplaces. This process intricately links the social and economic domains of plant vending and consumption.

In their approach to political ecological analysis, Kalipeni and Oppong (1998:1638) centre on three elements that are central to the examination of human-environment interactions: context and scale, historical depth, and structural relationships. They refer to context and scale as a multi-scale contextual analysis linking human agency and structure in human-environment and political economic relationships and forces. They argue that broader social, environmental, and economic contexts are related to a number of scales, ranging from the global to the local.
Historical depth, they propose, refers to the fact that complex interactions between society and
the environment are contextualized within local history and locally specific ecologies of social
and biophysical factors, changing landscapes and biodiversity. As their third area of concern, the
structural relationships affecting human agency are central to human interactions with the
environment. This includes institutions that may restrict or enable the actions of individuals who
change the environment, such as farmers and pastoralists. These institutions involve both local
governments and international institutions that directly affect environmental change, such as the
World Bank.

Kalipeni and Oppong’s (1998) approach provides an important lens with which to apply
political ecology to the context of livelihood for the urban market vendors of traditional plant
medicines in Asunción. As individuals whose actions are, on the local scale, directly connected
to the surrounding ecological environment, these actors are also connected to the larger web of
human-environment interaction within Paraguay and, ultimately, on a transnational scale. They
both affect and are affected by the chains of supply and demand for natural plant medicines and
the lands on which they grow or are cultivated. Consequently, it is important to understand the
processes connecting these urban vendors to Paraguay’s rural lands and the rural actors involved,
in order to comprehend how their livelihoods are shaped by their market work.

For the urban market vendor of traditional plant medicines, the process of stocking one’s
store or cart often includes interacting with a network of individuals involved in the
transportation of plants from the countryside into the city. Josephina, for example, has been
working in Mercado Abasto for thirty years. She does not grow any medicinal plants, and
although she does pick some plants herself, she primarily purchases them from countryside
sellers, bringing them into the market in San Lorenzo to re-sell as packaged remedies. Although
she believes that currently the plants are expensive to buy from these sellers due to high demand, she also claims that business at Mercado Abasto is steady. Selling the plants within the city is beneficial to business because of the large population. Mercado Abasto is a popular market as it is predominantly occupied by fruit and vegetable vendors who sell their products in bulk—an economically advantageous way for vendors to purchase their produce for resale in markets closer to the city centres of Asunción. Although Josephina believes that the farmers from whom she purchases her products make a good living, she acknowledges that homeless “asentamientos” (squatters) are a significant problem for small landholders in the countryside, because they take plants from other people’s land.

Like Esther, Josephina does not feel that the government is supportive of medicinal plant vendors, supporting instead the pharmaceutical companies because they have more money and more influence. “We are in Paraguay,” she says, “so if you have money you have power.” Additionally, she has many problems with the administration of the market: “The administration just wants money, and doesn’t want to hear about complaints and problems. You just pay your rent and be quiet. This is good for you.” She states that while years ago the vendors at Mercado Abasto had doctors who came weekly to check on them, there is now no service for the people working there, including for the many children who work in the market. Even though working conditions can be extremely dangerous given the poor infrastructure and electrical systems throughout the marketplace, there is no one now who oversees the welfare of the vendors. Due to these reasons Josephina claims that a vendor’s livelihood is primarily dependent upon her own business sense and knowledge, “It is a good business if you learn about it. But if you know nothing about the plants you are selling it is a bad business.” Consequently, vendors must be strategic in their approaches to both stocking their shops and handling the administration of the
markets. In order to meet demand, they must have a steady supply of plants, and thus for those like Josephina who primarily rely on rural suppliers to provide them with their products, it is imperative to hold steady and reliable connections beyond city boundaries. Moreover, the rural suppliers themselves must have consistent natural resource locations from which to gather their goods.

While the majority of medicinal plant vendors in Asunción rely on networks of countryside sellers and, in cases of non-native plants, international shippers to bring their products into the city, there are some who work almost completely independently. Many vendors selling packaged remedies also work from their own home “laboratories” to put the remedies together. Few, however, are as professionally established as Hector, a middle-aged medicinal plant seller who sells his products at Agroshopping on Tuesdays. At his stall Hector offers an array of options, including capsules, gels, oils, and glycerines composed of leaves, flowers, fruits, and roots. He labels his remedies as being homeopathic. While he used to have two laboratories to put his remedies together, now he makes them from home. He claims that while some of the plants he uses, such as *Capullo de India*, can come from as far as Asia, the majority are native to Paraguay. He too purchases some of his stock from farmers, such as *berenjena* (eggplant), which he purchases in amounts of roughly thirty kilograms per week. However on Sundays he ventures to the countryside himself to find and pick the wild plants. While he believes that there is a lot of earth in Paraguay to grow plants, he claims that there is a lack of empty land because farmers claim it as their own. Yet these farmers, he asserts, do not make a good living because they do not usually have the knowledge, technology or the money to support the cultivation of many species.
It is interesting to note that while almost all participants working in either Mercado Cuatro or Mercado Abasto believe the farmers from whom they buy some of their stock make a good living, this is contradicted by Hector and by some professors at the University. This suggests that perceptions of livelihood within Asunción is relative, even within the sub-population of medicinal plant vendors, but that this difference of opinion is likely correlated with socioeconomic position. To most vendors who rely on countryside farmers and sellers to provide them with their products, the high demand for plant medicines likely indicates that farmers are doing well. Furthermore, the majority of vendors with whom I spoke indicated that although they experience significant problems with market administration and some may label themselves as “poor,” they still overwhelmingly communicate that their business is good. However, those of higher socioeconomic means such as professors may feel differently due to their relative socioeconomic positioning. Isabel, who teaches in the Agricultural Sciences at the University, explained that she does not believe the plant vendors make a good living because of both the work involved and the relative prices they sell their merchandise for. Because vendors have to pick or buy their plants in the afternoon and go very early to the markets to sell, Isabel does not believe that a plant for Gs1000 per unit is a good price for the amount of work involved. According to her, vendors need to be selling each plant unit or remedy for at least Gs10 000—ten times this price—in order to make a good living.

Vendors working at Agroshopping, while selling the same products, undergo a different market experience. For those vendors working at Agroshopping, although they sell their goods here only one day a week, a better-established infrastructure and more supportive organization create a better foundation from which to sell their wares. While Lucia at Agroshopping works only on Tuesdays, she is still able to help support her three children, all of whom are attending
night school at private universities while working. Lucia likes working at Agroshopping because it is well organized. While the administration is demanding with many rules regarding how goods are displayed and tables are set up, she feels that it is a good place to conduct business.

Hector also claims to make good business at Agroshopping, but he attributes much of his success to his own business sense. Hector’s perspective demonstrates a consistent theme among vendors that one’s own ability to conduct business strategically is pivotal in the industry of selling plant medicines. When asked about his business, he answered, “My business is good because I am good. I feel like a winner because I study the products and my business. I am the only yuyero [herbalist] who knows two hundred kinds of plants.” He ascribes his achievements to the facts that he looks for the plants himself and studies both the plants and human anatomy in books:

“I know about anatomy because I read a lot, and I know about the plants too, so I can know what kind is better for me… I am my own doctor. I am crazy because I eat one hundred and twenty capsules each day: eight kids of liquids, three each, four times each day.”

Hector feels his quality of life is improved not only from establishing his livelihood from the selling of natural plant medicines, but also from having the knowledge to self-medicate. Because of this, he claims, he has not seen a medical doctor in thirty years. However he also acknowledges that, while he has done well for himself at Agroshopping, the government does not support vendors of medicinal plants because it does not reap any benefit from doing so. He cites large transnational companies, including Monsanto, as being sources of profit for the
Paraguayan government, and therefore as receiving governmental support. “They say, for example, that now there is a cure for the sickness people are suffering from, and all the people want to buy the drug for this specific sickness, and it’s just a business.” Hector believes that research regarding the contemporary use of medicinal plants in Paraguay needs to be extended. He told me:

“…if you talk about the medicinal plants in Paraguay it’s a very big situation. There are many factories. If you look with certain eyes it’s good, and if you look with other eyes it’s bad. You have to come to your own conclusion, but it’s a complicated situation. We could stay here all week talking about the medicinal plants.”

As is thus revealed by Hector, the vending of traditional medicinal plants in Paraguay is in no way a two-dimensional or uncomplicated matter. Rather, it is deeply rooted in the many-layered connections between the ecological environment and medicinal plant culture.

Jiménez (2009:12, 23-24) writes that in order to reduce pressure on wild areas and to simultaneously generate an economic response to those people involved, a project was supported by the Netherlands Committee of the International Union for Conservation of Nature Netherlands (IUCN NL), entitled “Protection and Sustainable Use of Natural Resources,” to be implemented in three key areas for conservation. She states that the use and trade of medicinal resources have increased with the demand of a growing population, and in part because of the high costs of Western medicine and the harsh side effects of synthetic drugs—both reasons often cited by my research participants for their preference of natural plant medicines. Moreover, the
conservation of these plants is threatened by issues such as over-harvesting, habitat destruction, lack of governmental controls, and environmental and cultural pollution.

This last point is particularly interesting, yet Jiminez does not expand upon it. However, my own research and the stress vendors placed on these plants’ position within Paraguayan cultural identity, suggests that the geographic and environmental strains on wild medicinal plants within the Paraguayan countryside also, consequently, place strain on the sociocultural elements with which these plants hold a relationship.

**Farming: Empresas and Cooperativas**

While the primary actors involved are most commonly the vendors themselves and the sellers who gather the wild plants from the countryside, the industry is no longer solely an independent enterprise for small networks of individual providers. Rather, my discussions with professors at the Universidad Nacional de Asunción suggest there are a small number of larger agricultural operations involving medicinal plants. Carmen, professor in the Agricultural Sciences Faculty, explains that there are now some small and medium-sized associations, *empresas*, which are composed of farmers who grow medicinal plants to sell to marketers such as the vendors of Asunción. Since they are able to grow a variety of plants, including food crops, Carmen believes that these farmers can have an adequate livelihood. While both the Minister of Agriculture and a small number of NGOs are working on an extension service with the small farmers so that they can cultivate enough crops to earn a reasonable living, she believes that this support is limited to the agricultural sector and does not extend to the vendors in urban marketplaces such as Mercado Cuatro. However, Carmen is unsure of the reasoning behind such unbalanced support. Although further research is required to determine the extent of government
support for the small farmer agricultural sector, it is possible that market vendors are not seen as having enough economic benefit to the state itself to warrant government support.

This last point is particularly interesting, as Paraguay’s medicinal plants do occupy a niche in the international market in the sale of pre-packaged maté and tereré. Yet this is likely a product of the manufacturing of larger Paraguayan companies, rather than a reflection of the work of individual market vendors. While some vendors stated that they sell their goods on an international level, it does not appear to be on a scale large enough to compete with the export of staple commercial crops such as soy. Consequently, it is likely that the government does not view individual market vendors of medicinal plants as a valuable investment within the agricultural sector, despite the value of their work within local economies.

In addition to these empresas, Carmen explains that there are two large factories and one smaller establishment within Paraguay where medicinal plants are processed as teas in order to be sent to Europe, Japan, and North America. One of these factories lies in the south of Paraguay, one in the north, and one in Asunción. However she does not know the details about the functioning of these facilities. While they operate primarily to package and export these products for retail sale in larger corporate retailers such as grocery stores, other medicinal plants commonly found in the marketplaces of Asunción are imported because, although they are favourites for consumption in maté, tereré, and as medicinal remedies, they are not native to Paraguay. Such plants include anise and moringa (English word) which are transported from Asia, as well as others such as oregano which are imported from neighbouring nations such as Chile.

Although these larger operations involving the cultivation and export of medicinal plants were not referenced in any of my conversations with market vendors save for Hector and one
other (who was involved with the production of stevia), they seem to be enterprises more familiar to university faculty. Alfredo, professor in the Agricultural Sciences Faculty, explained that many medicinal plants in Paraguay come from the north, near Concepción. There, he explains is a cooperative employing women who cultivate only medicinal plants that are native to Paraguay. While this cooperative does not export any of the species cultivated, those who buy from them often re-sell the plants, and some of these re-sellers do export them. Consequently, questions of economic security for farmers and plant vendors alike become tied to the issue of Paraguay’s biodiversity. Whereas the medicinal plants growing native to Paraguay are in extremely high demand amid Paraguay’s own population, the speculation that already exists among university faculty regarding the sustainable supply of these species is compounded by the supplies that are exported in significant quantities by re-sellers and for consumption as teas. Table 3 displays a selection of medicinal plants used within Paraguay as most commonly cited by plant vendors.

Table 3: Medicinal plants most commonly mentioned by vendors

<table>
<thead>
<tr>
<th>Guarani Name*</th>
<th>Spanish Name</th>
<th>Scientific Name</th>
<th>Native to Paraguay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agosto Poty</td>
<td>Flor de Agosto</td>
<td>Senecio grisebachii</td>
<td>Yes</td>
</tr>
<tr>
<td>Agrial Pytã</td>
<td>Agrial</td>
<td>Begonia cucullata</td>
<td>Yes</td>
</tr>
<tr>
<td>N/A</td>
<td>Ajenjo</td>
<td>Artemisia absinthium L.</td>
<td>No</td>
</tr>
<tr>
<td>N/A</td>
<td>Alfalfa</td>
<td>Medicago sativa</td>
<td>No</td>
</tr>
<tr>
<td>N/A</td>
<td>Aloe Vera</td>
<td>Aloe Vera</td>
<td>No</td>
</tr>
<tr>
<td>N/A</td>
<td>Anis</td>
<td>Pimpinella anisum</td>
<td>No</td>
</tr>
<tr>
<td>N/A</td>
<td>Azafrán</td>
<td>Carthamus tinctorius</td>
<td>No</td>
</tr>
<tr>
<td>N/A</td>
<td>Boldo</td>
<td>Peumos boldo</td>
<td>No</td>
</tr>
<tr>
<td>N/A</td>
<td>Burrito</td>
<td>Aloysia Polystachya</td>
<td>No</td>
</tr>
<tr>
<td>N/A</td>
<td>Calendula</td>
<td>Calendula officianalis</td>
<td>No</td>
</tr>
</tbody>
</table>

Table 3 is an amalgamation of information obtained from my research at the Jardin Botánico in Asunción and literature obtained from research at the library at the Universidad Nacional de Asunción.
<table>
<thead>
<tr>
<th>N/A</th>
<th>Caña Brava</th>
<th>Gynerium sagittatum</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>Cagorosa</td>
<td>Maytenus ilicifolia</td>
<td>Yes</td>
</tr>
<tr>
<td>Cedrón Kap’i</td>
<td>Chirca Blanca</td>
<td>Cymbopogon citratus</td>
<td>Yes</td>
</tr>
<tr>
<td>Menta’i</td>
<td>Citronella</td>
<td>Pelargonium citrosum</td>
<td>Yes</td>
</tr>
<tr>
<td>N/A</td>
<td>Cola de Caballo</td>
<td>Equisetum giganteum</td>
<td>Yes</td>
</tr>
<tr>
<td>N/A</td>
<td>Doctorcito</td>
<td>Eupatorium inulifolium</td>
<td>Yes</td>
</tr>
<tr>
<td>N/A</td>
<td>Eneldo</td>
<td>Anethum graveolens</td>
<td>No</td>
</tr>
<tr>
<td>N/A</td>
<td>Graviola*</td>
<td>Annona muricata</td>
<td>Yes</td>
</tr>
<tr>
<td>N/A</td>
<td>Hinojo Dulce</td>
<td>Foeniculum vulgare</td>
<td>Yes</td>
</tr>
<tr>
<td>Jaguarete Ka’a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jate’I Ka’a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ka’a He’e</td>
<td>Stevia</td>
<td>Stevia rebaudiana</td>
<td>Yes</td>
</tr>
<tr>
<td>N/A</td>
<td>Kalaguala</td>
<td>Polypodium decumanum</td>
<td>Yes</td>
</tr>
<tr>
<td>Kokū</td>
<td>Malva Blanca</td>
<td>Sida cordifolia</td>
<td>Yes</td>
</tr>
<tr>
<td>N/A</td>
<td>Manzanilla</td>
<td>Matricana chamomilla</td>
<td>No</td>
</tr>
<tr>
<td>N/A</td>
<td>Marcela</td>
<td>Achyrocline satureoides</td>
<td>Yes</td>
</tr>
<tr>
<td>Menta’i</td>
<td>Moringa</td>
<td>Moringa oleifera</td>
<td>No</td>
</tr>
<tr>
<td>N/A</td>
<td>Noni</td>
<td>Morinda citrifolia</td>
<td>No</td>
</tr>
<tr>
<td>N/A</td>
<td>Oregano</td>
<td>Origanum vulgare</td>
<td>No</td>
</tr>
<tr>
<td>N/A</td>
<td>Romero</td>
<td>Rosmarinus officinalis</td>
<td>No</td>
</tr>
<tr>
<td>N/A</td>
<td>Ruda Macho</td>
<td>Ruta chalepensis</td>
<td>Yes</td>
</tr>
<tr>
<td>N/A</td>
<td>Salvia</td>
<td>Salvia officinalis</td>
<td>No</td>
</tr>
<tr>
<td>N/A</td>
<td>Siempre Viva</td>
<td>Sempervivum</td>
<td>Yes</td>
</tr>
<tr>
<td>N/A</td>
<td>Tilo</td>
<td>Heteropterys angustifolia</td>
<td>Yes</td>
</tr>
<tr>
<td>N/A</td>
<td>Yerba Buena</td>
<td>Clinopodium douglasii</td>
<td>No</td>
</tr>
</tbody>
</table>

*The plants are commonly known in either Guarani or Spanish names. Where possible, I have included both. (Jiménez et al., 2009:24-154)
Despite the potential detrimental impact of large industrial operations that export medicinal plant products, the relationship between the biodiversity of Paraguay’s indigenous plants and agricultural production needs further examination. While specific information regarding the operations of various agricultural cooperatives within the country is beyond the scope of my study, what information I have gathered is from the viewpoints and experiences and of the informants themselves. Therefore, it provides uniquely subjective perspectives on the ways in which these operations affect local ecologies and economies. In my discussion with Bernardo, an eighty-one-year-old plant vendor in Mercado Cuatro, I gained some insight into one particular agricultural project in Paraguay working with stevia—a naturally sweet plant growing native to Paraguay, which is used as a medicinal plant and sugar substitute.

Bernardo works on a project to produce stevia—“Ka’a He’e” in his native Guarani. He is a well-dressed man who operates one small table in the market, selling only Stevia and a small selection of moringa. In discussing stevia production it is obvious that stevia, as well as traditional medicinal plants in general, is very close to his heart. Born of a Guarani mother, he talks of the Guarani people as being very wise about the use of the plants. He emphasizes this Guarani heritage, explaining that, “All the yuyeros learn the culture of the indigenous people.” When he was very sick once, he explained very emotionally, the knowledge that his mother taught him about plants saved his life. Stevia production is thus for him more than a mode of making a living; he sees it as a way of giving to the Paraguayan people. Underneath his table, Bernardo has a collection of newspaper articles regarding stevia production, and he displayed them to me proudly, announcing that he works on a project himself to produce the plant, growing it himself and also teaching other farmers how to grow it. He calls himself a “pioneer” of stevia production.
Bernardo tells me that the cultivation of stevia is a large project that is run in cooperation with independent farmers, and works on an international scale, exporting the plant to various European countries. Because there are many companies working with stevia in Paraguay, the plant is cultivated in large quantities, and is in demand both locally and internationally because it is a natural, calorie-free sugar substitute. One of his articles from May 2011 headlines that there is a $15 billion U.S. market for exporting stevia. It is of note, however, that the wealth generated from stevia production and export is not seen by the market vendors themselves. Bernardo believes that stevia could bring wealth to the entire network of actors involved with it, including growers, market vendors, and consumers, however it has yet to do so because not enough people understand the business of stevia. While this may be a contributing factor, other larger national and international agricultural and trade practices are also likely implicated in the distribution of wealth generated from stevia production, inhibiting independent farmers and plant vendors from fully benefitting from this industry.

A key aspect to the political ecological connection between social activities and physical geographical change is the issue of vulnerability. As Bryant and Bailey (1997:32) explain, vulnerability constitutes a measure of exposure of different members in society to ecological changes, and that this exposure is often dependent upon political and ecological susceptibility. Social and economic inequalities such as unequal land holdings and distribution of benefits to ecological changes such as agricultural development are therefore fundamental factors shaping the livelihoods of market vendors. If, for example, the continuous encroaching of industrial agriculture onto wild lands or lands previously occupied by independent farmers creates an unsustainable environment for supplying the medicinal plant industry, then the first members of the Paraguayan population to be detrimentally affected after the displaced farmers themselves...
will be the sellers and market vendors who depend upon the plants for their economic livelihoods, as well as economically marginalized consumers who cannot afford alternative forms of medical care. Thus, while the general population would suffer culturally the loss of a fundamental Paraguayan traditional practice, it is those who are already vulnerable who would be the first to suffer on a physical and economic level.

As Nilda, a mother of eighteen children and grandmother tells me, there is not much supply in Paraguay because the people want more than what the land can provide for them. As a result, vendors like herself are not able to expand their businesses to export their goods transnationally, or to publicize their businesses. Nilda has worked in Mercado Cuatro for thirty years, but she lives in Villa Hayes near the Chaco region. She commutes on the bus every day at four in the morning to make her way to Mercado Cuatro, where she sits by her cart of fresh and dried plants. This type of commute is common to vendors in Mercado Cuatro, many of whom live in towns outside of Asunción. While she makes good business in the market, she had common complaints about the administration, claiming that because they are not knowledgeable about her job they are difficult for the vendors to deal with. Nilda said that the plant sellers in Mercado Cuatro are always fighting with the administrators, who do not believe that they should be selling their products. She believes that yuyeros do not have the support from the government and related institutions because these power holders do not understand how they work with the plants:

“[They] don’t have the correct information. It’s the same situation with all of the people in Paraguay. We need more education. The people know just the theory and don’t know the application. It’s why we’re this way in Paraguay.”
We need intelligent people, but also people with experience.”

The government, she emphasizes, is problematic because they are “not ready for the change.” By this she is referring to the political transformation that occurred in 2008, when the Colorado Party, which had been in power for over sixty years, gave way to the Libertad party. In order to properly adjust to this political change, Nilda believes that Paraguayans need more education, and that this education would affect how the government handles vendors and the selling of traditional plant medicines in markets such as Mercado Cuatro. Due to this lack of information, Nilda hopes that my research will provide more information regarding the work that she does. Currently, although the majority of market vendors with whom I spoke claimed that business is good, this does not necessarily translate to their sense of generating secure livelihoods. When, for example, I asked Elvira, a sixty-year-old plant seller from Ñemby who sells her goods in front of the I.P.S. Hospital, how many days a week she works, she answered that she has worked there for forty years, every day except for Sundays. Although she claims that business is good, she tells me that, “If you’re poor you’re always poor,” meaning that if she did work on Sundays, that extra day would not make enough of a difference to improve her socioeconomic position, which she considers to be inadequate.

Nilda, like the majority of medicinal plant sellers with whom I spoke, sells plants that come from all regions of Paraguay, including South in the Alto Parana, North in the Bajo Chaco, and central in Salto del Guaira. Consequently, she relies on other sellers who gather these plants from the countryside to provide her with the variety that she requires. The vendors of urban markets in Paraguayan cities such as Asunción therefore function within a multidimensional and layered web of involvement, connecting the participating actors with their surrounding
ecological environment. As a result of this networking of effort required from the first stages of gathering wild plants to the process of packaging them and selling them to consumers, a community materializes connecting rural and urban spheres and, at the consumer stage, ultimately reaching across socioeconomic lines.

What all vendors with whom I spoke had in common was their assertion that, as Lucia, a fifty-two-year-old woman who works at Agroshopping summarizes, “All the people know and use the medicinal plants.” Following this, vendors at Agroshopping, Mercado Cuatro and Mercado Abasto all expressed that all types of people within Paraguay buy these plants; young and old, rich and poor, men and women. As use of these plants crosses socioeconomic lines, it becomes clear that they symbolize more than a traditionally affordable method of treating illness. Rather, as will be addressed in depth in Chapter Six, the fact that medicinal plant use transcends gender, generational, political, and geographic boundaries in addition to socioeconomic differences suggests that they serve as a device of cultural unification that reaches beyond issues of accessibility and practicality, to become part of Paraguayan conceptualizations of cultural identity.

**Getting Sick in Paraguay: the use of Plants and Pharmaceuticals**

The process of becoming ill and seeking medical attention is one that is negotiated through a number of avenues of accessibility and cultural practice. Decisions made regarding the treatment of illness are dependent upon socioeconomic factors such as cost, availability, and geographic accessibility, as well as cultural influences such as custom, tradition, religion, and familiarity. Baer (1996:451-453) writes that an effective political ecological approach to health must view political economy and the natural environment as interpenetrating components of
people’s health realities, as human health is affected by interaction with both environmental and sociocultural forces. Furthermore, Nef (2003:173) goes on to describe health as a “political terrain,” comprising culture, economy, and society as interplaying factors. The relationship between poverty, income, and vulnerability, he writes, is pivotal to health security. Consequently, as both economy and culture affect the livelihoods of medicinal plant vendors in Asunción, they become determining elements to the income generated by vendors and, subsequently, their socioeconomic status and vulnerability. As quality of health is a significant element to an individual’s ability to establish adequate livelihood, the health practices of a community are vital to the livelihood of healthcare providers. In the case of Paraguay, vendors of traditional plant medicines compose a fundamental community of healthcare providers—both in supplying the physical plants themselves and, often, in counselling clients on the preparation and usage of appropriate remedies. This is an aspect of medicinal plant vending that I will be discussing further in Chapter Five, on women as caregivers and keepers of knowledge.

In her work considering the role of pharmacies in Latin American healthcare, Ferguson (1983:43) points out that within the developing world biomedical pharmaceuticals are often pursued independently from the healthcare delivery system; thus while in the Global North pharmaceuticals are usually a secondary mode of healthcare following a consult with a physician, in countries such as Paraguay where physicians are systematically less accessible, the healthcare delivery system itself is often secondary. In Latin America, writes Ferguson (1983), hospitals and physicians are concentrated in major urban centres, and are also largely inaccessible to much of the population due to economic barriers. As Asunción is Paraguay’s capital, geographic barriers to biomedical care are not as central as they are in the countryside. However, socioeconomic barriers constitute a key reason for the poor accessibility of biomedical
practitioners and pharmaceuticals. As the husband of one 43-year-old vendor articulated, repeating a popular saying when it comes to serious illness, “If you don’t have money you are dead in Paraguay.” As a result, socioeconomic motivations merge with cultural practice to render plant medicines as the principal form of sought medicine, and plant vendors as often the primary providers of medical care.

As Silvia, a mother of five who runs one of the larger indoor plant stores in Mercado Cuatro told me, the widespread use of medicinal plants in Paraguay is a result of both cultural and socioeconomic factors. On the one hand, she explains, people are using the plants in the same kinds of ways as their grandparents. She uses the word “acostumbrado” (accustomed to) in order to describe her use of these remedies. However, she also contextualizes Paraguayans’ use of traditional plant remedies within economic terms, voicing themes common to the majority of my conversations with plant vendors. While she is accustomed to using the plants and does so because it is the most familiar form of treatment to her, there are certain physical health issues for which she consults a physician, including breast exams and pap smears. Although she goes to a biomedical doctor for physicals, she maintains that utilizing biomedicine is expensive due to their prescribing of pharmaceuticals. When I asked her if doctors were expensive, she answered, “Yes, because if you need to kill the pain in the moment it is good, but then you need more and more [pharmaceutical drugs.]” Silvia thus articulates what I soon learned was a common perception of pharmaceuticals: that use of them often establishes a very expensive dependency.

On the other hand, though the use of medicinal plant remedies also requires continued consumption—often long-term in order to establish the most potent effects—plants are significantly cheaper than pharmaceuticals. At Silvia’s store, for example, one might pay Gs45000 (roughly $11 CAN) for one hundred capsules. When buying unrefined plants, it may cost as
little as Gs2000-3000 (less than one Canadian dollar) per unit. In order to treat some illnesses that are considered to be more serious, such as high blood pressure or diabetes, some vendors disclosed that they use prescription medication. However, what amount of medication one might buy for Gs100 000 ($24 CAN) from the pharmacy, one could purchase Menta ’i (used for good digestion, nerviosa, and menstrual pain) for Gs1000 (25 cents CAN.) Van der Geest et al. (1996:164) discuss the impoverishment of the concept of health through the purchasing and distribution of pharmaceuticals. As there is a growing tendency within the Global South to view health as achievable through the use of pharmaceutical drugs, those incapable of affording them are rendered correspondingly incapable of achieving health. The stark contrast in cost between pharmaceuticals and traditional plant medicines in Asunción is a distinct illustration of how this can transpire. However, although there are Paraguayans who prefer the use of pharmaceuticals over plant remedies, among plant vendors biomedical drugs are often viewed with suspicion and apprehension as to their possible long-term adverse effects. Overwhelmingly, the perspective that emerged during interviews was that while the plants are not fast, they are “sure,” and because they are natural they actually constitute a healthier option than pharmaceuticals. Table 4 provides the most common illnesses experienced within Paraguay as cited by vendors and the traditional plant remedies used to treat them:

Table 4: Common Illnesses and their Remedies

<table>
<thead>
<tr>
<th>Condition</th>
<th>Plant Treatments*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arthritis</td>
<td>Romero, Ruda, Tomillo</td>
</tr>
<tr>
<td>Cancer</td>
<td>Graviola, Noni</td>
</tr>
<tr>
<td>Cardiac</td>
<td>Siempre Viva, Tilo</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>Ajenjo, Ajo</td>
</tr>
<tr>
<td>Circulatory</td>
<td>Anis, Boldo, Cangorosa</td>
</tr>
<tr>
<td>Cultural (nerviosa, frialdad)</td>
<td>Menta, Tilo</td>
</tr>
<tr>
<td>Condition</td>
<td>Medicinal Plants</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Dengue fever</td>
<td>Cedron, Citronella</td>
</tr>
<tr>
<td>Dermatological</td>
<td>Aloe Vera, Calaguala, Calendula</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Ajenjo, Insulina, Jaguareté Ka’a, Stevia</td>
</tr>
<tr>
<td>Diuretic</td>
<td>Alfalfa, Uña de Gato</td>
</tr>
<tr>
<td>Gastrointestinal (acid reflux, gastritis, diarrhoea, gripe, peste)</td>
<td>Albahaca, Boldo, Hinojo, Lucero, Manzanilla</td>
</tr>
<tr>
<td>Headaches</td>
<td>Albahaca, Manzanilla, Menta</td>
</tr>
<tr>
<td>Hypertension</td>
<td>Caña Brava, Romero</td>
</tr>
<tr>
<td>Infections</td>
<td>Anise Estrellado</td>
</tr>
<tr>
<td>Kidney</td>
<td>Alfalfa, Boldo, Cola de Caballo</td>
</tr>
<tr>
<td>Liver</td>
<td>Jaguareté Ka’a</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>Doctorcito, Moringa</td>
</tr>
<tr>
<td>Obesity</td>
<td>Phaséolus</td>
</tr>
<tr>
<td>Pharyngitis</td>
<td>Agrial, Naranjo</td>
</tr>
<tr>
<td>Unwanted pregnancy</td>
<td>Cangorosa, Kalaguala (“abortives”)</td>
</tr>
<tr>
<td>Respiratory</td>
<td>Chirca Blanca, Eucalipto, Flor de Malva</td>
</tr>
<tr>
<td>Sexual</td>
<td>Katuava, Equisetum</td>
</tr>
<tr>
<td>Sinus</td>
<td>Eucalipto, Limón, Verbena</td>
</tr>
</tbody>
</table>

*The plants listed are non-exhaustive and are based upon conversations with vendors and literature provided by participants.

Key to Paraguayan perceptions of medicinal plants in their relation to the body, healing, and pharmaceutical drugs is the cultural knowledge and tradition attached to their use. In the next two chapters, I discuss the key cultural elements of medicinal plant vending and use, in order to illustrate how the socioeconomic and geographic accessibility of these plants functions to solidify not only the livelihoods of vendors, but also traditional knowledge transmission and conceptualizations of Paraguayan identity.
Chapter 5

“You have to look for the history of women too if you want to know about pohó ñana:” Women as Caregivers and Keepers of Traditional Knowledge

As discussed in the previous chapter, the prevalence of medicinal plant use in Paraguayan society is connected to a myriad of socioeconomic elements, including associated costs of plant remedies and biomedicine, geographic availability of wild medicinal plants, and lack of government and administrative support for medicinal plant vending. In addition to the socioeconomic factors influencing the selling and purchasing of medicinal plants, sociocultural traditional practices are integral components to the prevalence of plant use. Medicinal plant vendors are key characters within the social fabric that ties together the processes of becoming ill, seeking, and providing medical care.

As Finerman (1991:24-25) indicates, medical pluralism is prevalent within most contemporary societies, including both traditional and introduced therapeutic alternatives. Research overwhelmingly focuses on formalized or specialized practitioners such as pharmacists, midwives, or shamans, and less attention is given to informal healers. This, she writes, calls for an examination of women’s roles within healthcare, as often they serve as informal health practitioners; caring for family members, diagnosing illnesses, and treating them with the medicinal materials at hand. Following Finerman's (1991) stance, I show that women market vendors of traditional medicines in Asunción occupy a uniquely pluralistic position within the medical community, as both specialized and lay healers. Although they are specialized in the sense that their body of knowledge predominantly involves the medicinal properties of natural plants and the dosage and administration of plant-based remedies, I also classify them as
lay healers because their concentration on plant medicines is a product of non-professionalized and uninitiated training. Knowledge of medicinal plants is most often passed down through the female side of the family, yet not as a practice of exclusivity, but rather as a product of conventionally observed gender roles.

Finerman (1991:24-25) goes on to note that investigations of lay healing and the popular healthcare sector largely identify women (chiefly mothers) as the primary healthcare providers of a community, and this contention has been predominantly supported by my participants. In this sense, the women plant vendors of Asunción are both specialized and unspecialized medical practitioners; although being female in itself does not constitute medical expertise, in a society in which women are the customary primary holders of traditional knowledge they have, in a sense, greater potential to be made adept because of their gender. While women plant vendors consciously build upon this knowledge to become experts in their field, the knowledge itself can be attained by anyone through a number of avenues, including apprenticeship, experimentation, and books. Thus, women are practitioners who are at the same time specialized and unspecialized, holding knowledge that is special yet accessible, and this configures for them a unique position within both Paraguayan social and medical societies.

This chapter addresses the positioning of women vendors in particular, in the possession and transmission of traditional medicinal knowledge. I begin with an assessment of the positioning of women vendors within the Paraguayan social and economic system in relation to the structuring of both the labour market and Paraguay’s healthcare system. I then address the social context of women market vendors with respect to their historical and contemporary roles as caregivers and keepers of knowledge. Drawing on literature concerning the roles of women
This chapter highlights the unique roles that women medicinal plant vendors in Asunción can play in the maintenance and generation of Paraguayan cultural and identity.

**The Socioeconomics of Women and Medicine**

The positioning of medicinal plant vendors—and women vendors in particular, within the Paraguayan social and economic system is tightly linked to the status of the country’s formal medical structure. Paraguay’s healthcare system has been explored by Rosenbaum et al. (2000:657-669), who examine the country’s transition from over a century of acute governmental centralization to a process of decentralization, including within the healthcare sector. While citizen involvement within political activity had been strongly discouraged historically until the end of the Stoessner regime in 1989, the authors highlight Paraguayans’ long tradition of informal participation in what can be referred to as self-help projects. Within Asunción, they write that community residents often informally organized in order to mobilize community resources and labour (Rosenbaum et al., 2000:659). The tradition of providing medicinal remedies in community centres such as Mercado Cuatro may be seen as an extension of this self-help mentality to the community health sector. Rosenbaum et al. outline the 1994 initiative to decentralize the Paraguayan health system, eventually agreeing to the creation of municipal health councils responsible for developing an annual local health plan that would unify local, departmental, and ministerial activities into a single program. However, unclear goals at the local level led to ambiguity in the processes and goals of health system decentralization, and as a result full decentralization has not been achieved.

An ambiguous healthcare system likely contributes to unequal access to care. For example, the Hospital del Seguro Social I.P.S. (Instituto de Previsión Social) exists only for
those who possess I.P.S. health insurance—a plan available to employees of the government (Instituto de Previsión Social, 2009). For others, quality biomedical care may be less available, and the cost of pharmaceutical drugs alone can be a deterrent. This, one 43-year-old female participant explained, is one of the reasons that the plants are so popular among the general population. While chemotherapy, for example, may cost Gs90 million per session, one would be hard pressed to find a plant remedy costing more than Gs30 thousand per unit. The Paraguayan healthcare system is thus both ambiguous and pluralistic, and this is exemplified by the I.P.S. hospital itself, the entrance of which sits in a driveway lined with vendors on whose carts can be found an array of medicinal plant medicines (illustrated in Figure 5). Consequently, my analysis includes a necessary assessment of the ways medicinal plant vendors understand the relationship between the use of medicinal plants and pharmaceuticals.

Figure 5: Vendors’ stands in front of the I.P.S. Hospital

Aside from available access to medical care structures, the situating of women within Paraguay’s labour force is an essential component of the socioeconomic context of women market vendors of traditional plant medicines. At the time of her article, Safa (1977:127-131)
wrote that the overall participation of women within the labour force in Latin America hovered around twenty percent—approximately half that of the United States or the more highly industrialized countries of Western Europe. Movement of women into the labour force rarely included white-collar and professional employment. She noted that according to Madeira and Singer (1975), developing countries can generally be expected to pass through three phases of female participation in the workforce. During the first stage, the beginning of industrialization, the number of people employed in agriculture is still high and the number of domestically oriented commercial and manufacturing industries is still significant. At this stage the integration of women into the workforce is still high. During the second stage, economic development causes many people to leave localized home production, and there is significant rural-to-urban migration, causing the number of rural women working in the productive sphere to decrease. This results in a continuous growth of women within the tertiary sector, which continues until the country reaches a more advanced stage of development wherein female employment outside of the domestic sphere rises more steadily (Safa, 1977:127). More recently, Cavalcanti (2002:19-20) notes that while the number of Latin American women in formal employment has increased steadily since the 1980s, it remains segmented by marital status and sex-segregated occupations. Despite movement from tertiary sector jobs such as street vending towards manufacturing or even government positions in recent years, the majority of women, writes Cavalcanti, continue to be employed in the low-paying, sex-segregated service sector.

Safa (1977:128) argues that the gradual growth of urban and industrial development experienced in the West is foreshortened in the Global South because industrialization is significantly financed by foreign capital, and dependent on foreign technology. Thus, capitalist nations have largely governed industrialization in such countries. Women have been
incorporated into the modern sector mainly as professionals in state bureaucracy, and they have been increasingly shut out of blue-collar work and restricted to marginal employment in the informal sector, such as petty market vending (Safa 1977). Using this framework, it is clear that women market vendors of traditional plant remedies in Asunción occupy a socioeconomic position shaped by both internal and transnational economic and developmental processes.

In her article examining the female labour force in Argentina, Bolivia, and Paraguay, Sautu (1980:152-154) explains that developing economies such as that of Paraguay are characterized by structural disparities that are revealed at the level of labour markets. Underprivileged groups typically make up the informal sector, which absorbs labor that cannot be employed in other sectors. Furthermore, she postulates that lower class, less educated women join the informal labour force as a result of necessity for the maintenance of the household. Thus, within the informal sector one can expect to find women who are of lower socioeconomic status, and who, with fewer options for employment, engage in activities such as petty trade. As Paraguay remains predominantly a rural country, Sautu (1980) emphasizes that agriculture is an important source of income that is often complemented by the production of local crafts. In the case of market vendors of traditional medicines, agricultural production has been directly tied in with petty trade within both urban and rural markets. Building upon Sautu’s characterization of the Paraguayan economic sector, I contend that the widespread selling of plant remedies within urban markets such as in Asunción exemplifies the strength of the informal sector’s reliance upon agriculture and rural lands.

Sautu hypothesizes that the female participation in the labour force may increase in the urban sector, and that educated women may find more opportunities for productive employment provided that there is expansion in educational and health services, and in commerce and
finance. Furthermore, she theorizes that, should the country achieve a reasonable rate of economic development, less educated women will withdraw from the market when they get married and have children (1980:158-159). While Sautu’s article is now thirty years old, her arguments provide a valuable foundation by which to examine Paraguay’s contemporary economic position; in particular the positioning of women within the urban informal sector, and their relationship to rural production. While she reveals that Paraguay does not offer women many opportunities for gainful employment within the agricultural sector beyond aiding male family members during the harvest seasons, a clear physical and sociological relationship does exist between women and the land. For my research participants, this relationship manifests in their role as caregivers, medicinal plant vendors, and the keepers of traditional knowledge regarding the natural flora of the countryside.

Among medicinal plant vendors in the markets of Asunción, it is interesting to note the variation expressed by male and female vendors regarding both the sources of their knowledge of plant properties and the gender roles that are, or are not, ascribed to the perpetuation of traditional medicinal knowledge. Among the women with whom I spoke, it was generally agreed upon that although both men and women may learn about the uses of the plants and sell the products in the markets, women are the primary keepers of this information. Men, it was explained, chiefly work in other areas in both rural and urban settings. While the connection of Paraguayan women to the land most often includes knowledge of the medicinal properties and administration of the plants, men’s connection with the land usually falls more frequently in the domain of farm work; handling livestock and agriculture. Women, claims Lucia—a 52-year-old vendor at Agroshopping—mainly learn and know about the plants because women are “the best,” knowing more about nutritious foods, plants, and the administration of the household.
Men may agree with this position. For example, Alfredo, a professor in the Agricultural Sciences Faculty at the Universidad Nacional de Asunción, speaks of a woman’s cooperative that operates in the north of Paraguay, near Concepción cultivating only medicinal plants that are native to Paraguay. In general, he adds, women cultivate the medicinal plants in the countryside because, “the men don’t care.”

Other women vendors such as Laura, a young vendor in her twenties whose stand is set up in front of the I.P.S. hospital, claim that while women vendors managing family run shops know more about the uses of the plants themselves, husbands tend to handle the monetary aspect of the business. “It’s not men’s work,” says 60-year-old Elvira—Laura’s stand neighbour—of learning the medicinal properties of the plants. “They have other kinds of jobs.” Juana, a middle-aged mother working in Mercado Cuatro, concurs, noting that, “Only women learn about herbs because men work in other places, especially on the farms.” This apparent gender divide is expanded upon by Alfredo, who adds that the men who do manage shops or carts in city markets such as Mercado Cuatro only work there to be employed, and thus do not actually know as much as the women about the plants. These men, he explains, need to learn from books because the knowledge has not already been passed down to them. Although during the course of my research I spoke to two male vendors who claimed to have learned about medicinal plants from female family members, Alfredo’s position reflects a general conceptual gendered division of knowledge and labour.

Wainerman et al. (1980:147) argue that the participation of Paraguayan women within the workforce is accomplished to a great extent within the family unit, allowing women to be economically active without breaking traditional feminine roles of housewife and mother. They find greater participation of Paraguayan women within petty trades in the urban informal sector
than within Argentina or Bolivia. In his work on competition and cooperation among working women in Bolivia, Agadjanian (2002:260) stresses that street commerce, including in open air markets, has become the most prominent feature of informal economies within Latin America, and that petty trade in the informal labour market has historically been a predominantly female occupation. He goes on to argue that cultural gender ideologies both reflect and distort the social class ideological constraints on women’s work within the informal sector. While my study lacks the quantitative data to determine the contemporary rates of women’s participation within the urban informal sector, my observations revealed a significantly greater proportion of female medicinal plant sellers than male. The relationship between this form of employment and women’s traditional roles within the family features as a significant theme within my analysis.

In speaking with market vendors, it becomes clear that gender factors predominantly into the perceived roles of plant sellers. As Luis, a 34-year-old male and father of three informed me at his cart on the road median on Santisimo Sacramento informed me, mostly women learn about the plants because: “people believe more in women, because if you’re a woman and you’re having feminine problems, for example, you want to talk to another woman, not a man.” Luis learned about the medicinal properties of the plants from his aunt, a plant vendor in Mercado Cuatro. He described women as more able to listen to the physical problems of the people, and as confidants to vulnerable female clients in particular. Informants often described women to me as more talkative, gathering more information about the plants through conversations with clients and other vendors, and becoming like doctors to the people they provide to. Esther, 43-years-old, said:

“You have to be friendly to customers, and it’s very important to talk with people
(like a psychologist) and listen to them. You must always be happy, and not let what’s bothering you show, and this way many people keep coming back.”

Furthermore, Esther believes that women are generally more hard-working than their male counterparts. While women tend to learn about medicinal plants from their mothers or other female family members, men do not tend to learn from their fathers, “because men are lazy,” she jokes, glancing at her husband as she declares this. On a more serious note, she adds that there is not much work in Paraguay for young women. She wishes that there were more opportunities for her teenaged daughter.

As Esther describes, for market vendors, although their client base is larger than that of a family unit, often relationships are established with clients that create similar, yet less intimate roles. In this way, medicinal plant vending provides a kind of social service that is not as easily attainable through the use of biomedicine. The vending of medicinal plants requires the establishment of trust and rapport with customers who often become longstanding and loyal clients. One male professor echoed Esther’s discussion, stating, “They [vendors] have to know how to treat people because they are dealing with people who don’t have enough money for expensive surgeries.” Thus, both clients and— due to the precariousness of many aspects of their work—the vendors themselves, are vulnerable populations. In this way the process of purchasing remedies also becomes a social interaction in which the plant vendor becomes both a healthcare provider and caregiver, listening patiently to a customer’s physical complaints before prescribing the appropriate medicines.

Female vendors in particular discussed the necessity of maintaining a pleasant and friendly disposition; of making the client feel comfortable discussing his/her ailments. Thus, the
interaction between female plant vendor and client is more intimate than that between a patient and a professional healthcare practitioner. This social interaction that occurs in markets ultimately builds upon both cultural and economic realities. It provides an attentiveness and a caregiver relationship to the consumer, which cannot be attained through the purchasing of pharmaceutical drugs. It ensures the socioeconomic stability of both consumer and the vendor, who is able to establish a merchant-client relationship. Thus, a reciprocal relationship is formed between client and vendor regarding socioeconomic stability, as both clients and vendors—whose livelihoods largely rest upon maintaining these relationships—are economically vulnerable.

Wilson (1998:105-107) also considers approaches to understanding the position of women within the informal sector, writing that women often constitute an especially vulnerable labour force due to societal, cultural, and familial patriarchal constraints. Such constraints lead to a disproportionate representation of women within the informal sector—which is in itself increasing steadily within Latin America. Wilson (1998:106) concentrates on street vending in particular, outlining three distinguished types: commission sellers and dependent workers whose work is contingent upon their linkages with suppliers, and independent workers who are reliant solely upon themselves. Within Asunción, the majority of market women selling traditional plant medicines are dependent to some degree upon farmers or sellers who pick the wild plants from the countryside and trade them to urban market vendors. This speaks to a certain amount of ambiguity surrounding the vending of traditional plant medicines in Paraguay, since (as discussed in Chapter Four, section 1: *From the Countryside to the Market*), while many of these plants grow wild within the countryside, emerging issues such as potential loss of biodiversity
and the increasing privatization of rural land put into question both the availability of wild medicinal plants, and the rights of those who informally harvest them.

An understanding of women’s contemporary socioeconomic and cultural roles within Paraguay also requires foundational knowledge of these roles from a historical perspective. Reber’s (1988:317) exploration of the demographics of Paraguay surrounding the Triple Alliance War of 1864-1870 reports that both before and following the war women worked within agriculture, artisan industries, and were the primary suppliers and retailers in local markets. This latter position, I argue, is still evident today in many sectors within large city markets such as Mercado Cuatro. Not only are the vendors of traditional plant medicines overwhelmingly women, but in many cases so are the sellers of textiles and produce. Ganson (1990:349-368) also considers Paraguay’s war with Uruguay, Brazil, and Argentina, identifying that after the war began, women, elderly men, and children were almost entirely responsible for agricultural production. Furthermore, she reveals that during the war, nursing represented a new occupation for many women, and that this responsibility included the use of natural herbal remedies to treat such acute illnesses as the cholera epidemic. Following the war, Ganson (1990:368) confirms that for every Paraguayan men there were three women, and thus although they may not have a history of formal recognition within the economically productive sphere, women’s roles as necessary providers and caretakers are not are new phenomena that have arisen solely with modern industrialization and urbanization. As Nilda, a grandmother in her approximate mid-seventies explained to me:

“Paraguay had two big wars, and one was the worst: the Triple Alliance War.

Here they fought with Argentina, Uruguay, and Brazil. All the men in Paraguay
died and so the women had to fight for the country, and they also had to do everything. At this time they began to look for plants and fruits that could heal. So you have to look for the history of women too if you want to know about poho ñana.”

It is clear with speaking to the women vendors of Asunción’s markets that the tradition of medicinal plant use is inseparable from conceptualizations of the historically traditional roles of women, and of their contemporary social and economic positioning within Paraguayan society. According to Finerman (1991:39), reliance on women—in particularly mothers— for family healthcare can be shaped by both the social and psychological costs of consulting other specialists. Like specialists, mothers acquire curative knowledge and training through experience, yet while medical professionals treat high volumes of patients, mothers tend to a wide variety of illnesses among a small patient population. In Paraguay, the practice of treating family illnesses with natural plant remedies is the principal way in which knowledge of natural healing is transmitted through generations.

**Traditional Knowledge Transmission: Women and Cultural Heritage**

In her study of women healers in Benin, Sargent (1991:211) argues that in analyzing the traditional healing roles available to women in many societies, three primary categories emerge: mothering, informal health care provider, and specialists. While I have argued that women market vendors occupy a position that is constitutive of both specialist as medicinal plant provider, and informal caregiver as their knowledge is often based upon their healing experiences within the family rather than formal training, the role of mothering forms the
foundation of these roles. The healing role of the mother requires knowledge of the medicinal tools immediately available to the family, and in countries such as Paraguay where biomedicine has not been the most historically or traditionally accessible form of medicine, this denotes familiarity with naturally occurring medicinal resources such as local plants. Furthermore, in cases where a mother is incapable of upholding this healing role or her knowledge of the appropriate natural medicines is insufficient, Sargent (1991) contends that generally female kin and neighbours are called upon for support or advice.

According to Reyes-García (2010:5-6), ethnographic research in various cultures has determined the existence of differences in the cultural knowledge held by individuals within a cultural community. Often, she argues, knowledge and use of medicinal plants is concentrated among women because women often are responsible for managing household health. Furthermore, she discusses the transmission of traditional ethnopharmaceutical knowledge, determining that family members are most often the most important source of medicinal knowledge, and within the family unit mothers are the most particularly salient providers of this kind of information. Among Paraguayan market vendors, the majority with whom I spoke recognized female family members as their primary source of education regarding medicinal plants. Like Laura, a plant vendor approximately in her mid-twenties who works in front of the Instituto de Previsión Social Hospital, many learn from their mothers, who learned from their mothers, going back through the generations.

Lourdes, a 48-year-old vendor in Mercado Cuatro and mother of six learned much of what she knows from her grandmother, and explains that women learn more than men, primarily as part of traditional family knowledge because, “men grow the plants and women sell and learn about them.” This view is complemented by Isabel, professor in the Agricultural Sciences
Faculty at the Universidad Nacional de Asunción, who believes that people learn from their families, particularly from a mother or grandmother—“usually woman to woman.” This, she claims, is because “in Paraguay women take care of health. They care for other members of the family, and have more patience to prepare and give remedies to children.” Furthermore, she adds that, “More women also sell the plants in the mercados.” Like Lourdes and in concurrence with Isabel, many participants cited mothers, grandmothers and aunts as their teachers, and only four—two men and two women—claimed to have taught themselves from books. Furthermore, for male vendors in Asunción, books are often their principal bases for information about plants, as boys do not usually learn from their family members as systematically as girls.

In her assessment of Andean women’s roles in health and medicinal plant vending in Bolivia, Sikkink (2010:40) links their work as vendors of traditional medicines with their roles in household and productive work. Discussing their responsibilities in crop-processing, cooking, storage, and care of household resources, Sikkink writes that it is in this context that women produce and manage traditional medicines. Pieroni and Price (2006:75) discuss the role of the mother in relation to both food and healing, as the principal warden of child nutrition and survival. Focusing on the consumption of wild plant foods, the authors assert that in many societies such as that of their fieldwork in Northeast Thailand, women are in primary control of the preparation and distribution of food within the household, and that their roles in food production render them key to identifying the needs of consumption within their community. Although plant medicines within Paraguay are less commonly ingested as foods in themselves, I argue that the daily consumption of these species in traditional beverages such as maté and tereré marks the roles of women in knowing and administering these plants similar to their roles as providers of adequate food and nutrition.
As Carmen, professor in the Agricultural Sciences Faculty at the Universidad Nacional de Asunción, speculated, women probably have more knowledge because they, “have to cook, feed, and look after their children. More mothers teach their daughters, although some people do learn from their fathers, and people also do consult books.” When I asked women vendors who takes care of family members in Paraguay when they are sick, there was consensus that this is usually the work of mothers. To add to this, one male professor of Agriculture at the Universidad Nacional de Asunción explained to me, just as mothers try to feed their children foods that are nutritious and will allow them to develop into strong adults, Paraguayan mothers also give them medicinal plants that they believe will benefit their children in the future. Building from this, I contend that the daily consumption of these medicinal beverages allows for them to be understood as cultural foundations to the conceptualization of healthy lifestyles, like to that of traditionally consumed foods.

The market vendors of Asunción principally cite female family members as their source of information and learning of the medicinal properties of Paraguay’s local fauna. Their identification of women as the primary keepers of traditional medicinal knowledge, however, has deeper implications than the subscription to customary gender roles within the family. Rather, the role of women as herbalist healers forms part of a foundation of indigenous knowledge, cultural practice, and ties to the natural landscape that are thus passed on to new generations as key elements to Paraguayan cultural identity. Although many of the vendors with whom I spoke resided in urban areas, the gendered relationship between women and the land as applied to medicinal plants largely persists in knowledge of these plants and in the practice of medicinal plant market vending. Table 5 depicts the sources of knowledge cited as their primary sources of medicinal plant knowledge by both the male and female vendors whom I interviewed:
Table 5: Vendors’ Sources of Medicinal Plant Knowledge

<table>
<thead>
<tr>
<th>Participant Sex</th>
<th>Learned From:</th>
<th>Female Family Member</th>
<th>Female Non-Family</th>
<th>Male Family Member*</th>
<th>Self-Taught (Books/Experimentation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Female</td>
<td>X</td>
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<td></td>
<td></td>
<td>X**</td>
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<tr>
<td>Male</td>
<td>X</td>
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<td>Female</td>
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*Father has not been included as a category because no vendors claimed to have learned from their fathers

**This vendor claimed to have learned from both her grandparents.

Sikkink (2010:40) connects women’s responsibilities for storing and preparing food crops to the exchange of the finished product, which has translated today into selling of these products in both urban and rural markets. She argues that in Bolivia these women vendors have become a cultural symbol of the market place; however, my work in Paraguay suggests that medicinal plants constitute a cultural symbol of which the women selling them are an integral part. Alfredo, professor of Agriculture contends that women know about the plants also because they communicate more with each other than men do with others. He claims that in all of Paraguay women know about the plants because they “talk more than men.” He claims that women learn
from their mothers because that is the tradition. He refers to an eighty-year-old woman plant vendor in Mercado Abasto who has worked there for forty years, saying that, “She is like a doctor for the people here.” Alfredo discusses women vendors in relation to their comprehensive knowledge of natural medicines as well as the caregiver role that they adopt with clients. In contrast, he asserts that men only learn about the plants out of necessity, such as if they contract a severe illness that they must treat themselves. Furthermore, he says of the men in Mercado Cuatro, “[they] don’t actually know as much as the women. They only work there to have a job. They need to learn from books, such as the one written by Torres.\(^7\)” Thus, Alfredo describes the work of women plant vendors as not only a socioeconomic activity, but also in relation to others; an extension of their historical and contemporary social roles. The work of male vendors, however, is portrayed as being primarily based on their own individual physical or socioeconomic needs, rather than in relation to familial or social structures. As Laura in front of the I.P.S. hospital explains, women primarily learn about the plants, but both men and women sell them because men deal with money. Thus, although vendors often pointed out that there are more women medicinal plant sellers in the markets than men, money was the primary motivation cited for why some men do engage in this work.

Alfredo’s discussion of the male and female roles with medicinal plants brings to light an interesting perspective of the gendered nature of medicinal plant vending. Since the majority of plant vendors whom I observed in the markets of Asunción were women, and most with whom I spoke referred to women as the traditional members of the family to learn about the plants, it is clear that gendered perceptions and activities involving medicinal plants are relevant to understanding both the socioeconomic positioning of plant vendors, as well as how the vendors

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and the plants themselves fit in to wider conceptualizations of Paraguayan identity. The plants, after all, are an integral part of Paraguayan indigenous and historical heritage, and thus the gendered dynamics of their use are pivotal. However, it may also be possible (and of interest for further research) that conceptualizations of contemporary gendered relations to plant medicines at times reflect tradition more than they do practice. Although most female participants expressed beliefs similar to those of Alfredo, some men informants either illustrated or shared a different point of view.

Bernardo, an eighty-one-year-old vendor at Mercado Cuatro, is one such example. He believes that both men and women learn about the plants, describing his own experience of becoming seriously ill, and using the knowledge he had learned from his Guarani mother to nurse himself back to health. He described the Guarani people as being “sabio”—very wise, adding that, “All the yuyeros learn the culture of the indigenous people.” Furthermore, this was obviously a subject Bernardo held very close to his heart, as in discussing his mother and the knowledge that she had passed down to him, he became very emotional; both grateful for the Guarani knowledge that saved his life, and proud of his own agricultural accomplishments with stevia. Pulling out a box of newspaper clippings he kept underneath his small table, he pointed out to me the articles about the stevia plants with which he works, and referred excitedly to his plant farming as contributing to what has become a multi-million dollar international industry.

Bernardo does not stand alone as the only male vendor with whom I spoke who discussed his knowledge of medicinal plants within the context of traditional knowledge transmission. Although Luis, 34, believes that women primarily learn about the plants because the Paraguayan people believe more in women’s expertise on the subject, he describes himself as an anomaly. Although he sells Agrial for sore throats and Cola de Caballo, Menta, and Urusu for good
kidney function, he sells all of his plants fresh, for consumption in maté and tereré. He does not offer packaged remedies. Furthermore, Luis does not occupy a permanent store or cart—rather his supply is set up on a portable table on the road median of a busy street. Consequently, clients purchase his plants on-the-go, primarily while driving by or stopped at red lights. Being on a major bus route, bus drivers stop at his stand often and Luis hurries to run plants onboard for them to fill their termos. Although certain plants are put in maté and tereré in order to accomplish particular health effects, they are consumed in this manner regularly, and not necessarily in order to treat an acute illness. Thus, Luis’s role as a medicinal plant vendor, based upon his supply and non-permanent location, is somewhat less involved than that of market vendors who sell a wider variety of medicinal plant remedies. It is likely that as a result, Luis is not consulted in the same way as the women in markets such as Cuatro and Abasto, who are also consulted as councillors for particular health problems. Rather, he tends to sell plants to people who already know what they need or want, rather than providing recommendations or participating in extended discussions regarding his products.

The same is true for Bernardo, whose plant supply is limited mainly to stevia, and what small supply of moringa can fit on his portable table. This suggests that even among men who learn about medicinal plants as part of a family tradition, they are less inclined to adopt the full range of the medicinal plant vendor role. While for Bernardo his emotional attachment to stevia and the knowledge he obtained from his mother suggests that the plants constitute more for him than simply a product by which to make a living, neither he nor Luis appear to adopt the caregiver or counsellor roles more common to women vendors.

McIntosh and Zey (2005:135) write that the family is often viewed as the foundational institution providing the mechanisms for reproduction, status placement and socialization.
Correspondingly, the transmission of traditional medicinal plant knowledge within Paraguayan families may also function to integrate this knowledge into traditional gender roles. For females, learning about the plants within the context of caretaking and imparting healthcare can be connected to their conventional gender roles within the family and, as described by many of my participants, translate into their roles as plant vendors. McIntosh and Zey (2005) go on to note that the family is often seen as the reproducer of labour, preparing adult members for the day-to-day tasks of employment. For males, knowledge of traditional plant medicines appears to be obtained within the context of sales and income-generation. Within the framework of this argument, it follows that my male participants appear to work more as simply providers of plants, rather than directly as healthcare providers.

**Moving Towards Understandings of Identity**

The sociocultural dimensions of traditional knowledge transmission and the social relationships maintained and established through the practice of medicinal plant use in Paraguay are integral to positioning of these plants within the construction of Paraguayan national and cultural identity. As consumable products ingested through a wide variety of methods, including beverages such as maté, tereré, tea, and occasionally as foods, literature addressing the connections between practices of food consumption and cultural identity can conceptually contribute significantly to the Paraguayan context. Caplan (1997:1-3) studies the implications of food consumption practices as a marker of cultural identity, as well its relationship to health, writing that, “…the study of food reveals our social and cultural selves, as well as our individual subjectivities.” Caplan goes on to propose that food is never just “food”—that its significance moves beyond that of simple nutrition, to become intimately bound up with social relations,
including cultural ideas about the human body and the meaning of health. Furthermore, she notes that culture plays a significant role in what is classified as food in the first place (1997:3). In the following chapter, I will expand upon Caplan's discussion of food, arguing that because Paraguayan medicinal plants are also ingested, the ways that they are ingested, and the fact that preparing and supplying the plant medicines within the family unit are often coupled with women’s roles of storing and preparing food, that assertions of the importance of food to cultural identity can be extended to the use of medicinal plants. What can be discerned from plant vendors’ explanations of the social dimensions of medicinal plant knowledge transmission and product provision is that what constitutes healthy medicines, risky medicines, and accessible medicines in Paraguay involves a web of cultural beliefs and sociocultural constructions that cannot be isolated from the plants themselves. The following chapter discusses this in detail, examining both the social and conceptual elements establishing medicinal plant remedies as key components to conceptualizations of Paraguayan identity.
Chapter 6

“It is impossible to take our medicinal herbs away because they are part of us:”
Medicinal Plants in the Formation of Paraguayan Identity

The previous chapter provided a discussion of relationship between medicinal plant medicines and women’s traditional knowledge, and how this relationship manifests in the selling of these remedies in the urban markets of Asunción. In drawing on literature concerning the socioeconomic and sociocultural positions of women healers, I highlighted the unique roles that women medicinal plant vendors in Asunción play in the maintenance and generation of Paraguayan cultural and identity. This connection between the knowledge and use of traditional medicinal plants and the maintenance of Paraguayan cultural and national identity is what will be explored in this chapter.

Contrada and Ashmore (1999:4-6) link health and medicine to concepts of the self and social identity, arguing that issues involving health, illness, and health promotion often involve psychosocial structures and processes involving the self and identity. Moving beyond the realm of self-identity, I argue that the social nature of the market vending of traditional medicines necessarily also concerns social and cultural identity. Working from this assertion, this chapter begins by evaluating the concepts of social and national identity and their relation to physical health. I move on to illustrate how the ingestion of traditional plant medicines can be understood in an approach comparable to the ingestion of traditional and healthy foods, in that both types of goods become established components in sociocultural identity formation. Finally, I conclude with an analysis of the roles of Paraguayan traditional medicinal plant vendors specifically in the maintaining of Paraguayan identity through their provision of regular urban access to these plants and, therefore, to healthy consumable products.
Identity and the Healthy Body

Caplan (1997:3) identifies culture as a primary determinant in what is classified as food and healthy food, and so it follows that culture would play a pivotal role in determining what is classified as medicines and what should be ingested to establish and maintain a healthy body. In this sense, the ingestion of medicines is necessarily a facet in the formation of cultural identity. Furthermore, Caplan (1997:13) points out that researchers such as Goode et al. (1984) illustrate how social and familial relationships are formed and maintained through interaction that takes place surrounding the preparation and ingestion of food—such as food exchange and reciprocity. As illustrated in the previous chapter, in Paraguay the selling of medicinal plants involves not only an exchange of ingestible goods, but also a social interaction that is tied to traditional feminine knowledge transmission, primarily within the family unit. This chapter will further demonstrate how vendors of medicinal plants also form an integral part of social relationship networks surrounding health.

Mach (1993:4-7) emphasizes the importance of social and cultural interaction as integral to both individual and group identity formation. At the individual level, he writes, one questions personal identity in relation to other people, whereas at the social level, one questions, “Who are we in relation to other groups?” It is at this level that symbols and social practices work to define cultural identity. Thus, Mach (1993:7) contends that the conceptual model of the social world that is social consciousness develops with the process of relations between people, and that ascribing certain qualities to groups of people helps individuals to organize their social world, and to form a working conceptual model. The relevancy of Mach’s discussion of identity formation lies in the framework it provides for analysis of cultural and national development and perpetuation within an ethnographic context. Moreover, in also applying Caplan’s analysis of the
relationship between food, social relationships, and the meaning of health, the ingestion of plants as a mechanism for health in Paraguay and the practice of selling them in city markets becomes both an issue of social relationships and identity. As Caplan (1997:15) writes, “Identity now comes as much from ‘lifestyle’ as it does from the classic sociological concepts of gender, class and race/ethnicity…” In this chapter I will thus illustrate how the consuming of medicinal plant products in Paraguay is incorporated into a lifestyle that transcends traditional concepts of identity as determined by characteristics such as gender and class. While these are pivotal issues in determining the socioeconomic context of vendors of these medicines, the activity of selling plant medicines itself is fundamental to the maintenance of a lifestyle involving medicinal plant use.

Within his discussion of identity construction, Mach (1993:99) turns his attention to focus on the relationship between cultural and national identity, writing that, “…a nation is a cultural form, regardless what may be said of its relation to political organizations.” A cultural foundation is thus an inherent aspect of national identity, and in the case of Paraguay in particular, participants in my fieldwork made no concrete distinction between their “Paraguayaness” as members of a nation, and their “Paraguayaness” as member of the Paraguayan culture. Rather, describing oneself as Paraguayan in identity appeared to constitute both a national and cultural recognition. Despite this clear conceptualization of national and cultural identity, however, Lock (1999:46-49) reminds us that within the contemporary context of globalization, both national and cultural boundaries exist in a permanent state of flux and transition, rendering uncomplicated constructions of cultural experiences of health and identity as problematic, “stereotyped,” and “predictable.” This being said, she goes on to address the relevance that the relationship between the individual and the state holds to physical health,
noting the existence of regulatory practices systematically enacted to monitor the health of both society and individuals, and the impact that globalization has had in making visible different ways of functioning in society. The responses of individuals to local policies and ideas regarding the maintenance of health, she argues, must therefore be addressed (Lock, 1999:46-49).

My study of medicinal plant vendors in Asunción has revealed that these health politics are, in fact, relevant contributing factors to the establishment, maintenance, and modification of Paraguayan health practices. This can be discerned as issues of accessibility, economic motivations on the part of government, vendors, and consumers, and beliefs regarding the power and efficacy of biomedicine are all vital to the use and conceptualization of traditional Paraguayan plant medicines. Following Lock’s (1999:51) argument, the health practices of using medicinal plants and/or biomedical products are flexible and contested, as I will show through explanations from the plant vendors themselves. However, it is also clear that the connection between the use and traditional heritage of plant remedies and one’s identity as Paraguayan must be highlighted, particularly due to the emphasis placed upon it by the vendors themselves. When, for example, I spoke with Nilda, the elderly grandmother who has spent thirty years of her life selling medicinal plants in Mercado Cuatro, she declared that understanding the relationship between the plants and Paraguayan culture and tradition is as important as knowing what they are and how to use them. “If you want to know what is pocho ñana,” she explained, “you must talk to someone who has studied Paraguayan culture, because it is a tradition.” Thus, as medicines these plants are more than physical substances; they are highly valuable symbolically as both signifiers of health and tradition.

In connecting notions of the body and physical identity with that of the medical identity of health providers, Maynard (2007:1-3) successfully merges the concepts of health and identity.
He argues that social identity is inseparable from one’s medical identity, as one’s notion of
selfhood is necessarily tied to what one does—in this case, providing medical care. Medicinal
plant vendors in Asunción incorporate this aspect of what they do into who they are. Expanding
upon this, I also argue in this chapter that in a similar way the act of being a client to medicinal
plant vendors also forms a part of people’s conceptualizations of themselves. When this practice
aligns with socioeconomic and political conditions as well as cultural tradition, it becomes not
only a reflection of people’s personal health realities, but of that of the community which
functions within these same conditions. Health, therefore, is both an individual and social
experience; both political and cultural. It thus becomes part of one’s personal identity as a
physical being, and of a society’s conceptual identity as a community. As Maynard (2007:2)
states, “Identity is one of those concepts that simultaneously face in two directions—towards the
individual and towards the group—at once opening on to an exterior world of sociality (and
even the cosmos), yet equally personal.” Consequently, he writes, while human beings are social,
understanding the multitude of ways in which we both embody and constitute larger groups
warrants extensive examination.

For Paraguayans, the use of traditional plant medicines is one such way by which identity
is established as both members of the nation, and individuals connected to a shared past. Within
this context, when it comes to the plants themselves, if health and health provision comprise
aspects of personal and social identity, then as the key elements to plant vendors and their
patrons, it follows that objects symbolizing and enabling this would themselves become part of
cultural and national identity. Mach (1993:24-25) discusses the ways in which symbolic objects
intrinsically hold, and are ascribed, social and cultural meanings within society. He describes
natural symbols as coming from aspects of human experience that are both important and
universal, such as meeting the basic needs of existence. In this respect, plant medicines contain
an element of natural symbolism; the healthy and nutritious body that is essential to carry out the
basic functions of living. Additionally, Mach (1993:25) writes that because such natural symbols
are also manipulated and given additional cultural meaning, even if certain objects are
predisposed to symbolize a particular aspect of human life, it is cultural convention that
ultimately determines the full significance of their meaning.

Traditional Paraguayan plant medicines are symbolic not only because of their
representation of health, but because of their active contribution in establishing and maintaining
a healthy body and mind. Furthermore, they move beyond the realm of their natural symbolism
and physical effects; as in being from Paraguay and used systematically by “all of the people,”
they also come to symbolize a unification among the Paraguayan people, reaching beyond social
and economic barriers. When I asked what kinds of people purchase medicinal remedies from
the vendors, I was told consistently that all kinds of people buy these products, no matter their
age, sex, or socioeconomic class. As Lucia, a 52-year-old vendor at Agroshopping, proclaimed,
“All the people know and use the medicinal plants.” Adding to this assertion, Mercedes, a 61-
year-old vendor at Mercado Cuatro, explained when I asked her about the relationship between
the plants and Paraguayan identity:

“Identity is very important with the plants. It is important for the whole world and
for you as well [as a Canadian], but more so in Paraguay. It is important because
all the people know about the power of the plants, and it’s the only option. One day,
other medicines will end and the better option is with the plants.”
Lucia thus associates the connection between medicinal plant use and Paraguayan identity with the fact that “all the people know about the power of the plants.” It is a shared knowledge and a shared preference, and therefore an important part of being Paraguayan.

Antonia, a busy vendor in Mercado Cuatro who appeared to be in her early thirties, described the relationship between medicinal plants and Paraguayan identity in a similar way, explaining that, “The plants are important for Paraguayan identity because for many different kinds of illness people buy them. The people don’t like to use farmacéuticos [pharmaceuticals]; only plants.”

Rather than existing in parallel to conceptualizations of Paraguayan identity, the plants thus function both within Paraguayan identity, and as part of its establishment. Furthermore, they provide a link that connects notions of cultural and national identity to physical health, integrating shared heritage, political context, and social relationships into a health practice that is an essential aspect of Paraguayan life.

The cultural tradition of learning the medicinal properties of poho ñana is implied in the names of the plants themselves. Like the very term poho ñana, many species retain their Guarani names and are not otherwise referred to in Spanish by the general population. Figure 6 displays an assortment of Guarani-named medicinal plant remedies in Mercado Cuatro. Such piles of remedies labelled in Guarani are common sites to be found when exploring the collections of remedies available at various carts and stores:

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8 It should be acknowledged that this being said, the majority of remedies listed in Table 3 are primarily referred to by Spanish names. However, as this table represents the remedies most commonly listed by vendors, it does not represent the majority of remedies visible for sale in the markets.
Figure 6: Remedies with Guarani names in Mercado Cuatro

In their manual describing the uses of medicinal Paraguayan herbs, Cáceres and Singer (2000:8) list as a benefit of plant use, “They [medicinal plants] have names that we know in our mother language, Guarani.⁹” Maintaining the tie of the plants to their Guarani origin is hence an integral piece in their contemporary use. Furthermore, this quote illustrates that this connection to Guarani heritage is also an important part of being Paraguayan. “If we didn’t have the Guarani,” explains Isabel, professor in the Agricultural Sciences Faculty at the Universidad Nacional de Asunción, “then we wouldn’t have the knowledge. The Spanish people didn’t use any plants except for cooking. The Guarani know when to use them, the proper doses, and how to mix them.” Isabel thus believes that Guarani tradition is the principal reason why Paraguayans use the medicinal plants now. The “cultura Guarani,” she declares, is “fundamental.” A primary way by which the significance of the Guarani cultural tradition of medicinal plants is immediately visible within the markets of Asunción is through the Guarani names on the packages. As Mercedes in Mercado Cuatro adds when asked about the importance of Guarani

⁹ Quote translated from original Spanish by Heather Millman.
tradition, “The use of medicinal plants is a tradition that is very good. The plant names are mostly in Guarani.” The fact that these remedies are part of Paraguay’s indigenous heritage is hence a fundamental characteristic in the general contemporary perception of these products. Much of the benefit of using these plants is immediately connected to the Guarani who first discovered them.

Even vendors who have moved to Paraguay from other countries highlight this heritage-health relationship. Although Hector at Agroshopping is from Chile, his seventeen years in Paraguay have allowed him to understand the connection between Guarani heritage, Paraguayan identity, and health, explaining that, “Tradition is very important because the plants are a tradition. All of the tribes in the world have a tradition, and the Guarani are in this category. Tradition is always very important, and the medical tradition is the most important.” Hector’s words exemplify the emphasis placed upon the Guarani history of using plant remedies and passing on the knowledge of the plants’ medicinal properties. The people consuming plant remedies or generally ingesting medicinal plants in their maté or tereré are viewed as doing the same kinds of things with the plants as did their grandparents. Furthermore, vendors spoke of Paraguayan plants specifically as being better than species from other countries (predominantly within Latin America.) The only exceptions include plants native to entirely different areas of the world such as Asia; for this reason certain plants such as moringa (from India) are understood to be of better quality when they come directly from their native land.

Elvira, sixty-years-old plant seller in front of the I.P.S. Hospital, for example, informed me that many people come to Paraguay from other nearby countries such as Argentina and Brazil in order to buy the plants, because “they know about them and how good they are here.” I also noticed that when asked about the origin of their plants, many vendors immediately declared that
they were all from Paraguay: "Todos son de Paraguay!" However, as I came to know certain plants that were not native to Paraguay, I began to ask about certain species, such as moringa in particular, as it became increasingly clear through both interviews and participant observation that moringa is currently one of the most popular plants and is utilized for almost any kind of illness. At this point, vendors would tell me that moringa actually comes from India. Vendors who did not initially tell me that all of their products were from Paraguay noted that certain plants also came from neighbouring countries such as Brazil and Argentina. However, the initial claims of many that all of their plants were from Paraguay (until specifically asked about certain species) suggests a national pride in the native flora of their home country. Traditional Guarani use in Paraguay has created a foundation of historical experience with plant remedies, and this heritage conceptually renders the Paraguayan yuyeros as highly experienced with these remedies; as possessing tested and specialized knowledge that has been established over years of development and refinement. As Hector goes on to describe:

“The medical plant sellers were the most important for the conquistadores because they travelled around looking specifically for the medicinal plants, and the sellers were the people who knew, and could help with the research. For example, if in the new country a person knew about the plants, the conquistadores would talk with them first about the plants and how to use them.”

This history of the Guarani educating others about medicinal plant remedies was also discussed by Alfredo at the Universidad Nacional de Asunción, who explained their teaching of
the Jesuits. Alfredo also referred to a well-known book by Torres\(^\text{10}\) (1997) who discusses the history of Guarani plant use. Figuerdo (1997:1) explains: “Today, that knowledge bequeathed to us by Guarani, both in terms of properties and uses of plants, it remains important for Paraguayan campesinos. In all households in the country and in many urban areas, medicinal plants are used as first therapy for a disease.” Thus, because of the ways in which medicinal plants are cited as holding a prominent place within many pivotal incidents in Paraguay history, such as Nilda’s explanation of women’s use of plants during the Triple Alliance War\(^\text{11}\) and Hector and Alfredo’s discussions of the contact between the Guarani and the Conquistadores and Jesuits, they are essential symbols in the formation of a contemporary Paraguayan identity that is founded in historical events and practices. As Jiménez (2009:11) explains, “Knowledge of the medicinal properties of plants, inherited from the Guarani Indians came to us through the oral tradition and the collections made by Jesuits and naturalists throughout history\(^\text{12}\).” Jiménez’s work is available in the Botanical department of the Faculty of Chemical Sciences at the Universidad Nacional de Asunción, whereby I was able to access it. Thus, the historical context of contemporary medicinal plant use is thus emphasized in current academic literature. In both its official and colloquial recounting of the history of the plants, their symbolism is fortified through cultural contact; thus the tradition of using the plants is demonstrated as a distinctly Paraguayan practice. Consequently, this traditional dialogue has implications for the contemporary selling of medicinal plant products.

This point is illustrated in my conversation with Hector at Agroshopping, who, when I asked where his plants came from, answered with an example: “Some remedies are from Paraguay and some come from different countries. Some are all the way from Europe and Asia,

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\(^{10}\) While Alfredo referred to the author as “Torres,” the full citation is Oscar Agustin Torres Figueredo.

\(^{11}\) See Chapter Five: Women as Caregivers and Keepers of Knowledge,” p. 78.

\(^{12}\) Quote translated from original Spanish text by Heather Millman.
like *capullo de India*. But the majority are from Paraguay.” Hector says that there are “universal plants,” which come from many places and therefore cannot be attributed to a single origin. Furthermore, he reveals that, when it comes to *berenjena* (eggplant), for example, “I can’t say *berenjena* is from Paraguay, but I buy it all in Paraguay, so I say it’s from Paraguay.” This illustrates the likelihood of a general preference among clients for purchasing medicinal plant products that grow within Paraguay, implying a kind of national idealism about medicinal plants that are specifically Paraguayan. At present, the daily utilization of these traditional plants within maté and tereré solidifies their presence as both an active and dynamic emblem of, and practice within, Paraguayan society.

**Cultural Cures and Consumption: Medicine in Food and Drink**

The cultural implications of ingesting healthy foods and medicinal flora are examined by Etkin (2006:36,134-148), who considers the health associations of foods and the cultural traditions in which they are consumed. Beyond the particular effects on health that certain foods possess, Etkin also emphasizes that culturally specific ideas about food emerge from the social context in which they are consumed, and that consequently these foods themselves have influence on social relationships, including identity. In doing so, she pays particular attention to plants that are consumed as both foods and medicines, and the social fabric to which they are connected, writing that the medicinal value held by plants with pharmacologic merit is often added to by the sociability associated with them. I argue that Paraguayan maté thus consists of such plants; historically being consumed by indigenous peoples of Paraguay and its bordering countries, and consisting of both social and medicinal functions. While the medicinal qualities of the yerba maté plant include use as a diuretic, digestive stimulant, and treatment for headache,
fatigue, and diabetes, the drinking of maté is also a highly social act. Maté is shared among friends, family, and acquaintances, and is often passed around during social situations. Throughout my fieldwork, I often witnessed the sociability of maté in a range of situations; from riding the bus on my morning or afternoon commute to the market or while I was presenting my ongoing research at the Universidad Nacional de Asunción. In this way, the consumption of yerba maté and other plant species consumed within maté works simultaneously in favour of physical and social health.13

Pieroni and Price (2006:1) note that foods have long been used as therapeutic remedies to treat common illnesses such as colds and digestive troubles. Just as foods can be consumed as both subsistence and medicine, plants may be used as both medicine and food, and are often done so interchangeably. Yet as the consumption of food is dependent upon both geographic ecologies and cultural practices, the ways in which plants are consumed, as medicines and/or foods is also mediated by sociocultural contexts. Within rural farming communities such as the majority of Paraguay in recent history, and much of this country contemporarily (Vásquez-León, 2010: 56), the gathering of food plants has been a major source of subsistence, including uncultivated wild plants—which account for the majority of Paraguayan plant medicines (Pin et al., 2009:11). Thus, in this context food and medicine overlap as they are interwoven with the availability of natural resources, as well as with cultural links to the physical environment and responses to environmental change.

In determining what is edible, plants and crops often become utilized in the same way as medicinal ones: through experimentation (Price, 2006:66-71). Although when asked if many medicinal plants were also consumed as foods vendors most often replied that they are not, my

13 While I was not offered maté during interviews with vendors, I was included in this act of sociability in casual conversation with individuals in Asunción with whom I spent time.
observations of market products and literature from some of the more commercially established vendors illustrated otherwise. Many herbs and spices such as romero (rosemary), ajo (garlic), and orégano are easily found in the medicinal plant shops of Mercados Cuatro, Abasto, and Agroshopping, and so are some commonly consumed plants found in remedies, including naranjo (orange), semillas de lino (flax seed), and berenjena (eggplant). This adds to the argument made by Pardo de Santayana, San Miguel and Morales (2006:132), who contend that, “It is almost impossible to draw a clear line separating food from medicine.” Even though traditional medicinal plant vendors in Asunción may conceptually separate their medicinal ingredients from those consumed in regular food, there is no definitive line between what is consumed as food in Paraguay and what can be found in medicinal remedies. Pardo de Santayana et al. (2006:132) propose adopting the term coined by Etkins (1996) of “ingestibles” in order to encompass the wide range of foods and beverages that hold medicinal properties. Interestingly, while the particular research population of these researchers (a cattle-farming community of Northern Spain) are cited to rarely eat certain foods specifically for health reasons, medicinal plant remedies are deliberately consumed as medicines among Paraguayans, rather than just by proxy of eating these plants for food. This illustrates how practices involving the merging of eating and healing are culturally contingent. The act of consuming medicinal plants, at least in urban Paraguay, is quite purposeful, and thus, although informal, the occupational institution of medicinal plant vendors is so established.

In their study, Pardo de Santayana et al. (2006:141-144) also focus on medicinal beverages that may be used as home remedies, casual refreshments, and often serving as a social convention. The infusion of plants in water is, apart from in alcohol, the most common and easily accessible method of extracting the flavours or medicinal properties of plants. Such
beverages are consumed both for taste, as medicinal food and, as pointed out by Etkin (2006:148), as methods of sociability and reciprocity. In this way the infusions of maté and tereré and Paraguay are not only physically beneficial, but tangible features of constructive social practice. They symbolize membership of a national and cultural group, contributing to both personal and community identity.

This latter attribute is evident in the termos (thermoses) in which maté and tereré are transported and drunk from throughout the day. The termos are themselves important symbols of both Paraguay and of the personal identities of Paraguayan. In the high-end shopping malls of Avenida Mariscal Lopez and Avenida Aviadores del Chaco and the inner-city markets such as Mercado Cuatro alike, carts of termos in various sizes, shapes, and colours can be found covering tables and hanging from roofs, intended both to entice tourists to purchase an “authentic” symbol of their visit to Paraguay, and for local Paraguayans who are looking to replace their old carafe. While some are brightly coloured and adorned with contemporary patterns or images from popular culture, others appear more traditional, showing "typical" scenes of rural Paraguayan life such as cattle ranching or agricultural tableaus.

Once purchased, a special relationship is formed between an individual and his/her termo, as the vessels are further personalized with one’s name or that of a significant other, symbols of one’s favourite soccer team, or even family photos. The commonality of this practice is illustrated in the experience of my first visit to Mercado Cuatro: in enquiring about the medicinal plant remedies sold at the first cart I approached, the vendor immediately called across the alley for a fellow merchant to bring her a maté cup and a bombillo (metal straw). Upon receiving it she promptly asked me to write down my name for her on a piece of paper, from which she then painted it onto what was apparently now my new maté cup. As I discovered later, understanding
the ways in which the medicinal plant remedies function necessarily involved the action of using them, and thus my maté cup became an essential component of my research. It is in this way also that termos are both symbolic and fully functional; reflective of both historical and contemporary cultural and individual identity. As Mach (1993:20) writes, while identity results from a conceptual classification of the world, it is also expressed symbolically. While certain objects such as medicinal plants can act as symbols, symbolic actions also create and enforce meaningful relationships that create, maintain, and adjust identities. In this way, through the actions of using plants to create medicines and treat illness, teaching this knowledge to others through the selling of the plants and their accessories, including thermoses, drinking cups, and bombillas, the dynamic nature of traditional plant remedies allows them to create historical and contemporary Paraguayan identity.

**Healthy Medicine: Perceiving Plants and Pharmaceuticals**

The intricate cultural and socioeconomic dimensions of medical pluralism within the Global South are discussed by Christakis, Ware, and Kleinman (1996:275-279), who consider how socioeconomic change and health transitions shape, and are shaped by, traditional modes of medicine. While it is often assumed that biomedicine is preferred as more effective than traditional medicine, the authors emphasize that efficacy and preference of biomedicine is contextual, and thus that biomedicine is often not the primary choice when it comes to healthcare. Often individuals such as Paraguayans, who live in distinctly medical pluralistic societies, turn to a combination of traditional medicine and biomedicine, depending upon the nature of the illness, as well as the availability of medical practitioners and products. Furthermore, although biomedicine may be highly regarded within the developing world, it is not
indisputably so. Christakis, Ware, and Kleinman (1996:278) highlight Ethiopia, and East Asia as areas in which traditional medicine is often considered to be equal to, or better than biomedicine, and this similar preference for indigenous healing systems in the face of both conceptual and practical inadequacies in biomedicine is also found within Paraguay. While the socioeconomic insufficiencies of biomedicine within Paraguay have been discussed in Chapter Four, in need of further consideration are the local conceptualizations of how pharmaceuticals compare to traditional plant remedies in terms of the physical results of their use.

In speaking with the local market vendors of Asunción, I reviewed with them both their perspectives on the ways in which their patients and the general Paraguayan population used biomedicine in comparison to traditional plant-based remedies, as well as how they themselves utilize both forms of medical care. Marisol, a vendor in her thirties at Agroshopping, believes that currently people generally prefer to use plant remedies over pharmaceuticals, and thus tend to use them more. At the same time, however, she explains that because pharmaceuticals work faster, there is a growing tendency to turn towards biomedical drugs, which she emphasizes are significantly more expensive. Yet because with some conditions one may need to wait up to one or two years to feel the full effects of the regular use of a plant remedy, if one can swallow the cost, then the use of pharmaceuticals can be in this sense more appealing. In explaining this to me, Marisol articulated a belief that was repeated by many of my participants: that while she uses pharmaceuticals when the sickness is too difficult for the use of herbs, it is not good to use biomedical drugs on a regular basis. She said, “Although it’s [pharmaceutical drugs] good for you in that moment, in time it’s worse because it causes harm to your body. It is not like this with natural plants.” However, this being said Marisol also cited a commonly repeated issue with
people who refuse biomedicine entirely, explaining that bigger illnesses such as cancer often do require drugs, and when some people are not willing to use them it “causes many problems.”

This negotiation between traditional medicine and biomedicine has developed as a central theme among vendors in the discussion of medicinal plant usage and common medical problems in Paraguay. At his plant stand on Santisimo Sacramento, Luis, 34, echoed Marisol’s opinion, voicing that while some people prefer medicinal plants for cost alone, sometimes one must buy pharmaceuticals out of necessity, however only in extreme situations, such as acute illness or diseases. In cases when vendors did cite personal pharmaceutical use, it would commonly be to treat ongoing conditions that may be slightly more serious than incidental illnesses. Many vendors stated that they treated diabetes or hypertension with drugs, and one revealed that she uses the contraceptive pill. While my exploration of the plant remedies sold in the markets brought to light multiple products labelled to treat ongoing conditions such as diabetes, hypertension, cancer, and high cholesterol, it is evident that when affordable, these medicines may be used in conjunction with biomedicine, or even circumvented altogether. Yet among vendors this is not done so without weighing the cost and effects. Esther, 43, at Mercado Cuatro told me that treating cancer with plants, for example, can take years. She referred to a friend of hers who treated his cancer with Uña de Gato for two years before being pronounced cancer free by his physician. However, one does not always have years to wait for results, and thus pharmaceuticals have the advantage of working in a much shorter time. In the long term, however, Esther believes that pharmaceuticals are harmful to the stomach, and thus she agrees with many other vendors, such as Silvia in Mercado Cuatro, who explained to me that the long-term use of pharmaceutical drugs is harmful, whereas the long-term use of plant medicines results in greater efficacy without damaging effects.
Cáceres and Singer (2000:8) demonstrate that another benefit of medicinal plant use lies in the fact that the effect of a medicinal plant “is more prolonged and constant and has no consequences as serious as the remedies of the hospitals. They do not cause stomach aches or headaches.” By growing and collecting the plants oneself, the authors write that one can “keep in touch with Nature, which in turn, takes care of us all.”14 Adding to this assertion, Silvia, when I asked about the preferences of younger Paraguayans, states “The young people prefer pharmaceuticals but they don’t know about the consequences of not using them properly.” While not all vendors agreed with Silvia’s opinion of the younger generations preferring biomedical drugs over natural plant medicines, there was general consensus that prolonged use of pharmaceuticals is harmful, whereas prolonged use of plant remedies is beneficial, enhancing their healing effects.

Among young people the long-term effects of pharmaceutical use are of special concern, as many vendors commented that younger generations of Paraguayans tend to turn towards drugs remarkably more than their parents and grandparents. While Christakis, Ware, and Kleinman (1996:279) point out that the practice of biomedicine within the developing world is inadequate in a number of ways, and that the existence of biomedical services in the vicinity of ill people does not mean that these services can or will be primarily utilized, in general the availability of pharmaceuticals within Asunción is staggering. On the main street by my residence, for example, one could find at least four pharmacies within a two-block radius alone. Despite my residence being in a wealthier area of the city, I was also easily able to find multiple pharmacies within Mercados Cuatro and Abasto. Moreover, within these pharmacies many potent medications such as antibiotics are readily available over-the-counter, and pharmacists serve as consultants about what drug would be best suited to different symptoms. Thus, so long as individuals are able to

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14 Quotes from Cáceres and Singer (2000) translated from original Spanish by Heather Millman.
overcome the cost barrier, the more immediate effects of pharmaceuticals can serve as a powerful motivational factor in choosing one’s approach to treating an illness. In this way, the medical pluralistic culture of Asunción can be viewed as in constant negotiation between considerations of culture, economics, and convenience. For vendors, the future of their livelihoods is largely dependent upon the outcomes of such personal arbitrations. Although currently the prevalence of medicinal plant usage is unmistakable, the dynamic nature of health strategies and health culture lends them an uncertain future.

In her discussion of Andean traditional medicines, Sikkink (2010:3) considers the sociocultural and economic implications of the multidimensional medicinal marketplace in Bolivia—specifically of the dichotomy between traditional and pharmaceutical medicines. While she indicates that the high demand for traditional medicines is in part economically motivated, she emphasizes the existence of an ongoing commitment to traditional indigenous products. Furthermore, Etkin (2006:68) points out that the institutionalization of biomedical care is centred upon its technical apparatuses, without accounting for other components of healthcare such as medicinal foods or plants, or cultural practices. Often the institutionalization of biomedicine also includes a devaluation of culturally specific health practices. Consequently, in countries such as Paraguay that already contain intricate traditional and historically grounded medical systems, biomedicine as it is introduced does not necessarily speak to pivotal culturally established systems of medicine and conceptualizations of the health, illness, and the body.

Jiménez (2009:23) writes that in recent years the use and trade of medicinal plant resources in Paraguay have been stimulated by a growing population that demands more medicinal plants for healthcare. In addition, she points out that medicinal plants are utilized in remnants of indigenous religious traditions. These factors, in addition to the high costs and side
effects of synthetic drugs drive the medicinal plant industry of which market vendors are at the centre. The Guarani heritage of medicinal plant knowledge and uses for treating illness has developed to be such an essential aspect to contemporary Paraguayan identity, and the use of medicinal plants a substantial component to everyday life. Due to these factors, biomedicine and pharmaceuticals as they are currently instituted are unable to resonate in a comparable way with the country’s historical and cultural identity. Lourdes, a 48-years-old vendor in Mercado Cuatro, explains, “Everyone, young and old, prefer natural plants….it doesn’t matter what your age is, or if you are rich or poor, you have to know something about the medicinal herbs.” Furthermore, of pharmaceuticals she insists that in addition to being more expensive, “when you use a lot of drugs you become an addict because you always need more doses. It’s so expensive, and so you cannot buy other things; only the drugs.”

While it must be acknowledged that for Lourdes, as well as the other vendors at Mercados Cuatro, Abasto, and Agroshopping, the importance placed on medicinal plants as part of Paraguayan identity is both fundamental to their profession and integral to maintaining their livelihoods, I argue that this significance is not evident solely in my discussions with the vendors themselves. Rather, this deeper connection to Paraguayan history and Guarani heritage emerges in the pages of local studies and the analyses of my secondary interview participants at the University, as well as within the daily consumption of maté and tereré. It lies within the language of **poho ñana**, and the link of these plants to stories of Paraguay’s past and the building of the nation. In present day they are physical representations of Guarani language and culture, and—the majority being plucked from countryside itself— of the physicality of Paraguayan-ness. Mach (1993:20) writes, “Symbolic identity is not a resistance to change but an autonomous and independent development of a group’s own unique culture within the

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15 A more detailed treatment of this subject is addressed in the Conclusion.
“civilized,” advanced, and egalitarian world.” Thus, identity results from a classification of the world that is also expressed symbolically, and that this symbolic identity persists not necessarily in opposition to change, but alongside it (Mach, 2993:20). The prevalence of medicinal plant vending and consumption within Asunción is reflective of this assertion, as rather than renouncing biomedicine in the name of the traditional, the majority of vendors divulged that although they perceive medicinal plant remedies as the healthier long-term choice, and thus they, as well as their clients, tend to prefer plants, the reality is that people combine the use of biomedicine and traditional medicine in order to meet their specific needs. Despite this medical pluralism, however, a distinct conceptual connection exists between the Paraguayan people and their medicinal plants that biomedicine and its pharmaceutical constituents are unable to match.

**Providing and Prescribing: Identity as a Yuyero**

The medicinal plant vendors of Asunción hold the exceptional role of providing a product both practical and transcendent; one that serves a purpose both functional and conceptual. While, as pointed out by some of my participants, some vendors know little about the medicinal properties of the species which they sell, providing primarily fresh plants to be infused in maté or tereré, the yuyeros (the majority of vendors with whom I spoke) have devoted significant portions of their lives to the study and selling of these products. Possessing knowledge based in historical and familial tradition, vendors negotiate their own identities as businesspeople and as users and providers of traditional medicine. In their examination of the medical identities of drug providers and traditional herbalists in Cambodia, Trinkell and Ovesen (2007:56-57) describe the pharmacy shopkeepers as “cultural brokers” between traditional notions of healing and magic and the modern pharmaceutical business. While medicinal plant vendors in Asunción do not
usually also provide pharmaceuticals, they occupy a similar position within Paraguayan society. Although the plants themselves are understood in a contemporary scientific perspective to have chemical properties that may work against particular illnesses and promote health, they also have physical and ideological connections to a pre-urbanized, more traditional way of Paraguayan life. Furthermore, it is not uncommon in the larger indoor market stores to find votive candles and other spiritual paraphernalia that themselves are a mixture of magical and Catholic ritual practice. Trinkell and Ovesen (2007:57) go on to explain that shopkeepers of indigenous medicines in Cambodia incorporate the historic spiritual lineage of these medicines with a commercialised customer relation. This kind of development in social identity is apparent as well among the yuyeros of Asunción, who are both keepers and councillors of traditional medicinal knowledge, and participants within the commercial sector of a contemporary capitalist economy.

This intersection between a traditional, familial-based indigenous medicinal knowledge framework and the modern commercialized medical structure leaves vendors in a complex situation in which their ambiguity between vendor of medicinal products and healthcare provider leads to important considerations of their future roles within this medical pluralistic society. As Hector at Agroshopping explained, with his products one can read the ingredients “palabra por palabra” (word for word) on the containers; there are no hidden preservatives or chemicals.

Despite his personal objective to make his remedies transparent, he has found one significant problem:

“The people are confused because they mix up the drugs and the plants, but they’re not the same. If you talk about medicinal plants and medical products they are different kinds of medicine, and so you can’t put the laboratory [pharmaceuticals]
on the same level as the plants, which are more traditional. Big companies want to put the plants on the same level as other drugs. They confuse them—for example, if you say, ‘I sell medicinal plants,’ people say, ‘Oh, drugs from the laboratory. No, it’s different. They’re crazy!’

Hector describes a distinct difference between the “science” of biomedicine and the “tradition” of medicinal plants. He emphasizes that they cannot be used interchangeably because they work in different ways and different doses. Doing so, he claims, can be dangerous. He goes on to explain:

“…If you know the exact quantity you know everything, because if you eat the plant it isn’t like the drugs—for example eight capsules three times per week. If you have drugs they work exactly, but plants aren’t like that. For example, lettuce you must eat a lot of, so it isn’t the same as drugs. If you don’t have the exact doses you don’t have anything….We work with plants, but we don’t know exactly what they do. We just listen about the tradition and tell that to the people.”

Thus, Hector further accentuates the need for plant vendors such as himself to study human anatomy, so that they can know exactly what products the people want and the correct doses with which to recommend them. Accordingly, this is what he believes to be a necessary strategy by which to respond to the transforming medical culture of urban Paraguay, and the subsequent transformation in the social, economic, and medical identities of medicinal plant vendors. Nilda
in Mercado Cuatro echoes this need for precision when working with medicinal plants, stating that:

“If you work with the plants you need to know that they can be a solution or a bad potion if you don’t use them in the correct way. Yuyeros know about this kind of thing, but they don’t talk about it.”

Nilda echoes Hector’s assertion that knowledge of the correct doses is essential in prescribing plant remedies. In this way many yuyeros describe their position as similar to that of biomedical doctors. However medicinal plants and pharmaceuticals were never described in a comparative way; rather, a sharp distinction is maintained between the two. This suggests that while the social and medical identities of medicinal plant vendors are fluid, the Paraguayan cultural identity symbolized by the plants themselves remains fundamental in the face of pharmaceuticals. As Alfredo at the Universidad Nacional de Asunción declared, “It is impossible to take our medicinal herbs away from us because they are part of us.” Thus, although young Paraguayans may allegedly be moving towards biomedical pharmaceuticals to a greater degree than their parents, and despite that even yuyeros themselves can be found to use drugs at times for particular ailments, Paraguayan identity is linked to the nation’s plants in a way with which biomedicine cannot conceptually compete.

This chapter, and preceding chapters, have illustrated that vendors of these medicinal remedies function within a sociocultural context that is multifaceted, and that their relationship with the products which they sell is complex. Socioeconomic constraints of working on the periphery of a developing capitalist economy interact with a shared cultural heritage that
materializes in a traditional foundation to a contemporary practice. Within a medically pluralistic society that privileges biomedical establishments that are economically inaccessible for much of the population, medicinal plant vendors are established as providers of medicines that are most familiar and accessible. Yet the popularity of these medicines—though economically advantageous to both consumers and vendors—has an undetermined ecological impact. As Paraguay’s biomedical system continues to develop, medicinal plants continue to form a dynamic local industry with international implications. The impact of future medicinal transformations will no doubt be fundamentally tied to notions of Paraguayan identity and the livelihoods of market vendors.
Chapter 7

**Conclusion: The Future of Plant Medicines in Paraguay**

This thesis has illustrated how the vending of traditional plant medicines in Asunción, Paraguay solidifies Paraguayan identity by providing daily affordable access to consumable symbols of “Paraguayan-ness,” through the use of indigenous healthcare practices. I have highlighted the ways in which socioeconomics and political economy interact with cultural identity by significantly determining access to healthcare options, thus rendering traditional medicine—already conceptually more available—also the most socioeconomically viable form of medicine. In this way, the socioeconomic and geographic accessibility of medicinal plant remedies allows for these plants to conceptually unify Paraguayan identity. I have also argued that by working with these plants, women market vendors in particular secure not only their livelihoods, but the traditional transmission of feminine knowledge.

In addressing the socioeconomic dimensions of health and plant medicines, I have shown how socioeconomic factors play both a critical and a dynamic role in the use of traditional plant remedies, and thus in the livelihoods of the vendors who sell them. As illuminated by participants such as Esther, while the costs of upholding a medicinal plant store in city markets such as Mercado Cuatro is not insubstantial for vendors who receive no governmental support, the high costs of purchasing pharmaceuticals in comparison to these medicines allows for vendors to operate with steady business. In this way the socioeconomics of health and medicine holds a mutually influential relationship with Paraguayan identity; as the economic accessibility of plant medicines supports the cultural preference for using these familiar remedies as a primary source of healthcare, the fact that medicinal plants hold such a prominent place in the
conceptualization of Paraguayan identity in turn supports their use as the most socioeconomically viable option.

This thesis has further stressed the political ecological perspective of providing medicinal plant remedies, highlighting the ways in which political policy has worked to disenfranchise small farmers and to continuously encroach upon wild lands, putting into question the future supply of wild plants in Paraguay’s countryside. As the relationship between Paraguayans and their medicinal plants is founded upon the historical connection between the Guarani and the land which provided them with these medicines, the spread of industrial agriculture favouring monoculture crops such as soy (Hetherington, 2009:224) puts into question not only future access of Paraguayans to a preferred and available form of healthcare, but also the social and cultural impact of the potential decline of such a pivotal symbol of “Paraguayan-ness.” In addition to having to rely upon, as participants articulated that there is an insufficient supply of biomedical practitioners and economically inaccessible pharmaceutical medicines, important social connections between city and countryside would suffer without the important networks linking countryside plant suppliers and urban vendors. Following Mayer’s (2000:942) question of how changing human-environment relations can affect the broader social and economic context, the future of the Paraguayan agricultural sector and rural lands impacts a much larger web of social and economic connections between rural and urban domains.

The socioeconomic experiences of women vendors in particular have been explored from the position of women as caregivers and keepers of knowledge. I have considered the positioning of women within the informal sector, and the cultural, societal, and familial constraints that subsequently render them an especially vulnerable labour force. Furthermore, in Chapter Five I have expanded upon women’s roles as informal health practitioners within communities, and as
primary caregivers within the family unit. Building upon Finerman’s (1991:24-25) assertion that women and mothers are most often found to be the primary healthcare providers of a community, I have argued that women medicinal plant vendors in Asunción both possess specialized knowledge, yet work within an unspecialized profession as no formal regulations exist to determine who may provide or advise on these products. While some male vendors do learn the properties and administering of medicinal plants from their families, the passing down of this traditional knowledge has largely been practiced on the female side as women’s knowledge. By drawing on the thoughts of the vendors themselves and in citing literature from scholars such as Wainerman et al. (1980), I have argued that women’s traditional roles within the family feature significantly in their employment as market vendors of plant medicines. In addition, I have illustrated how perceptions of the history of women’s use of medicinal plants have become a significant aspect of the local history of medicinal plant use.

In discussing women’s roles as vendors of these products, I have also considered the social roles of women vendors, and, based on vendors' experiences and stories, have concluded that women vendors often establish a more intimate interaction with their clients than do their male counterparts. This kind of interaction is also more intimate than that between patients and professional healthcare practitioners. This, I have proposed, works to ensure socioeconomic stability for both consumer and vendor.

The final chapter of this thesis has illustrated that what ties together the vast array of socioeconomic, political, historical, and gendered influences on the contemporary use of traditional plant remedies is the underlying foundation that they hold in Paraguayan cultural identity. Some factors involved in the selling and consuming of these plants—such as their economic accessibility in comparison to biomedical pharmaceuticals—work in conjunction with
the conceptual preference for this traditional form of medicine. Yet this preference also persists in spite of other obstructions, such as the often dangerous working conditions of market vendors, and the gradual privatization of country lands upon which these plants can be found. Moreover, while vendors admit that, when affordable, pharmaceuticals work significantly faster than medicinal plants, an ongoing apprehension of the long-term detrimental effects of pharmaceutical use fits into the conceptual model favouring the natural plants.

The social interactions involved in the buying and selling of traditional medicinal plants, the transportation of the plants from the countryside into the city centres, the shared Guarani history where the use of these plants originated, and the contemporary sharing of maté and tereré all collaborate to create a shared culture of plant use and, subsequently, the adoption of this practice into Paraguayan identity itself. Furthermore, the plants form a part of individual identity, as they become a part of the individual healthy body. Vendors of traditional plant remedies negotiate their livelihoods as “cultural brokers” between providing integral symbols of shared identity, individual health identities, and the contemporary business of selling medicines. In providing the most economically and conceptually accessible form of medicine to the Paraguayan population, vendors are also integral components in the unification of Paraguayan identity through the use of these traditional plant remedies.

Areas for Future Research

As an initial investigation into a dynamic and highly complex issue, my research has revealed several areas in need of future exploration. One particularly salient issue is that of land privatization and the potential loss of biodiversity due to industrial agriculture and deforestation. This issue has been raised by both scholars such as Hetherington (2009) and Reed (1996) as well
professors such as Alfredo and Carmen at the Universidad Nacional de Asunción. As soybean plantations and cattle pasture have already displaced the Guarani who previously inhabited the countryside adjacent to Asunción (Reed, 1996:158) and rural lands previously owned by small farmers are increasingly privatized (Hetherington, 2009:225), the enduring availability of wild medicinal plants is put into question. As vendors explained that the majority of their plants are picked from the countryside rather than cultivated, should the biodiversity and availability of these plants begin to noticeably decrease, vendors must acutely reconsider their resources. It is questionable whether they will be able to continue to make a viable living solely as sellers of medicinal plant products, or whether they will also have to re-evaluate their form of business. Vendors whose businesses consist of only small tables or carts in markets such as Mercado Cuatro may struggle more than others, such as those who have secured tables in Agroshopping. This, in turn, may further increase already existing socioeconomic barriers and disparities. Decreasing local access to plants would render it necessary to import these products from other countries, increasing prices and, consequently, having profound implications on people’s access to healthcare.

While projects such as the Jardin Botanico in Asunción and the medicinal garden cultivated at the University in San Lorenzo operate in order to preserve the biodiversity of Paraguay’s hundreds of species of medicinal plants, it is unclear whether these undertakings operate on a large enough scale to address the transformations occurring in the countryside. Furthermore, whether similar projects such as these exist in other municipalities, or in countryside developments, is beyond the scope of this investigation. Currently, Alfredo’s assertion that the dangers of the potential loss of the biodiversity of medicinal plants have not yet reached the vendors in Asunción’s city markets appears to be accurate, as vendors with whom I
spoke were not concerned with their supply, and assured me that these plants are readily available in the countryside. Finally, there is room to investigate cooperatives that may cultivate species of medicinal plants that are native to Paraguay, such as the women’s cooperative near to Concepción that, according to Alfredo, is currently cultivating and selling such plants to other suppliers within the country. The various projects involving the cultivation of medicinal plants as well as the variance in opinion between vendors and those in institutions such as the University call for a detailed investigation in order to reveal the true situation of the biodiversity of Paraguay’s medicinal flora.

Related to the future of these plants is the future direction of medicinal plant use and the use of pharmaceutical drugs. While some vendors claimed that older generations and younger alike preferred medicinal plants to the same degree, others contended that the younger generations turn to pharmaceuticals more frequently than their parents. Future trends of plant use and pharmaceutical use are tied to issues of biodiversity and socioeconomics, as the availability of plants and the comparable costs of plant use versus pharmaceutical use will prove to be significant determinants to people’s medicinal health strategies. This, in turn, will affect vendors’ livelihoods, as the level to which they must compete with the pharmaceutical industry is questionable. The future direction of Paraguay’s public and private healthcare sectors and government policies in the healthcare sector are thus also relevant.

The development of the stevia industry and the export of stevia products for international consumption is another area of interest for future research. As Bernardo in Mercado Cuatro related, stevia production and export is an enormous business in Paraguay’s agricultural sector, and due to international demand for this natural calorie-free sweetener, the industry continues to grow. Since my return from Paraguay in August 2011, for example, I have increasingly
witnessed commercials in mainstream Canadian and American media for stevia products. Furthermore, preliminary investigation into the stevia available in local health food stores has revealed that Paraguay is indeed the source of many of these products. However, Bernardo also explains that while stevia is a multi-billion dollar market, he does not believe that this wealth reaches the hands of the small farmers, and thus the wealth generated from stevia production is not translated to the Paraguayan population. As the international market for this sweetener grows, the details of its production and trade must be examined in order to understand the implications of this market for both small-scale and industrial agriculture in Paraguay. Furthermore, as stevia is also consumed medicinally, the direction of the industry also has implications for the livelihood of local urban market vendors.

Since the livelihoods of plant vendors are tied to the perceptions of the products they sell, it must be acknowledged that it is in their best interest to highlight the significance of the traditional plant medicines to Paraguayan culture. While I have considered the beliefs of some non-vendors through interviews with faculty at the Universidad Nacional de Asunción, members of this demographic also experience health and illness from an entirely different socioeconomic position. My observance of market activities, as well as daily life in Asunción, illustrates the everyday importance of medicinal plants to the health routines of Paraguayans, yet there is room for future research that will gather the perspectives of the clients who purchase these products. This research would reveal the vendor-client relationship from the perspective of customers, and offer further valuable insight into the position of these plants within Paraguayan society.

The daily consumption of traditional medicinal plant medicines in Paraguay as symbolic of Paraguayan cultural identity will inevitably be impacted by future developments in the country’s agricultural, biomedical, and economic sectors. The availability of medicinal plant
medicines for consumption in maté, tereré, and in medicinal remedies is predominantly dependent upon the supply of these plants in countryside, and by their availability for sale and re-sale by market vendors in urban centres such as Asunción, where large populations can easily access them. Potential loss of biodiversity threatens the physical health of Paraguayans, and will inevitably impact the ways in which using these plants informs their identity as Paraguayan. If certain species become increasingly rare, for example, prices will likely increase, causing them to be available only to those of higher socioeconomic standing. Plant medicines may become less available to all members of society. Moreover, the plants form a significant link to Paraguay’s Guarani tradition, tying them in with the cultural history of the country. Consequently what the future looks like for the preservation of Guarani heritage is uncertain.

For vendors of medicinal plant products, their future role with respect to Paraguayan identity is also in question. If increasing land privatization limits the supply of medicinal plants, then vendors may no longer be selling a product accessible to all, but may rather become providers of a limited array of products that themselves become much more economically valuable due to their scarcity, and also become conceptual treasures because of the substantial history and cultural heritage attached to them. While currently the potential loss of plant biodiversity does not seem to be a prominent issue on the minds of market vendors, this is not to say that their opinions will not change in the near future. Hence, ongoing investigation of the livelihoods of market vendors of traditional plant medicines in Paraguay would provide a valuable perspective with which to view not only the agricultural and socioeconomic developments throughout the country’s urban and rural populations, but also the dynamic and transformative nature of both individual health identities and Paraguayan cultural identity.
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Appendix 1: Key Interview Questions:

1. Can you tell me about the kinds of products that you sell here? How do they relate to health? (E.g. herbs, tonics, balms, medicinal foods, etc.)

2. Where do these products come from/ where do you get the ingredients?
   → Do the ingredients come from land that you own? Do you grow them yourself?
   → Do you buy these products from farmers?

3. Do you believe that there is a large quantity of unused land in the countryside?

4. How do you feel selling and knowing about herbs affect your quality of life?

5. Where/from whom did you learn about medicinal plants?

6. Do you use some of these products yourself? If so, which ones? Why/ why not?

7. Do members of your family use these products? Do you give them to members of your family at home?

8. Who takes care of members of your family when they are sick?

9. Are there certain products that people buy more frequently?

10. Are there any difficulties/ problems/ things that bother you about running this shop/stall?

11. How is business?


13. Do you ever go to see a doctor? Why/ why not? For what?

14. What do you believe are the most important health issues in Asunción? In Paraguay?

15. Is tradition important to the use of plant remedies?

16. Do you believe that medicinal plants are important to Paraguayan identity?

17. Do you think that the government supports the selling of medicinal plant remedies? Why/why not?