Women's herbal product micro-enterprise development in Mexico:

Understanding gender dimensions, social networks and knowledge

by

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Abstract

This thesis, based on a case study of a women's herbal products micro-enterprise in a rural community in Mexico, examines the factors that enable or constrain the women's participation and analyses the social networks that surround the group and how these influence the collective endeavour. The research engages with current development debates, which promote micro-enterprises as a strategy to improve women's livelihoods and social capital creation as a way to foster cooperative action. Herbal plant products are seen as a possibility to positively impact rural development.

The analysis uses an Actor Oriented Approach to identify those processes by which knowledge was created and negotiated through encounters between the women and development actors and to understand how medicinal plant knowledge was used, disseminated and transformed in the experience of the micro-enterprise. The commercialization of medicinal plants and herbal products was examined by discerning how knowledge and beliefs about medicinal plants and herbal preparations originated and how these interplayed with the commercial project. The research uses the concept of empowerment to understand the ways that participation in the enterprise influenced the women's personal development, capacity to negotiate with others, and ability to act collectively.

The research contributes to existing studies, which show that participation in micro-enterprise initiatives does have the potential to expand women's social networks and their access to resources, opportunities and knowledge. However, the case study demonstrates the crucial role that leadership plays in mediating the links between networks and benefits, as well as, the enormous demands micro-enterprise initiatives place on the women related to time and travel requirements and a need for literacy and numeric skills. The women's experience with medicinal and herbal product commercialization shows that far from being an unproblematic alternative to rural development, herbal products are highly contested commodities that require costly marketing strategies, complex sanitation standards, and production guidelines to foster credibility; factors which in this case, were not compatible with the plant conservation, health and income generating benefits that have been hypothesized in the literature.

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ACRONYMS

AOA	Actor-oriented approach
BEC	Basic Ecclesial Communities (*Comunidades Ecclesiásles de Base*)
CCC	Centre for Campesino Training of the Santa Marta Mountains (*Centro de Capacitación Campesina de la Sierra de Santa Marta)*
CNPI	National Coordination of Indigenous Peoples *(Coordinadora Nacional de Pueblos Indígenas*)
CPP	Centre for Popular Promotion (*Centro de Promoción Popular*)
CREO	Centre for Regional Education and Organisation (*Centro Regional de Educación y Organización*)
CODESUVER	Coalition of Organizations for Sustainable Development of the South of Veracruz (*Coalición de Organizaciones de Desarrollo Sustentable del Sur de Veracruz*)
GAD	Gender and Development
GEF	Global Environment Facility
IADB	Inter American Development Bank
INDESOL	Institute of Social Development *(Instituto Nacional de Desarrollo Social)*
INVEDER	Institute of Social Development of Veracruz *(Instituto Veracruzano para el Desarrollo Rural y Pesquero)*
IMEPLAN	Mexican Institute of Medicinal Plant Research *(Instituto Mexicano para el Estudio de las Plantas Medicinales)*
IMSS	Mexican Institute of Social Security (*Instituto Mexicano del Seguro Social*)
INEGI	National Institute of Statistics and Geography (*Instituto Nacional de Estadística y Geografía*)
INI	National Indigenous Institute *(Instituto Nacional Indigenista)*
MAPs	Medicinal and Aromatic Plants
MPS	Movement of Popular Health *(Movimiento Popular de Salud)*
NGO	Non-governmental organization
NTFP	Non timber forest product
PEMEX	Mexican Petroleum *(Petróleos Mexicanos)*
PROAFT	Programme for Tropical Forest Action (*Programa de Acción Forestal Tropical)*
PROCEDE	Programme for Certification of Rights to Ejido Lands and Titles of Urban Patios *(Programa de Certificación de Derechos Ejidales y Titulación de Solares)*

PRODERS	Programme for Regional Sustainable Development *(Programa de Desarrollo Regional Sustentable)*
PROSSUDEP	Promotion and Services in Health and Popular Education Services *(Promoción de Servicios de Salud y Educación Popular)*
PSSM	Project of the Mountains of Santa Martha *(Proyecto Sierra de Santa Martha*)
SEDESOL	Ministry of Social Development (*Secretaría de Desarrollo Social*)
SEMARNAT	Ministry of the Environment and Natural Resources (*Secretaría de Medio ambiente y Recursos Naturales*)
SENDAS	Pathways and Encounters for Sustainable Development **(***Senderos y Encuentros para un Desarrollo Sustentable)*
TBR	Tuxtlas Biosphere Reserve (*Reserva de la Biósfera de Los Tuxtlas*)
TTS	*Tssoka Teyoo de la Sierra*
UAIM	Agro-industrial Units for Women *(Unidades Agroindustriales para la Mujer)*
UAM	Metropolitan Autonomous University (*Universidad Autónoma Metropolitana)*
UNACH	Agrarian University of Chapingo *(Universidad Nacional de Chapingo)*
UNAM	Mexican National Autonomous University (*Universidad Nacional Autónoma de México*)
UNFPA	United Nations Population Fund
USAID	US Agency for International Development
UV	University of Veracruz (*Universidad Veracruzana*)
WHO	World Health Organisation
WID	Women in Development

1. INTRODUCTION

1.1 The research journey

Why study medicinal plants and rural micro-enterprise development? In order to answer the question, I begin with a very personal account of the rationale that took me along the path of inquiry on the topic of medicinal plants and the study of a Ph.D. For various years, I was concerned with the increasing transformation and crisis in the Mexican countryside. The intensification of migration to urban centres and to the United States, the increasing loss of food security, the falling production of maize, and the multiplication of rural debt were some of the factors that were signalling an intense crisis, at least for a specific segment of the rural sector: the *campesino*. I had read about this negative trend in the newspapers and in books on the topic and had seen the increasing physical presence of *campesinos* protesting on the streets of Mexico City, which was a very tangible expression of the changes.

The origin of the transformation was, of course, complex and multi-faceted, but according to many specialists, the crisis was a consequence of liberal reforms implemented throughout the 1990's aimed at making Mexico's rural countryside a modern sector capable of competing and integrating with the US and Canadian economy in accordance with the stipulations of the North American Free Trade Agreement (NAFTA). While a select segment of Mexican rural producers were able to benefit from free trade, NAFTA seemed to increase marginalization and impoverishment for other producers. Many *ejidos*[1] and poor small-land holders were thrown into a competitive market where the prices of their crops decreased dramatically, while at the same time, structural reforms dissolved government support programs.

Emblematic of this situation were those *ejidos* with forest resources, the majority of which were not able to benefit from liberal reforms. While working in a non-governmental organization (NGO) that specialized in promoting community forestry, I became familiarized with the difficulties that many of these communities had to manage their forests sustainably and to set up successful commercial logging initiatives. If the communities wanted to engage with the commercial forestry sector, they had to compete with prices from two of the world's most important forestry nations: Canada and the USA. Richards (2002: 2) observed: 'trade liberalization has placed Mexico's multiple purpose and community-oriented natural forest management at a great disadvantage'. It became clear to me that rural communities, as well

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[1] The *ejido* system was introduced as an important component of the land reform program after the Mexican Revolution. It is a land tenure system based on the collective appropriation of the land.

as, forestry communities were enduring the impact of falling agricultural prices, insufficient credit, lack of incentives, and harsh competition. Alternative market options were in urgent need.

My concerns led to an exploration of the literature on alternative markets for rural development. One experience commonly cited in the literature was the diversification of income through the promotion of non-timber forest products (NTFPs). The commercialization of NTFPs was promoted by researchers, conservation and development organizations, and governments as a means to achieve rural livelihood improvement in an environmentally sound way (Belcher et al. 2005). The concept of a non-timber forest product (NTFP) includes: 'all biological materials other than timber, which are extracted from forests and other wooded land and trees outside forests for human use' (Belcher 2003: 161). Considerable debate exists as to what elements should encompass such a broad definition (i.e. whether these include cultivated or wild materials, forest services or only products, etc). However, some examples of NTFPs which are understood to comprise part of the category are: fruits, nuts, resins, fibre, mushrooms and plants (such as medicinal species). These resources are found in most rural communities, whether they have a forest or not, and are products which many people in rural areas already use, and in some cases, commercialize to a certain extent (Belcher 2003).

As part of my job in a community forestry organization, I had the opportunity to attend a seminar about an on-going research project funded by the United Nations Environment Programme (UNEP) and the UK's Department for International Development (DFID), which was exploring factors influencing the success of NTFP commercialization in Mexico and Bolivia.[2] Some of the initial results from this research seemed to confirm the potential of NTFPs to reduce poverty as well as to have a positive impact on women, who are often the ones who manage these resources. However, the results indicated that there were still important barriers to be overcome, such as, access to market information and uneven power relationships affecting market entry (Marshall et al. 2003).

Exploring non-timber forest products as a market option made sense to me in the context of Mexico's small scale, multi-purpose agricultural system. Increasing the potential for profit from alternative and possibly higher rung markets, as well as adding value to non traditional

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[2] For information on this research project consult the following: Marshall, E., K. Schreckenberg and A.C. Newton (2006). "Commercialization of Non-Timber Forest Prodcuts: Factors Influencing Success. Lessons Learned from Mexico and Bolivia and Policy Implications for Decision-Makers." E.d. UNEP World Conservation Monitoring Centre. Cambridge, UK.

resources, seemed to be an interesting avenue to explore with rural communities endowed with natural resources.

An initial examination of the literature on NTFPs led me to the specific case of medicinal plants. Medicinal plants, as cultivated or wild harvested species and non traditional agricultural resources, seemed to be an extremely relevant case in the Mexican context and to reveal the most interesting range of potential. The review of the literature on medicinal plants in Mexico inspired me to focus on these as the central part of the inquiry. The reasons for this were various. To begin, the consumption of medicinal plants in Mexico is based on a millenary tradition linked to indigenous medical practice. Many species are still used extensively throughout the country, which points to the existence of a robust local market and their importance in primary health care. Likewise, Mexico's significant cultural and biological diversity seemed to imply the existence of a large pool of useful plants, confirmed by ethno botanical information and research (Aguilar 1994; INI 1994; Linares 1999; Zolla 1979). Finally, most NTFPs were heralded for their potential environmental and income generating potentials, but medicinal plants offered an additional possible impact on human health.

Unlike many lesser known NTFPs, I found considerable research on the social and economic factors influencing the medicinal plant commodity chain. This body of literature revealed aspects, such as: inequality of trade, in which harvesters received a minimum part of the profits of trade (Hersch 1996), a growing demand for these species in the national market and the seasonal harvesting of diverse plants by poor subsistence oriented communities (Gutierrez and Betancourt 1999; Hersch 1996, 1997). Therefore, the issues that were addressed in much of the NTFP literature pertaining to the interaction between harvested plants and markets already existed.

The research on medicinal plant commercialization gave me the background to explore the next step in commercial development: the creation of small scale micro-enterprises that add value to these plant species. On this topic, I found virtually no information on the characteristics of the herbal product trade and much less on the possible links between rural development and the creation of small scale herbal enterprises. Despite their widespread use among the population, medicinal plants were absent in government policies and programmes that might deal with their conservation or promotion. I perceived a void in the research about medicinal plants and the social and economic factors of medicinal plant micro-enterprise development in rural sectors. I envisioned that an inquiry into the possibilities of micro-

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enterprise development of medicinal plant product initiatives could potentially generate exciting insights into alternative market products, which could, in turn, have a positive economic impact on rural areas. These ideas led me to embark on a PhD to research these issues.

1.2 Research aims and brief presentation of case study

The current research is of an explorative nature in that it aims to identify the main issues, trends and impacts within a women's herbal product micro-enterprise in a rural area of southern Veracruz, Mexico. The general objectives of the research were set forth as follows:

- Investigate the potential of a medicinal plant based herbal product micro-enterprise as a component of poverty alleviation and sustainable development;
- Explore the assumption that this activity could be best suited for women in Mexico through the cultivation of medicinal plants in home gardens and the creation of women's micro-enterprises;
- Understand the main challenges faced by rural women entrepreneurs, as well as the main factors crucial for advancing the micro-enterprises' long term objectives;
- Discern some of the specificities of the herbal products market, as a knowledge-based commercial sector. Where did the women's knowledge of medicinal plants come from?

The starting point of the research design was the case study, specifically the group of women participating in the Las Hamelias medicinal plant product micro-enterprise. Stake (1998) describes three different types of case studies depending upon the purpose of the study: intrinsic, instrumental and collective. In contrast to an intrinsic case study, in which the case itself holds interest, my case study was instrumental in that I sought to 'provide insight into an issue or refinement of theory...facilitating our understanding of something else' (ibid, 88).

The Las Hamelias women's micro-enterprise chosen for the case study is located in a small rural community that lies on the fringes of a strategic area for natural resource conservation and only a few kilometres from two major industrial cities. The closeness of the community of Pescador[3] to the Los Tuxtlas Biosphere Reserve has given it ample contact with local and international organizations, government agencies, national networks, and universities working in the area mostly on conservation issues. On the other hand, its proximity to two large

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[3] The name of the community is referred to interchangeably as El Pescador or Pescador

prosperous cities (Minatitlán and Coatzacoalcos) has made little impact on its relative isolation and marginalization. The community is part of the municipality of Pajapan that has been identified as one of the poorest and most marginalized in the country (INEGI 2002).

Before becoming the Las Hamelias micro-enterprise, a group of nine women got together to revive the traditional use of medicinal plants, to cultivate them in their home gardens and to prepare simple remedies for the benefit of their families and the people in the community. The idea was based on the vision of the leader of the group, who had previous experience as a health promoter in the nearby town of Chinameca and who invited other women to form a community health group in the village of Pescador. She was concerned with the loss of medicinal plant use and knowledge and an excessive reliance on costly pharmaceuticals. For her, the purpose of the group was to help the household economies by not having to rely on patent medicines and to cure simple health problems commonly found among the local population. Thus, the origins of the group centred on an interest in strengthening the tradition of domestic medicine and on enhancing capacities to tend to family health care issues.

The women involved in Las Hamelias began working on their products at home, rotating between each other's houses. At the beginning each contributed 5 pesos (around .20 pence) to buy the ingredients for the herbal soaps, which were the first product they developed. They made the soaps from plants such as 'valletilla' (*Hamelia patens*) and 'maguey morado' (*Rhoeo discolor*), plants locally used for treating bruises, wounds and skin infections that are easily found around the community and in people's home gardens as they both have medicinal and ornamental value. A bar of soap was sold in the community for 5 pesos, allowing recuperation of their investment. They were able to create a small fund to pay for the materials needed to continue making soaps and other products such as tinctures and medicinal syrups, which *doña* Flor[4], the leader of the group, knew how to make.

The transformation of the group from a local community activity to a micro-enterprise evolved about a year and half later when individuals from a coalition of NGOs saw the economic potential of this group of women and encouraged them to consider the option of commercializing their products. Las Hamelias micro-enterprise represented development intervention to increase the women's income and take advantage of available resources. The women received their first external financing in 2000 to pay for a course on medicinal plant preparations and to buy inputs for their products and agricultural tools, such as picks and

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[4] Pseudonyms are used for the names of the women participating in Las Hamelias

shovels, to start cultivating other medicinal species in their home gardens. In this way the Las Hamelias commercial enterprise began. The women were assisted and supported in their venture by actors from NGOs and by financial backing from government social funds, the Ministry of Social Development (SEDESOL) programs at first, and subsequently the Mexican Institute of Social Security (IMSS).

The women involved in the Las Hamelias micro-enterprise project straddled two worlds. On the one hand they are a group of *campesinas* who lived in a small and isolated rural village, whose knowledge and experience before becoming involved in the project was linked mostly to their domestic responsibilities of cooking, washing, cleaning and taking care of children and domestic animals. On the other, they are involved in a commercial, income-generating endeavour which requires specialized skills, knowledge, time and dedication. They are faced with the problem of having to juggle their domestic and productive activities, engaging in both the public and private domain. The women's perceptions of the opportunities and constraints faced through their involvement in the micro-enterprise as well as the factors affecting the participation of other women of the community with the group are analyzed in Chapter 6.

1.3 Research approach

1.3.1 Actor Oriented Approach to development interventions

Research based on the actor-oriented approach (AOA) takes into consideration 'the central role played by human action and consciousnesses' (Long 2001: 13). The main purpose for conducting social research of this type is 'to understand the world of the lived experience from the point of view of those who live it, together with an abiding concern for understanding meaning and grasping the actor's definition of a situation' (Schwandt 2003: 12). From this perspective it is important to understand the multiple and sometimes conflicting interpretations people construct of their experiences (Guba and Lincoln 1998). The approach attributes agency to individuals; that is, the faculty to understand their experiences and the capacity to respond to them (Long 2001).

From an AOA, analyzing the outcome of policies such as those related to the creation of a rural micro-enterprise involves taking into account the multiplicity of actors involved, the different interests and the social struggles that lie at the heart of these development interventions (Long 2001). Long (1992:21) considers it crucial that we understand that 'actors on the receiving end of development interventions are not passive recipients, but active participants

who process information and strategize in their dealings with various external actors involved'. The author adds that research on development interventions should be analyzed within the broader framework of previous interventions and past political struggles. The focus of this research is the case study of one particular development intervention, namely the creation of an herbal product micro-enterprise; however the regional and local development contexts are observed as well as previous political struggles that provide an understanding of the broader socio-economic and political background.

This research is concerned with the Las Hamelias rural micro-enterprise initiative, and within this market-oriented arena the actor-oriented approach proposes the study of the transitory process from subsistence to a market economy. Our case study involves the experience of a group of women who embark on a journey from non-monetized social reproduction-based activities to extra-household market-based activities through the manufacture and commercialization of herbal products. I take on board Long's (2001: 107) suggestion that this issue should be approached by understanding 'how commodity relations and values are generated and challenged, through the active strategizing, network building and knowledge construction of relevant actors'.

Thus the analysis of the case study enterprise pays attention to the complex networks of local and extra-local relationships in which the commercial processes unfold. Verschoor (1992: 173) explains that 'production, exchange and consumption activities are interwoven within a complex network of local, social, political and cultural contexts'. The examination of networks of relations involving kin, friends and external actors, such as government authorities or non-governmental organization (NGO) activists is an element of this process. The women's family networks are seen just as important as networks formed within the strictly commercial activities of the enterprise. There is a wide array of people involved in a development intervention, each with a particular vision, knowledge and interests. This research aims to understand the dynamics and complexities of these relationships, observing aspects of cooperation and conflict and understanding their impact on the women's lives and their influence on the outcome of the enterprise.

1.3.2 Doing research with 'networks'

The use of networks for social analysis is not new. Various disciplines such as economics, sociology and political science have used the concept to analyze, interpret and visualize social relationships. More recently the concept of the network has become popular due to the

expansion of new technologies such as the Internet. Thompson (2003: 2) argues that 'networks have become a ubiquitous metaphor to describe too many aspects of contemporary life, and in so doing the category has lost much of its analytical precision and clear conceptual underpinnings'. Rather than becoming a useless concept for social analysis the very fact that it is widely used and understood in contemporary society lends extra strength as an heuristic device to capture people's imagination and understanding. The only caveat we need to establish clearly is how we define, view and use networks for social research.

The research uses the idea of networks in two ways: as an abstract idea and as concrete examples of social associations. Networks, therefore, are defined as a:

• distinct form of organization in civil society with clear boundaries and objectives;
• metaphor for the multiple relationships surrounding the group of women in the case study.

Networks as a distinct form of a social organization are set up for a specific purpose such as integrating individuals and/or organizations for a common objective. Networks take on characteristics, which lead them to evolve and transform over time and operate across space and organizational boundaries (Long 2001). Organizations set up specifically as networks commonly share an understanding about something and integrate as a network in order to create a platform from which to gain more influence, to share information among themselves and in most cases to disseminate their claims to knowledge and understanding of the world to others (Ibid). Analyzing how networks come about, their knowledge, beliefs, values and actions may help to understand the extent of the impact of this form of organization on society In this research, networks are seen as providing an understanding of social organization in terms of the centrality of the creation and dissemination of knowledge and certain types of information.

As a metaphor, the network encircles a much broader notion that helps to envision and analyze various formal and informal relationships surrounding the group of women participating in the micro-enterprise case study. The network metaphor enables analysis of the relationships amongst the women themselves as also with family members and with actors from public and private domains. Thus the network as a metaphor for multiple social relations provides a view of their complexity. The analysis of social networks derives mainly from sociology and various sub-disciplines. Phillipson et al (2004: 1) point out that:

'Network analysis has been used to explore three main aspects of social life: a) the impact of informal ties both emotionally for the individual and for patterns of social organization more generally, b) for understanding the role of networks in the provision of support, and c) for analysing ideas about social inclusion and exclusion and their implication for public policy'.

My research uses social network analysis to gain an understanding of the dynamics and impact of the women's ties to a range of actors from NGOs and government to close kin and friends in terms of their access to resources, opportunities and knowledge. Long (2001:135) observes: 'Networks are significant not only because they may provide access to essential resources such as capital or labour, but also for the flow of information and for the support they may offer for various courses of action.' I focus on the role of networks in accessing resources and opportunities using social capital theories. Phillipson et al. (2004: 3) observe:

'There does appear to be an affinity between network analysis and social capital because social capital can be roughly understood in terms of the social resources and connections that an individual has at his or her disposal and network analysis provides an elegant and visual way of understanding these resources and connections'.

1.3.3 Micro-enterprise creation and women's development discourse

The definition of a micro-enterprise often overlaps with other terms such as 'the informal sector', 'small-scale enterprise' and 'micro-finance' because they are all concepts closely related to business initiatives for people with low income and limited access to financial capital. My use of the term approximates the definition identified by the Inter-American Bank of Development (IADB) in the context of the micro-enterprise sector in Latin America:

'Microenterprises defy a definition; they come in all types, and their businesses in many sizes. Many of these men, women and their employees are poor and have limited access to services. Some of their main characteristics are: heavy reliance on family labour, ten employees or less, limited access to the formal financial sector, little management and technical training, and a high percentage of women owners' (IADB 1998: 19)

In recent years, funding for micro-enterprise and micro-finance programmes for women by governments, aid agencies, and international development organisations has increased (Mayoux 2001; UNFPA 2004). This is partly due to a growing recognition of women's contribution to household income and partly because women are now the sole breadwinners in one fourth to one third of families across the world (UNFPA 2004). Concentration on micro-enterprise development as a way to generate income for women is based on two generalized assumptions in policy circles today: that women devote a higher proportion than men, of their

income to children's nutrition and other family basic needs and that the control of their income is positively related to their family decision-making power. In other words, micro-enterprises have been proposed as an answer to both family wellbeing and gender equality.

These assumptions highlight the issues surrounding the two main approaches to micro-enterprise development policy identified by Mayoux (1995: 4-7): the 'market approach' and the 'empowerment approach'. In the market approach the focus is on achieving economic growth and providing a solution to poverty by targeting those women most likely to be successful entrepreneurs in high-growth sectors, and it is a strategy clearly apparent in the programmes of large donors like the World Bank and United States Agency for International Development (USAID). The empowerment approach, on the other hand, aims not only to increase income but also, more importantly, to increase women's bargaining power within the household and society.

The two approaches to micro-enterprise creation found in development policies echo the main debates in development discourse concerning women's issues which have been labelled Women in Development (WID) and Gender and Development (GAD). The term WID was coined in the early 1970s by female development professionals persuaded by the work of Esther Boserup, and influenced development thinking by focusing on integrating women into the economic development process (Moser 1989). During the UN Decade for Women of 1976-1985, the WID school of thought impelled government agencies to establish programmes that aimed to integrate women in wider economic development through employment programmes and market-oriented projects such as micro-enterprises (Beneria and Gita 1997; Tinker 1997). Moser (1989) identifies three other sub-groups within this approach, addressing equity, anti-poverty and efficiency, which reflect changes in macro-level policy as well as the particular interests of the agencies implementing them.

The GAD perspective was the outcome of research into women's reproductive work and household relations. It criticizes the WID focus on commodity production and employment as insufficient to understand women's subordination (Benería and Gita 1997). It also questions the terms under which women are incorporated into the economy (Jackson 1999). Research within the GAD approach has been concerned with understanding the dynamics of gender relations. Scholars have insisted on the importance of analyzing women not in isolation but in terms of the social relationships between men and women and how these relationships are socially constructed, highlighting the complexities of gender in specific socio-economic

contexts (Moser 1989). In policy work, an empowerment perspective has been proposed as a way of addressing women's practical needs such as through access to services, employment, housing, etc, together with strategic gender issues that are fundamental to being able to tackle gender inequalities (Moser 1989; Rowlands 1997).

The present research is concerned with understanding the development potential of a women's micro-enterprise and involves an eminently WID concern to understand the outcomes of integrating women into market initiatives. Thirty years after the first efforts to consciously promote these development initiatives for rural women in Mexico, I am interested in understanding the factors that may still affect women's participation in these projects. However, the research is underpinned by a GAD perspective as it focuses on an examination of gender issues through social relationships and on the impacts of the women's participation in the micro-enterprise using social capital and empowerment frameworks.

1.4 Thesis structure

The thesis is structured as follows:

Chapter 2 constitutes the literature review of three areas of relevance concerning the research aims. It begins with an overview of the arguments in favour of the cultivation of medicinal species and value added activities as a potential opportunity for social and economic development in poor rural areas, followed by the arguments that dispute this potential. Another area of relevance for understanding the context of herbal product commercialization is the categorization of the health systems present in Mexico. I outline these, identify some characteristics and highlight diverse issues, such as government recognition and use of medicinal plants. The final part of the chapter contains a review of the literature on women's rural micro enterprise initiatives in México, including broad issues underlined by the authors, such as the main policies implemented, gender norms and division of work in households.

Chapter 3 contains the main concepts and theoretical foundations that guided the research. The first section includes a combined analysis of social capital and gender, drawing attention to the differences between men and women's social networks, followed by a review of the concept of empowerment as a useful approach that will allow an analysis of the impact of participation by the women of the micro-enterprise case study group. Next, I review the debates, definitions and application of the concept of social capital in development research and practice. I propose two distinct approaches to analysing social capital based on the type of

relationship studied; on one hand 'bonding' ties which refer to strong ties between family members, neighbours and close friends who share similar demographic characteristics and 'bridging' ties which constitute those weaker ties between people from different ethnic, geographical and occupational backgrounds. Finally, the chapter closes with some of the debates in development over knowledge domains and the presentation of the theoretical approaches and concepts that guided the inquiry on knowledge use, dissemination, and transformation.

In chapter 4, I present an overview of the epistemological foundations of the research and introduce the research questions for each of the three areas of inquiry of the case study, as well as a review of the ethical considerations and personal reflections on the establishment of the relationships with the participants. The methodological choices for data collection and analysis are presented and the chapter finalizes with some reflections on the limitations of the study. Chapter 5 presents a comprehensive background of the case study group starting with the recent history of the establishment of the community, followed by an introduction of the regional context, including the community's proximity to the 'Los Tuxtlas Biosphere Reserve' and the environmental organisations that operate in the area. The chapter includes the background of the convergence of various sectors of society in Mexico concerned with the improvement of health care in poor and isolated regions of Mexico during the late 1970's and 80's, a process which will be analysed in the case of Veracruz in Chapter 8 and which is directly linked to a process of recuperation and dissemination of medicinal plant knowledge in the region.

Chapter 6 will deal with the issues related to gender and micro-enterprise formation, analysing first the factors that constrained participation in the micro-enterprise, emphasizing women's domestic work, time and travel constraints. The second part of the chapter analyses examples of the impact of participation on women's empowerment, looking into the personal, relational and collective dimensions of the empowerment process. The main focus of chapter 7 are the social relationships of Las Hamelias group, first observing those ties that are internal to the group in order to understand the factors that may be crucial for cooperation and collective action and then observing their external ties or networks, this time in order to understand issues of access to resources, knowledge and opportunities.

The final analysis is found in chapter 8, which looks at the origin of the knowledge that the women of Las Hamelias used to produce and commercialize their herbal products. It

encompasses an analysis of the role of the health promotion process in recuperating and reviving herbal medicinal knowledge. The second part of the chapter deals with the interactions, struggles and negotiations observed in the 'development intervention', specifically related to the knowledge required for the herbal product commercialization, identifying some of the main obstacles the Las Hamelias micro-enterprise confronted in the herbal product market. The final chapter summarises the main findings of the research and discusses their relevance for development research and practice, identifying the research limitations and further areas of research.

2. ANALYSING A WOMEN'S HERBAL PRODUCT MICRO-ENTERPRISE: EXPLORING THE ISSUES, DEBATES AND CONCEPTS

2.1. Introduction

The aim of this chapter is to examine the main issues, concepts and debates in three areas of relevance to understanding and analysing a women's herbal product micro-enterprise. I begin with an introduction to the literature on the consequences of the increased consumption of medicinal plants and derived products, which is raising concern about the negative impact this may have for the conservation of these plant species and for people's health and livelihoods. I review the argument that this boom in consumption and trade presents an opportunity for rural communities to increase their income by cultivating and processing plants into herbal and botanical products, as well as the argument that disputes this hypothesis and highlights the risks associated with these market strategies.

In the second part of the chapter I propose a framework for understanding medicinal plant use in Mexico by conceptualising health systems into three broad categories to unravel the differences within these systems relative to medicinal plant use, their prevalence in the country and their official standing and recognition. These distinctions are made against the background of the concept of pluralism, which encircles the diversity of health systems present in Mexican society today, and in peoples' understanding and recourse to medical knowledge and practice. The differences in power and influence between these systems are inferred. The framework is developed to identify issues relevant to the case study and to analyse how markets, health systems and medicinal plant use and knowledge interact.

Finally, Section 2.4 deals with the policy context in Mexico which has promoted the incorporation of rural women into the formal economy through the promotion of rural micro-enterprise initiatives. A review of the literature identifies the main shortcomings of these government programmes such as lack of sufficient investment and lack of attention to the contradictions inherent in the promotion of women's enterprises such as issues of market competition, or the consequences of commoditisation of production on gender norms and division of labour within rural families. According to the literature, the conclusions are not all bleak, some positive outcomes have been documented which emphasise the effects of participation on women's self-esteem, access to knowledge and complementary income.

2.2. Medicinal plants: Health, trade and micro-enterprise creation

2.2.1 Use and expansion of medicinal plant trade

Medicinal plants have been defined as: 'all biological materials that are used in treating and preventing specific ailments and diseases and that are considered to play a beneficial role in health care' (Srivastava et al. 1996: 1). For commercial purposes, medicinal plants have also been grouped in the broader category of 'medicinal and aromatic plants' (MAPs), which include not only plants used for medicinal purposes but also those used as foods, condiments and cosmetics (Schippmann et al. 2003). In this research I consider the broader definition because a plant may be used differently depending on the place and particular context in which it is used; what is considered medicine, food, or cosmetic varies enormously from one culture to the next and the same plant may be used for all three purposes.[5] As Hersch (1995: 25) points out: 'plants acquire their value, meaning and purpose through human society and culture'.

Plants used for medicinal purposes constitute an enormous resource for people all over the world who use them to cure and alleviate their common health problems. Hamilton (2004: 1481) states: 'In terms of the number of species individually targeted, the use of plants as medicines represents by far the biggest human use in the natural world', and it has been estimated that the number of species used medicinally throughout the world is at least 35,000 and could be as great as 75,000 (Farnsworth and Soejarto 1991; Schippmann et al. 2003). Developing countries are the primary users of medicinal plants because around 70 to 80 per cent of the population in these countries rely chiefly on traditional medicines based on medicinal plants (Farnswroth and Soejarto 1991). According to Sheldon et al. (1997), around three billion people depend on plants to supply their overall medicinal needs, with tropical forests in particular providing medicinal plants for hundreds of millions of people in the developing world (Balick and Mendelsohn 1992).

In China traditional medicine, of which medicinal plant use is a central part, is an integral part of the formal health system and is utilised in about 40 per cent of cases at the primary care level (Akerele 1988). The Chinese health system is based on a combination of preventive medicine and the incorporation of traditional medicine into the state health system, and has

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[5] I use the term 'medicinal plants' to refer to this broad definition encompassed by MAPs.

demonstrated incredible advantages and successes (Lozoya 2003).[6] In the 1970s the World Health Organization (WHO) became interested in sharing the Chinese experience and presenting it as a model for other countries. In 1985, for example, it sponsored the Inter-regional Seminar on the Role of Traditional Medicine in Primary Health Care in China to explore the utilisation of traditional medicine in primary health care in 19 other countries and examine the possibility of adopting comparable approaches in their own health services (Akerele 1988). Since then policy guidelines set out by WHO have recommended the integration of traditional healers and medicinal plants into primary health care. The 'Alma Ata Conference on Primary Health Care in 1976 had also recommended that governments should give high priority to the utilisation of traditional medicine, including the incorporation of proven traditional remedies into national drugs policy' (Brown 1995: 224)..

Therefore the importance and extent of traditional medicine and medicinal plant use for health needs in developing countries has been widely acknowledged in the international health policy arena and documented extensively in the literature (Cunningham 1993; Brown 1995; Balick, Elisabetsky et al., 1996; Bodeker 1997; Sheldon et al., 1997; Botha et al., 2004; Hamilton 2004). However it is important to point out that consumption, demand and trade in medicinal plant species is today expanding not only in countries where they are used in traditional health systems but also in wealthy western nations (Akerele 1988; Baser 2003; Laird 1999). An estimated 2,500 species of medicinal plants are traded internationally today (Schippmann et al. 2003) with some attracting high prices in national and international markets (Akerele 1988; Baser 2003; Laird 1999). The market for medicinal plants in Europe is at its greatest in Germany, where annual sales are around US $3,000 million, comprising half of the entire European market (Hersch 2000: 35). McCaleb (1997: 222) observes that as a result of the crisis in the health care system in the United States many people have started to turn to herbal medicinal products, creating an expansion of trade in medicinal herbs in bulk and as capsules, extracts, tinctures, tablets and teas. According to WHO the growing use of herbal remedies is fuelling a global market that stands at over US$60 billion annually and is growing steadily (WHO 2003).

International trade is booming as the herbal and botanical sector industries are consolidating in industrialised countries and expanding the market for plant based products (De Silva 1997).

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[6] In a period of approximately 25 years the Chinese mortality rate descended enormously from 25 to 6 per 1,000, and a similar decrease was true of infant mortality (Lozoya 2003)

Laird and Pierce (2003: 6) define the botanical sector as: 'a broad range of commercial activities including herbal medicines, natural personal care products and cosmetics; functional foods and beverages, flavours and fragrances', and a range of other industry sectors also use raw plant material. The botanicals market sector experienced an annual expansion of around 10-20 per cent in Europe, the USA, and Canada during the late 1990s (Laird 1999). According to Rao and Rajeswara (2006), the globalisation of agricultural trade brought great opportunities to those trading in medicinal plants as the global positioning of botanicals gained importance; however, international trade has also brought challenges such as price competition, the maintenance of quality and the scientific validation of claims. The botanical industry has been criticised for relying heavily on traditional knowledge to validate safety and efficacy claims while often producing limited benefits for the local communities that harvest or cultivate the plants (Laird 2000; Schippmann et al. 2003).

There is growing concern about the human and environmental consequences of the expansion of trade in medicinal plant species. WHO has been calling for a comprehensive approach to the subject of medicinal plants for many decades, stressing the need for an inventory of medicinal plants, the establishment of methods for assessing the safety of products, international standards and specifications, the dissemination of information and the designation of research and training centres (Akerele 1988).

In Mexico the commercialization of medicinal plant species has been increasing since the early 1980s together with an increase in the number of people involved in the activity (Hersch 1995, 1996). Although currently there are no official statistics regarding the trading of wild medicinal plants in the country, Hersch (1997) found that the volume of medicinal plants in a single storage warehouse was about 1,000 tons a year. Around 80 to 90 per cent of plants traded and consumed in Mexico are harvested from wild species (Gutierrez and Betancourt 1999; Hersch 1999a; Lozoya 1996). Hersch (1995, 1996, 2001) has shown that the people dedicated to harvesting wild medicinal plants for the markets in Mexico are the poorest members of rural communities and most often those without access to productive agricultural land. Gatherers of wild medicinal plants earn only 7.56 per cent of the consumer price, while profits increase up the commercial chain to the retailer, who reaps the highest rewards (Hersch 1996). The negative consequences of this growing and unregulated trade have started to appear in the decreased availability of popular species, harvesting areas becoming more distant, the adulteration of species and rising prices (Hersch 1997). Some problems are compounded

because there are no government programmes aimed at the sustainable exploitation and protection of these resources (Mata 2003).

A similar situation prevails in other countries of the world. Hamilton (2004) found that collectors of wild-harvested material are often the most economically marginalised sectors of the population. The combination of people in poverty and increasing market demand for plant species has created pressure on these resources. Around 9,000 medicinal plant species are already deemed to be threatened worldwide due to increasing commercial collection, unmonitored trade and habitat loss (Lange 2004). Concern over medicinal plant loss has been on the international agenda since 1988 after the Chiang Mai Declaration was signed in the context of the International Consultation on Conservation of Medicinal Plants. The declaration draws attention to the vital importance of medicinal plants in health care and the increasing and unacceptable loss of medicinal plants due to habitat destruction and unsustainable harvesting practices (van Seters 1995). Concern about the degradation and loss of medicinal plants is related to livelihood security issues among the poor who rely on the plants as a source of income and health care (Hamilton 2004: 1484). From an environmental point of view, the problem is that the great majority of medicinal plants consumed worldwide come from an unsustainable harvest of wild species (Kuipers 1996) which can lead to their overexploitation and disappearance.[7]

Thus the increased commercial demand for medicinal plants is having a negative impact on the people who harvest the plants as well as on ecosystems and the species being over-harvested. The cultivation and sustainable management of medicinal plants and the creation of small scale micro-enterprises have been proposed as an alternative to these problems. In the following section I review proposals for medicinal plant cultivation and value addition activities through micro-enterprise creation to create benefits for rural livelihood improvement, biodiversity conservation and health enhancement. I also review the arguments suggesting caution regarding these overly optimistic views.

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[7] Only a few species are systematically cultivated, the estimated number of medicinal plant species currently in formal cultivation for commercial production does not exceed a few hundred worldwide. In India, for example, of the more than 400 plants used for production of medicines by the national herbal industry fewer than 20 are under cultivation. In China, of the 1,000 or more commonly used plants only 100-250 species are cultivated, and in Germany only 3 per cent of the 1,543 species traded are sourced from cultivation. Schippmann et al (2003: 32–34).

2.2.2 Benefits and risks associated with medicinal plant based micro-enterprise development

The perceived advantages of promoting the cultivation of medicinal plants are based on the idea that these species can thrive in agro-forestry systems or fragile areas where conventional agriculture does not yield high results, producing benefits for both biodiversity conservation and human welfare (Lambert et. al. 1997; Srivastava et al. 1996). The benefits for biodiversity conservation in low-intensity systems such as agro-forestry in tropical areas are that ecosystem functions remain similar to those found in the undisturbed forest and high levels of biodiversity can be conserved and managed (Belcher 1998). Tropical forests are not the only targeted ecosystem. A recent research project funded by the World Bank proposes that planting fields of medicinal plants may also contribute to stabilising and enriching soil in dry and degraded areas such as those found in Sub-Saharan Africa (Lambert et al. 2005).

The notion that the cultivation of medicinal plants can play an important role in the conservation of biodiversity stems from the belief that human management of the natural environment already plays an important part in biodiversity enhancement (Carlson and Maffi 2004; Posey 1999). Research suggests that plants used as medicines are not necessarily found in undisturbed ecosystems but are more often found integrated into agricultural systems. Sowerwine (2004) points out that the production and reproduction of medicinal plant diversity is not confined to primary forests but is intricately linked to a diversity of land practices. Studies in Mexico support this view. The research of Frei et al. (2000) in Oaxaca, Mexico, found that the most important areas for securing medicinal plants are the intensively managed home gardens ('*solar*'), corn plots ('*milpa*') and semi-managed forests ('*monte*'). Likewise, in a study of indigenous Huastec communities in Mexico, Alcorn (1995) observes that wild plants such as medicinal species and other minor crops are integrated into dynamic agricultural systems that exploit and conserve biodiversity.

The economic and market advantages of the cultivation of medicinal plants could be greater control over their production, a lower risk of adulteration and increased possibility of achieving consistent quality (Sheldon et al. 1997). 'Problems of uneven supply could be regularised, producers could agree on volumes and prices and plants could easily be certified as organic or biodynamic' (Schippmann et al. 2003), all of which could contribute to mitigating the vulnerability of wild harvesters, creating a more stable livelihood strategy while at the same time protecting popular medicinal species from overexploitation and extinction. For Cruz

(1999) the establishment of the economic value of medicinal plants in Mexico might help contribute to their protection and that of the natural resources where they are found.

Another argument for the promotion of medicinal plant cultivation is that this activity could be best suited to women because cultivation of medicinal plants in home gardens offers an opportunity to produce high value medicinal crops to help women earn additional incomes (Rao and Rajeswara 2006: 224). As Howard (2003b) explains, 'most plant biodiversity use, management and conservation occurs within the domestic realm' and home gardens 'fit well with (women's) domestic duties, labour patterns, productive decision making spheres, aesthetic sensibilities and cultural roles' (Howard 2006: 178). Townsend et al. (1995) point out that women's economic opportunities are frequently limited by their wish to stay within their house and garden, but if a link could be made between the products found in home gardens and markets, a very attractive partial solution to women's livelihood problems could be met.

There are, however, considerable risks to be considered when proposing the commercial cultivation of medicinal plants, such as the weak economical feasibility of cultivated material which competes with harvested plants supplied with no incurred input costs (Sheldon et al. 1997). Schippmann et al (2003) point out that few species today can be marketed at a high enough price to make cultivation profitable. He also asserts that domestication of previously wild collected species often requires substantial investment of capital and several years of research. In the end, 'a poorly managed wild harvest is much cheaper than embarking on investments for cultivation and research' and wild species are often considered more valuable than cultivated ones (Sheldon et al. 1997: 8).

In a study of a medicinal plant micro-enterprise project in Costa Rica, Isla and Thompson (2003), document how the organic cultivation and commercialization of medicinal plants has not brought about significant financial returns for the women involved in the micro-enterprise. Isla's main criticism of the policy prescription of promoting the commercialization of medicinal plants as a development strategy for poor rural communities is that these may be no different from other experiences of commercialization of other primary products where low wages, flexible labour markets and low cost production are common. The author's research documents how in Costa Rica 'the rate of exploitation of the women workers and their family surpassed even the average rate of exploitation in the agriculture sector' (Isla and Thompson 2003: 175). Howard (2006: 173), likewise considers it important to keep in mind the risks of

integrating home gardens into the market economy 'as home garden production becomes more lucrative or more market oriented, women's roles in them as managers, sellers, and earners of cash income appear to shift.'

For these reasons it has been proposed that the cultivation of commercial medicinal plant species be linked to value added activities such as their processing into extracts or products in order to enhance rural livelihoods while making the sustainable use of resources a realistic option (Balick et al. 1996). Karki and Tiwari (2005) identify the development of micro-enterprises for the processing and marketing of medicinal plant products as potentially important in creating rural assets and wealth by controlling post harvest activities. Rao and Rajeswara (2006) point out the potential of cultivating medicinal and aromatic plants in home gardens:

> The processing and packaging of these at local level could increase the value of the products and benefit growers with typical value addition practices such as: dying and powdering of relevant plant parts, distillation of aromatic plants, preparation of herbal extracts and of simple products such as incense sticks, perfumed candles, soaps and herbal drugs. (ibid: 227)

Herbal products produced by small rural firms may also be sold locally and regionally as more affordable and in some cases more effective alternatives to pharmaceutical medicines (Balick et al. 1996; Frei et al. 2000). Cruz (1999) observes that the agro-industrialisation of medicinal plants in Mexico might contribute to an overall re-evaluation of the importance of medicinal plants and traditional knowledge, helping to give more prestige and credibility to traditional doctors. A community based initiative to conserve medicinal plants in Bangladesh concludes that developing market linkages is an essential step for reviving herbal medicine, a practice that is in decline together with the social status of the traditional healer (Khan et al. 2005).

Lambert et al. (2005: 30) argues that in order for herbal micro-enterprises to succeed, communities need assistance to develop a 'market advantage to ensure that their products: have an identity that sets them apart from competitors, are better environmentally than competitors, provide an environmental claim, i.e. rehabilitating degraded lands, organically grown, and produced by women, have an indigenous 'green seal', and are safe, effective and durable'. The requirements for achieving a market advantage for products resulting from the sustainable harvesting and/or cultivation of medicinal plants can be difficult to achieve, yet their success could increase household income, help lower healthcare costs and respond to a

growing global demand for natural health products (Lambert et al. 2005; Rao and Rajeswara 2006; Schippmann et al. 2003; Srivastava et al. 1996). Thus the development of small scale rural enterprises has been proposed as a bridge linking the economic development of rural populations, the conservation of biodiversity and the development of accessible medicines (Srivastava et al. 1996).

Despite their purported potential, the literature identifies diverse aspects to be kept in mind in promoting the sustainable harvesting, management and cultivation of medicinal plants and the manufacturing of products as livelihood solutions for the poor. Arnold and Ruiz-Perez (2001) argue that the poor usually have limited access to the technology, skills and capital necessary to take advantage of the opportunities of growing markets and therefore are the least likely to benefit from commercialization. Ultimately the transformation of market opportunities into concrete opportunities for poor rural groups or communities is a complicated and expensive task that includes at least the development of products and processes of production, adaptation to prevailing norms and finally the construction of a market that recognises their tangible and intangible values (Ibargüen and Chapela 2007).

Sheldon et al. (1997) argue that the commercial history of many medicinal species illustrates how the rapid growth of a commodities market can frequently lead to loss of local control over a resource. Increased commercial activity can create pressure on local collective systems' control over resources and contribute to their breakdown, as some users are able to take advantage of the market more successfully than others (Arnold 2004; Belcher 2003). Alexiades and Shanley (2004) highlight how the traditional risks of market involvement need to be carefully assessed, taking into account the past cycles of boom and bust that have characterised trading in various forest and agricultural based products throughout Latin America.[8]

An additional problem of herbal product commercialization is that unlike other agricultural commodities, the regulations and quality controls for medicinal plant species and products can be very strict and require knowledge of legislation and technical aspects of quality control. De Silva (1997) mentions that some of the main factors impeding the development of medicinal plant based enterprises in developing countries has been the lack of information on market

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[8] For example, a once highly demanded plant the medicinal *barbasco* or wild yam (Dioscoreaceae) was replaced by synthetic products. The market collapsed along with local economies, causing much economic instability from one day to the next. For more information on this case see Lozoya 2003.

and trading potential, poor agricultural or harvesting practices and poor quality control procedures. Additionally, the market for medicinal plants is subject to research findings and media publicity that create a fickle market (Craker and Gardner 2003).

The literature identifies the potential benefits and risks of promoting small rural micro-enterprises based on medicinal plants. Evidence of a growing market for medicinal plant species and botanical/herbal products does not automatically mean that poor rural communities can take advantage of these markets or that an adequate policy framework or economic conditions exist for setting up rural microenterprises. In many instances the creation of novel and successful market products requires the acquisition of knowledge and experience that is usually preceded by considerable investment of time and capital. Unlike agricultural products or other harvested products, the botanical and herbal product sector is an especially complicated field as consumption is usually directly linked to knowledge and practices associated with a specific health system. The following section aims to clarify the complex picture of the relationship between health systems, medicinal plant knowledge and commercial herbal products in Mexico.

2.3 Health systems, medicinal plant use and markets in Mexico

The concept of 'health system' in this research is defined as 'the framework of ideas regarding the causes of illnesses and the treatment of those illnesses, as well as cultural aspects underlying the society's response to health needs (Nigenda et al. 2001b: 5).

I first analyse the two mainstream health systems in Mexico, biomedicine and traditional indigenous medicine, including the use of medicinal plants and the prevalence and official recognition of each. A third system that I call popular or domestic medicine, is based on lay people's knowledge and practice, which is imbued with aspects from both traditional and biomedical system's tradition. Finally, I present some characteristics of the commercial herbal medicine market that will help to situate the case study within the health and commercial framework of Mexico.

2.3.1 Medical pluralism in México

Lozoya (2003: 101-107) maintains that in Mexico the predominant use of traditional medicine and biomedical health systems can be identified by geographical (rural-urban), cultural and economic factors. The author separates the population's medical use and knowledge into three main categories: a) indigenous groups, b) the *campesino*[9] sector and c) urban population. The first category is exemplified by rural indigenous inhabitants, whose traditional medical knowledge remains the purest and traditional healers lie at the centre of cultural and community life. The second category is found among rural *campesino* populations who do not identify themselves as belonging to a particular indigenous ethnic group but conserve many ideas and practices based on indigenous knowledge and world views. This sector of the population often has a concept of illness that western doctors do not know about or understand.[10] Institutional biomedical health care is firmly established within this group, but coexists with traditional indigenous knowledge and practice. The last sector is the population of cities, where allopathic medicine is predominant and most accessible but where in recent years there has been a resurgence in alternative medical systems and therapies that include homeopathy, chiropractice, iridology, naturopathy naturism, acupuncture, reflexology, and Chinese and Indian Ayurveda medical traditions, as well as a return to some of the therapies and resources of traditional indigenous medicine (Lozoya 2003).

Nigenda et al. (2001a: 6) argues that in Mexico 'because of their prevalence and tradition, only traditional medicine and biomedicine can be considered as mainstream medical systems'. These two health systems originate from different paradigms about what constitutes health and illness. They have different methods of treatment, different understandings about the efficacy and safety of medicines and differing views on the use of medicinal plants. However opposed the systems are, though, there is among the population a great diversity of understandings, resources and practices that combine traditional indigenous medicine,

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[9] Throughout this thesis I use the term *campesino* instead of 'peasant' because it is a term widely identified with the particular identity and characteristics of rural dwellers in Latin America and used in the literature to identify particular characteristics. Locket (1996) explains that there has been a long debate in the study of Latin American agrarian systems regarding the appropriateness of the equivalent English terms 'peasant' or 'farmer'. He justifies his use of the Spanish word because *campesino* focuses on rural dwellers who share both poverty and ties to the land within the context of diverse livelihood strategies, often engage in diversified agriculture on relatively small farms, have a heavy dependence on household labour, diverse production and income generating strategies and increased dependence on off-farm labour.

[10] Categories of illness that do not have a biomedical basis in the Western medical system include, among others, the Mexican concepts of *susto* ('magic fright') and *empacho* (a food blockage caused by eating when not hungry or against one's will) (Nigenda and Hill, 2004).

western biomedicine and recently other alternative health models that originate in different parts of the globe (Nigenda et al. 2004). In analysing this diversity the concept of pluralism is useful as it refers to 'the co-existence of multiple systems of medicine, the diversity within particular systems, and the variation in people's conceptions of illness and how they resort to medical practices belonging to different health systems' (Nigenda et al. 2001a: 5). It is important to keep the notion of pluralism in mind to understand some of the particularities of the health systems in Mexico and their relationship with medicinal plants.

2.3.1.1 Biomedical health system

Modern, western, scientific and allopathic are some of the terms used to describe the biomedical health system, which is related to the activities and application of science to clinical medicine. It is linked to microbiological discoveries of the last century and to the development and expansion of the pharmaceutical industry (Hersch 2000). According to Gaines and Davis-Floyd biomedicine is based on the principle of separation:

> …the notion that things are better understood in categories outside their context... biomedicine separates mind from body, the individual from component parts, the disease into constituent elements, the treatment into measurable segments, the practice of medicine into multiple specialities, and patients from their social relationships and culture. (Gaines and Davis-Floyd 2003: 45)

Understanding this principle in biomedicine is useful when looking at this health system's use of medicinal plants. Biomedicine requires separate and quantifiable components in the production of medicines, therefore medicinal plants are used only after their specific isolated compounds have been identified and clinically tested. Medicinal plants are analysed 'for potentially valuable chemicals which must be novel and therefore patentable, or synthesizable, or must represent interesting structures from which synthetic analogues can be developed' (McCaleb 1997: 229).

In the pharmaceutical industry medicinal plants have three main uses: as research tools in drug development, as templates for chemical synthesis and as material for the production of pharmaceuticals (Farnsworth and Soejarto 1991; Sheldon et al. 1997). With regard to templates in the discovery of active compounds and the synthesis of new drugs, Heinrich (2000) explains how botanical collections by early explorers and ethno botanists played an important role in the development of new drugs for many centuries. The interrelationship between traditional medicine and biomedicine in the process of drug discovery has been

stressed by various authors (Bodeker 1999; Carlson 2001). According to Farnsworth and Soejarto (1991), 74 per cent of pharmaceuticals derived from plants were developed by chemists researching ethno-medical claims. The discipline of ethno-pharmacology, which is dedicated to the observation, identification, description and experimental investigation of the ingredients and effects of 'indigenous drugs' in the development of active therapeutics, is an example of this (Schultes 1989).

In addition to the discovery of new compounds, a number of plants have been used as templates for modern drugs. Tyler (1999) explains that if one examines any of the drugs widely used today it becomes apparent that, almost without exception, they are modelled after other similar drugs of plant origin.[11] Contrary to popular belief, plants still provide raw materials for the manufacture of some important pharmaceuticals used today. According to De Silva (1997), over 25 per cent of prescription drugs in OECD countries are still manufactured using plants. Sheldon et al. (1997) point out that the pharmaceutical industry's reliance on plant material has an immense impact on certain plant species and their native habitats. There has also been a comeback of natural product-based research in the pharmaceutical industry due to technological advances which permit the screening of plant samples more quickly and thoroughly, holding significant promise for lowering the costs of new drug discovery and development (Dutfield 1997; McChesney 1996; Tyler 1996).[12]

In Mexico, biomedicine is the official medical system in the country and health services continue to be, in general terms: 'culturally homogenous, imposed from above and exclude alternatives which are different from the hegemonic medical model' (Duarte et al. 2004: 212). The use of medicinal plants and herbal remedies has been discredited as a therapeutic tool by allopathic doctors. Hersch (2000: 75) explains: 'Mexican doctors have discarded medicinal plants, even though they are a resource largely available, accessible in cultural and economic terms and widely used'. Official biomedical practice has been more open to research of traditional medicinal knowledge at particular times. For example, in the 1970s the Mexican Institute of Medicinal Plant Research was created (IMEPLAN) to investigate the state of traditional medical knowledge in México. More recently, the publication of the *Extrafarmarcopea Herbolaria* in 2001 opened a space for information about medicinal plants in

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[11] Examples include the decongestant phenylephrine, which comes from the active principle of the ancient Chinese herb ma huang; dextromethorphan, a cough sedative, which was modelled after the narcotic codeine from the opium poppy; and the popular salicylic acid, from willow bark (Tyler, 1999: 32).
[12] The screening of 10,000 plant extracts would have cost US$ 6 million a decade ago but can now be undertaken for US$ 150,000 (Heywood, cited in Caffini, 1999).

Mexico which had previously been excluded due to the chemical character of the pharmacopeia (Hersch 2001: 113).

2.3.1.2 Traditional indigenous medicine

Traditional medicine is defined by WHO as 'the sum total of the knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health, as well as in the prevention, diagnoses, improvement or treatment of physical and mental illnesses (Timmermans 2003: 8). A more detailed definition distinguishes between traditional scholarly and traditional folk medicine, whereby the former has produced documents, pharmacopoeias and institutions for training doctors (Chinese Traditional Medicine and Ayurveda), while in the latter knowledge is orally transmitted and associated with certain ethnic groups (Hamilton 2004).

Traditional indigenous medicine in Mexico can be considered a folk medical system because it does not have documents, pharmacopoeias or established institutions. As Lozoya (1994: 6) explains, 'the protagonists of traditional medicine have transmitted their knowledge for centuries exclusively in oral form and primarily in the closed space of their communities'. The only documentation about the traditional use of plants has been produced by the dominant culture and has not been made widely accessible.[13] Traditional indigenous medicine in Mexico is not synonymous with pre-Hispanic medicine since it has undergone a steady process of acculturation with the incorporation of medical knowledge and plant species from a number of differing cultures and health systems, including biomedicine (Hersch 1999b; Lozoya 2003; Page 1995). It is likewise 'not an entirely homogenous body of knowledge, but an expression of the great diversity of ethnic groups in the country' (Hersch 1999b: 62).

In traditional medicine, medical practice is generally directly connected to plant resources since folk traditions use the largest variety of plant species (Hamilton 2004). This is true in Mexico, as the use of plants for medicinal purposes is part of an ancient practice closely

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[13] An important example of this is the *Medicinalibus Inodorum Herbis*, more commonly known as the *Cruz-Badiano Codex*. 'The Codex was the first medical text to have registered medicinal plant use by the Aztecs. It was written in 1552 by an indigenous doctor named Martin Cruz, but the book remained unknown for four centuries. The manuscript was sent to Spain soon after it was written and remained forgotten in various private collections in Europe. It was not cited in any medical or botanical writing from either side of the Atlantic for the entire period between the 16th to the 19th century and only returned to Mexico 1993 as a gift by Pope John Paul II to the people of Mexico' (Byland, 2000).

related to indigenous culture and knowledge. Hersh (1999a: 61) explains that the Spanish Conquest of Mexico broke apart the local medical practice of pre-Hispanic times, but various elements remained 'in the conceptual system behind the use of plants, in the plant resources themselves and in the taxonomy of the diseases with which healers operate today'. Similarly Baytelman (1993) suggests that '[t]raditional medicine in Mexico today is the symbiosis of active medical practice and ancestral experimentation'

In Mexico medicinal plants are most often harvested from the wild, cultivated in home gardens, traded in local and informal markets and transformed into simple remedies and preparations. Today there are still medicinal plant stalls in virtually every popular market around the country, testifying to their efficacy and cultural value (Argueta et al 1994, cited by Mata 2003). However, there are no recent official statistics about the numbers of people who depend on traditional and/or herbal medicine, the plant species used most often or the volume of these consumed commercially. The most recent study conducted at national level, in 1984, demonstrated that traditional medicine and plant use prevailed widely throughout the country. The study found that in rural areas (with government biomedical clinics) the ratio of biomedical doctors to traditional indigenous doctors was 1 to 4 and that the majority of the latter 66.4% were women Lozoya 2003: 78).[14] The interviews with these traditional doctors resulted in the identification of 1,950 different plant species used in their medical practice (Lozoya et al. 1988).

Although traditional medicine represents a fundamental option for health care the reality is that it has had to function outside legal structures and subordinated to government biomedical health systems (Nigenda et al. 2001b). Nigenda explains that the integration and regulation of traditional medicine in the world follows three major tendencies: a) integration, b) coexistence, and c) tolerance; this last tendency best describing the situation in Mexico (Nigenda et al. 2001b: 3). In Mexico, public health services include biomedicine as the main therapeutic option; however, some efforts have been made in the past to integrate both health systems. The establishment of two 'mixed' or intercultural hospitals which offer both indigenous and allopathic health systems are an emblematic case; however, as Nigenda et al. (2001a: 4) argue they have not been expanded and remain as interesting experiments.[15]

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[14] An analysis of the distribution of traditional doctors found that midwifes formed 53 per cent of the population interviewed, *curanderos* (traditional doctors) 24 per cent, *hueseros* (bone specialists) 17 per cent and *hierberos* (plant specialists) 6 per cent (Lozoya, 2003).
[15] For detailed information on how these 'mixed' hospitals integrate both health systems see Duarte et al., 2004.

The General Health Law, recently reformed in 2006, says that it will 'recognize, respect and promote the development of traditional indigenous medicine' and that government health programmes in indigenous communities will adapt to the concepts of health found in these communities.[16]   There are current government efforts to make health services more culturally attuned to the needs of the population; for example, the Mexican Institute of Social Security (IMSS), through its Office of Traditional Medicine and Intercultural Development, is incorporating the option of alternative methods of giving birth in a few hospitals, or giving identity cards to traditional doctors which validate their work, but these efforts remain few and far between. Despite developments in the legislation, the hegemonic medical model is still biomedicine.

2.3.1.3 Domestic/popular medicine

'Popular' medicine is a combination of traditional and western resources, ideas and procedures and is found mainly but not exclusively in rural areas. According to Garcia et al. (1996), popular medicine is distinct from traditional medicine because it does not involve rituals and is said to be a much less specialized practice, although it is based on the same logic of traditional indigenous medicine.[17]   The authors argue that the distinction between traditional indigenous healers and popular medicine prevails, but the line that separates the two today is not always clear. According to Hersch (1996), popular medicine is based on medicinal plants and has always been an option for many Mexican families. However it does not have government recognition, as it is seen simply as a problem of self-medication that needs to be curbed (Zolla and Mellado 1995).

A central component of popular medical knowledge is 'domestic medicine', defined as:

> ...the conjunction of knowledge, resources and therapeutic actions present in the household...it is a medical practice usually confined to adult women, mainly housewives, that plays an important function in the diagnosis of an illness and permits the administration of household treatments. (Zolla and Mellado 1995: 5)

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[16] *Diario Oficial de la Nacion*, 19 Septiembre del 2006. Ley General de Salud. Artículo 93
[17] Even before the arrival of the Spanish, two different levels of indigenous medicine co-existed; one which was erudite and one which was popular. The erudite doctors belonged to a certain social class, had access to written knowledge and sacred texts and managed a series of specialised categories and instruments; popular medicine had less specialised knowledge but was inscribed in the same logic and vision as that of the erudite medicine (Garcia et al., 1996).

In Mexico popular medical knowledge is passed on through generations, usually from mother to daughter, and has been identified as the first stage of diagnosis. Domestic medicine, as the name implies, is linked to the household and women's role in the family and society (Galante 1992; Zolla and Mellado 1995).

The domestic realm is the 'reproductive sphere where women carry out unpaid, home-based activities that ensure the maintenance and functioning of people within households, and because these are localised practices with non monetary values, these remain invisible to outsiders and ultimately undervalued' (Howard 2003b: 4-5). Alberti (2006: 140) argues that women in Mexico 'have developed important knowledge for selecting, cultivating and using medicinal plants that has contributed to the advancement of herbal knowledge and medicine in the country, but that as part of domestic labour it hasn't received recognition or economic remuneration'. Nonetheless, it is increasingly acknowledged in many parts of the world that women form the backbone of rural and traditional health care systems, as most episodes of illness continue to be handled first within the family domain (Howard 2003a; Kothari 2003). Although in the past the domestic sphere remained invisible to doctors, official government statistics and even ethno-botanical research, it 'is tremendously productive...it involves a highly demanding and holistic level of traditional technical knowledge and skills that require, in many instances, at least a third of a lifetime to accrue' (Howard 2003b).[18]

The medicinal plant knowledge that women hold is related to their reproductive and care-giving activities but also to the physical space that they occupy in the family and society. The gender division of labour influences women's access to plant resources while also reinforcing the traditional gender roles guiding their plant management (Vázquez 2008). Vázquez et al (2004) describe how in Veracruz, Mexico:

> ...the forest (*el monte*) is a male space, dangerous and unfit for women who wear dresses and open shoes; but besides the obvious dangers such as snakes, the forest has other culturally constructed dangers that limit women's access to these places and the plants and trees found there: people speak, for example, of a 'worm' living in some trees in the *monte* that can make women pregnant just by looking at it, thus, *monte* plants are a men's specialty (ibid: 137).

The home garden is the space that is socially accepted and customarily identified with women's activities and responsibilities (Howard 2006). In Mexico these home gardens

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[18] 'Women's ethno-botanical knowledge and medicinal roles are often unexplored by ethno-botanists, who tend to make a beeline for the shaman or medicine man. But awareness is growing that the 'common' knowledge of lay women actually predominates in traditional health care systems' (Howard, 2003: 9).

(*solares*) are customarily considered women's production spaces, while men's space is in the maize fields (*milpas*) (Lope-Alzina 2007). In Latin America home gardens generally contain 'a great diversity of vegetables, condiments, ornamentals, medicinal and other utilitarian or ritual plants', and at times function as medicine cabinets which are families' main resources to lay medicine, with women the primary decision makers (Howard 2006: 162). Plants with medicinal properties are intermingled with species used for other household needs and constitute a crucial space for family reproductive activities, among which health is of prime importance.

There is evidence that due to the advancement of patented drugs and commercialised herbal products, local plants and their uses are also being forgotten and native medicinal flora neglected (Alberti 2006). Zolla (1995) explains that while the influence of the family in health decisions tends to diminish with urbanisation, medicinal plants are still bought from informal markets and more recently, and mostly in the larger cities, from 'natural product' shops which sell a wide range of goods that are often based on the most common plants used in domestic medicine. The following section defines and gives an overview of the main characteristics of commercialised herbal products, highlighting their separation from medical practice but not from medical knowledge and tradition.

2.3.2 Commercialized herbal medicines

In contrast to traditional and domestic medicines, 'commercialised herbal medicines' are products that have gone through an established manufacturing process, have been (ideally) regulated by health and safety officials and have included some sort of marketing strategy. A further difference is that while traditional and domestic medicines use a wide variety of both wild and cultivated plants, commercialised herbal medicines use a smaller number of commonly known plants. In many urban areas herbal medicines are linked to fashionable ideas about well being, healthy lifestyles and the consumption of 'natural' products (Sheldon et al. 1997).

According to Sheldon (1997), commercialised herbal medicines are distinct from traditional medicines in that they are marketed and consumed outside the cultures and geographic regions from where they and their use originated. This notion is problematic when applied to the case of Mexico because commercialised herbal medicines often include plants that are

commonly used in the area by traditional doctors or in the context of popular and domestic medicine (Galante 1992). It would be more useful to think of commercialised herbal medicines as products that are often separate from a medical practice and rely on marketing strategies of consumption rather than doctors' prescriptions. For example, in Mexico the *nopal* (*Opuntia ficus indica*) is a popular plant that is consumed both as a food and as a medicine. As a food it is well known for helping with weight reduction and purifying the blood. As a commercialised medicine it may appear in the form of pills marketed for their capacity to aid in weight loss and reduce sugar levels in the blood. The domestic and traditional medicine uses of the *nopal* are translated to commercialised herbal products in different forms relying on attractive marketing strategies, but the plant and the use remains the same.

Mexico has experienced a boom in the herbal product market which is contributing to the expansion of the use of medicinal plants in other sectors of society; Hersch (1997: 47) explains that 'the use of medicinal plants has been transformed from an activity confined to herbalists and traditional healers, to a prosperous business'. Herbal products or remedies can be found as teas, powders, pills, tinctures, extracts, ointments and syrups. They can be bought without a doctors' prescription and information regarding these products may come from advertising campaigns. Some general characteristics that embody such a large array of products are:

- They are often marketed as food supplements
- They are often (but not exclusively) marketed to stimulate the body's healing capacity rather than to treat symptoms directly
- They include one or more herbs, and the different constituents of these are thought to act in synergy (Heinrich et al. 2004).

McCaleb explains that there is a

> tremendous diversity within the realm of herbal medicines that extends from simple dried plants used as teas or consumed in capsules, to a wide array of extracts – from the strong decoctions characteristic of traditional Chinese medicines, to higher potency extracts using mixtures of water, alcohol, and sometimes other solvents, to the hi-tech concentrated and standardised extracts which are at the heart of European phyto-medicine today. (McClaeb 1997: 231)

WHO defines four categories of herbs for medicinal use in terms of the level of preparation and manufacturing: herbs, herbal materials, herbal preparation and finished herbal products.

Table 2.1 Herbal medicines and their process according to the WHO

DEFINITION	PRODUCT	PROCESS
Herbs	Include crude plant material, such as leaves, flowers, fruit, seeds, stems, wood, bark, roots, rhizomes or other plant parts, which may be entire, fragmented or powdered.	None
Herbal materials	Include fresh juices, gums, fixed oils, essential oils, resins and dry powders of herbs	Steaming, roasting, or stir baking with honey, alcoholic beverages or other materials.
Herbal preparations	Include powdered herbal materials or the extracts, tinctures and fatty oils of herbal materials	Produced by extraction, fractionation, purification, concentration, or other physical or biological processes
Finished herbal products	Herbal preparations made from one or more herbs and may contain excipients (i.e. pharmacologically inert substance to bind contents of pill or tablet, for example) in addition to the active ingredients.	Are NOT those with added chemically defined active substances including synthetic compounds and/or isolated constituents from herbal materials

Source: WHO (2004)

Phyto-medicines are not included in the above table as they constitute a more evidence/science based approach called rational phyto-therapy which constitutes the midpoint between scientific and herbal medicine.   Phyto-pharmaceuticals are based on standardised extracts and with relatively well established clinical and pharmacological profiles (Heinrich et al. 2004). They differ from conventional drugs because they are a mix of chemical compounds of natural origin that have a complex curative effect. In Mexico the *Centro de Investigación Biomédica del Sur* (IMSS), a state sponsored institution and the only one of its kind in the continent, carries out the botanical, chemical, pharmacological and clinical studies required to evaluate the curative properties of medicinal plants and to develop and patent phyto-medicines (Reyes and González 2005).

While for phyto-medicines there is government support and research, herbal medicines have less institutional financial backup and acceptance. Commercialized herbal remedies in Mexico seem to be promoted by the private rather than the public sector.   According to a report from the Ministry of Health, there currently is boom in the trade for these products and although there are no official figures as to how many of these exist, there are four commercial associations that bring together a total of 7,500 producers and traders of 'natural products' that include both herbal and botanical products (Secretaría de Salud 2005). The same report recognizes regulation of these products is difficult and there is great heterogeneity in the quality of products currently offered in the market.

Figure 2.1 Health systems, medicinal plant use and markets in Mexico

Health System	Traditional Medicine	Domestic /Popular Medicine	Commercialized Herbal Medicines	Biomedicine
Domain	Rural/ Indigenous communities	Rural /urban population	Mostly urban	Rural and urban
Form of use	Fresh/ Dried plants herbal preparations	Simple herbal preparations	Galenic preparations	Patent medicines
Plant Origin	Collected home garden, fields & forest	Collected and cultivated in home garden	Cultivated or Harvested	Drug synthesis and templates
Prescribed by	Traditional doctor/ herbalist	Mothers or other family member	At selling point-no prescription	Allopathic doctors
Government	Tolerated	Tolerated	Tolerated/ regulated	Officially recognized
Market	Linked to traditional medic practice	Non commercial/ Family domain	Herbal industry	Pharamaceuti cindustry

Figure elaborated by author

2.4 Women's micro-enterprise development in Mexico

Mexico's agricultural sector in the past three decades has been affected by severe economic crisis that has hit the *campesino* sector with the deterioration of agricultural prices and the lack of employment opportunities and general livelihood options (Acosta 2008; González 2002; Zapata et al. 2005). The neoliberal model of growth based on export production and competition in globalised markets has drastically reduced government subsidies and support programmes to rural areas by 60 per cent (Zapata and Townsend 1999). Under these harsh economic circumstances the creation of micro-enterprises, solidarity groups, cooperatives and family enterprises (together with migration to the United States) have become basic survival strategies for poor rural *campesinos* (Suárez 2005).

Women have been particularly affected by the persistent crisis in *campesino* agriculture in Mexico, forcing many to search for additional income and employment and to alternate

domestic and extra domestic activities, doubling their workload (Canabal 2006; Colinas 2008; González 2002; Kusnir et al. 2000; Urquieta et al. 2009; Vázquez et al. 2002; Zapata et al. 2005). González (2002) states that since the 1960s women's occupations have tended to intensify and diversify as a response to the crisis in rural economies. Many have searched for income outside their community or region in employment as domestic workers and as labourers in sweat shops and agro-industrial businesses (Canabal 2006). For others, the crisis has led them in search of productive activities to supplement family income such as by establishing microenterprises (Vázquez et al. 2002). Canabal (2006: 20) speaks of the 'feminisation of agriculture', whereby three circumstances have placed Mexican women at the centre of rural life: their incorporation into paid employment, the increasing number of homes headed by women due to the persistent migration of men, and their extended responsibilities in communities.

2.4.1 Women's micro-enterprise development in Mexican public policy

As a response to the rural crisis and the increasingly active role of rural women in the economy, policies and programmes in Mexico since the 1970s have emphasised the integration of rural women into the economy through the creation of so called 'productive projects' or micro-enterprises (Aranda 2000; Canabal 2006; Cunningham 2000; González 2002; Zapata and Mercado 1996). This trend began with the programme Agro-Industrial Units for Women (UAIM), which promoted equipment and capital investment grants to provide women with the opportunity to establish productive projects (Kusnir et al. 2000). Villareal (1994: 7) argues that 'the programme had important consequences in terms of the creation of a physical and symbolic space for rural women in Mexico', encouraging them to 'acquire credit and generating a range of relations with the state, with technology, with markets and with other men and women'.

Previously, public policies for rural women had been based exclusively on welfare and focused on the reproductive role of women through nutrition, mother-child programmes and general actions geared at family well-being. UAIMs were the first state-sponsored effort to motivate rural women to occupy a public space, engaging in a network of relations outside the domestic realm (Kusnir et al. 2000). They were part of a larger policy effort aimed at integrating women into development projects. Government rhetoric and public policy at the time responded to the United Nations International Women's Year Conference which took place in Mexico City in

1975, and the Women in Development (WID) ideas centred on advancing women's equality through their participation in the formal economy.

Since then the UAIMs have received much criticism; many of the projects failed economically and the effectiveness of the programme has been seriously questioned. González (2002) detected some strategic problems in the programme, including the lack of stable resources, feasibility studies and technical capacity building. Kusinir et al. (2000) point out the limited scope of the initiative, since only around 3,000 UAIMs were established, constituting only 10 per cent of the potential demand. Furthermore, studies such as the one by Zapata and Mercado (1996) pointed out that many of the plots of land that were given to women by the local authorities, were either too far away from the community, in a legal dispute, or simply not apt for agriculture. 'The right that was given by law was systematically denied in practice' (1996: 109).

In the last three decades a number of government programmes and NGO initiatives focusing on encouraging women's microenterprise activities have followed; however the verdict of scholars on the topic has been mostly negative. Aranda (2000) argues that there has been no encompassing policy of national breadth that engages with women's subordination, and that the common characteristic of all the programmes has been the scattering of limited resources and the lack of coordination between the institutions implementing them. Vázquez et al. (2002) agree that government programmes for rural women have been implemented without a reliable diagnosis of beneficiaries or suitable planning and orientation. Another main shortcoming of these projects is that they have mostly financed 'women's' activities such as maize mills and sewing workshops that require very low capital investments, are aimed at the satisfaction of women's self-sufficiency needs and produce either low or negative economic returns (Aranda 2000; Canabal 2006; Zapata and Mercado 1996).

Projects with a distinct market orientation have faced other significant limitations such as lack of assistance with technical knowledge related to entrepreneurial and administrative skills, and variables related to market demand have not been taken into account (Zapata et al. 2005). Projects have been designed without a business perspective and without diagnosis of the potential of regional resources, local knowledge and community needs (Canabal 2006; Urquieta et al. 2009). Additionally, women's micro-enterprise initiatives have been expected to compete in a context of free markets and economies of scale while restrained by structural

problems such as the lack of land and credit (Zapata and Mercado 1996). Mercado (1999) argues that neoliberal policies have encouraged women's groups to think up projects to bring in income while simultaneously making it increasingly difficult for them to succeed.

The limited viability and success of women's micro-enterprise projects has also been due to lack of attention to the gender division of labour in rural societies that has restricted women's capacity to succeed (Martínez-Corona 2005; Suárez 2005; Vázquez et al. 2002; Zapata and Mercado 1996; Zapata et al. 2005). Policies aimed at encouraging rural women's participation in economic activities have reinforced the system of values that undermines women's unpaid domestic work, while at the same time ignoring the social relationships of gender, class, ethnicity and age that condition access to resources (Martínez-Corona 2005). Suárez (2005) asserts that policies have focused on women's productive capacities with the aim of supporting the domestic unit as whole while ignoring gender roles. Not taking gender issues and women's role in the family domain into account has been a serious shortcoming of public policy design mentioned repeatedly by scholars. Rural women's micro-enterprise projects have been created in the last 30 years in the context of a severe economic crisis; but according to (Kusnir et al. 2000) they have not been able to engage with the problematic of the multiple workloads that this has meant for poor women.

In order to understand the potential of women's engagement in micro-enterprise initiatives it is important to understand their domestic work and the gender division of labour in the household. In Mexico women are responsible for the majority of social reproduction activities such as childrearing and caring for elders and the sick, as well as the maintenance of household duties like cleaning, cooking, washing clothes etc. The role of women in the domestic sphere is strongly ingrained in the Mexican family, especially in the *campesino* sector (Guzmán 2004). The weight of women's reproductive and household activities limits their capacity to participate in extra-domestic activities. Guzmán asserts: 'They know that there is always a lot of work and that only they should do it, they have the certitude that their husbands will not substitute them or help them...therefore, their role is irreplaceable, essential and interminable' (2004: 16).

2.4.2 Division of labour and the impact of micro-enterprises on gender equity

Women's domestic work in subsistence economies and their productive-economic activities in the informal sector have for a long time remained invisible to the rest of society (Pedrero 2003; Suárez 2005; Urquieta et al. 2009). Subsistence and market activities such as the collection of edible and medicinal plants, contributions to agricultural and small livestock rearing and the manufacturing of textiles or handcrafts are all perceived as part of women's domestic duties and valued not as work but as 'help' (Suárez 2005: 191). Women's participation in agricultural activities such as clearing the terrain and sowing and harvesting crops is also only seen as 'helping' by both women and men (Parra-Sosa et al. 2007: 58). According to the literature unequal distribution of domestic and nondomestic work is an important obstacle to improving women's situation in the field of productive and market opportunities.

Women's participation in extra-domestic market activities is directly related to the weight of their household activities and their time availability. Women who work outside the family sphere have to accept double and even triple workloads (Suárez 2005). Gammage and Orozco (2008) found that having children of less than 5 years of age or between 6 and 12 years greatly reduced women's participation in extra-domestic work. Urquieta et al (2009) found that a low proportion of women participating in a government programme for productive projects had children under 5 years old. Suárez (2005) analysed another government project aimed at encouraging women's market initiatives and found that the applicants were generally younger women, women without a husband and those with a higher level of schooling (primary school completed or secondary education). Zapata and Mercado (1996) conclude that the double workload is something that government institutions or even families do not fully understand; but that the amount of time that women have at their disposal is a great limitation and a common reason why many do not participate in income generating projects that demand time additional to their already heavy workload.

In rural Mexico the social norms that dictate that household duties are strictly a feminine domain are ingrained in society and in women's own perceptions and ideas about themselves. González (2002) asserts that the first and most difficult hurdle that women must overcome in order to become involved in micro-enterprise projects is the limitation imposed at home and in the community. The author explains how the women she interviewed 'know that they are

capable of taking over the work of their husbands, (as many have done at various moments of their lives), but they can't imagine their husbands taking over their household responsibilities' (González 2002: 240). Social norms dictate that the woman's place is in her house, serving her husband and children and 'not out in the street' (Guzmán 2004). Caring and maternal identity are important to women in rural areas as these give a sense to their life, vindicating them within the family and community, strengthening their marriage and giving them certain control and influence over children, daughters-in-law and family decisions (De Oliveira 2000). Martínez-Corona (2005: 240) describes how in Mexico women's identity is constructed as care giver, with a self-perception of 'being for others' and not 'for oneself'.

Women who are forced to seek paid work or who decide to become involved in income generating activities such as micro-enterprise projects face not only a lack of time and an overload of work due to their domestic and maternal responsibilities, but also social norms that dictate that their role is to keep to the household. Husbands are often the first to oppose women's work and restrict their mobility by wanting to control where and when they go and who they go with (Zapata and Mercado 1996). Social norms and cultural sanctions limit women's participation in market activities and their autonomy and freedom of movement (Colinas 2008; Gammage and Orozco 2008; Urquieta et al. 2009).   In rural Mexico the 'macho' culture means that women are often not allowed to work, are restricted in their movements, are faced with a lack of support from their families and authorities and endure criticism from both women and men in their communities; all factors which contribute to the abandonment of productive or micro-enterprise projects (Zapata el al. 2005). Members of communities often discredit women who participate in work groups or any other type of economic activity that gives them an income. Women's groups are looked upon with suspicion and they very often face rivalry, envy, rejection and lack of credibility (Zapata and Mercado 1996).

While the obstacles and difficulties for rural women to forge income generating micro-enterprises are widespread, the literature also identifies positive consequences for those that have engaged in these initiatives. Participation usually involves developing new skills, acquiring technical knowledge, gaining organisational and management experience and learning how to negotiate with actors from diverse public and private institutions (González 2002; Martínez-Corona 2005). Acquiring knowledge and experience gives women authority, independence and most importantly self esteem, which they recognise as important for their personal development (Vázquez et al. 2002). Zapata et al (2005) identify how women who

participate in income generating projects go through a process of change that starts when they overcome obstacles and perceive themselves as capable of doing things that they previously thought that they could not, thus reinforcing their self-worth and self-esteem. Mercado (1999: 109) found women's feeling of 'power to' was expressed in connection with making money, but also with gaining self esteem: 'As they say, they are no longer meek, isolated women afraid to mix with others, they know their own capacities to change their family lives and even those of their communities'.

As the analysis of micro-enterprise initiatives moves away from purely economic criteria, scholars are viewing them as a starting point for women to undertake the struggle for their rights and the search for transformation of their participation in economic, social and cultural life. Martinez-Corona (2005) found that:

> the construction of women's identity as providers and generators of income causes conflict and feelings of guilt, but at the same time creates the possibility of autonomy and independence, which ultimately becomes linked to a system of prestige, control of resources, the attainment of practical and political skills and the connection to other networks of power. (Ibid: 242)

Participation in income generating activities also enables the establishment of networks of relationships that offer support and a space in which to overcome feelings of isolation and exclusion present in daily life (Martinez-Corona 2005: 235). Women's groups have been successful in creating spaces where women can share their problems, fears, hopes and ideas (González 2002) and reflect about their relationships with their husbands and children, in this way re-constructing individual and collective identities. Zapata and Mercado (1996: 107) summarise this view: 'Women's productive or income generating projects are not only about economic development, but they should point towards the strengthening of capacities and power to improve women's lives'.

The review of the literature suggests that women in Mexico are living their participation in micro-enterprise initiatives in contradictory ways. On the one hand they value the experience and learning, as well as the gratification of being able to contribute to the family economy; but the extra work and the criticism and conflict that occur within families and communities in reaction to their new roles can be extremely difficult to cope with. Public policy programmes aimed at assisting women's business initiatives have been blind to social norms that limit women's time, mobility and access to resources. However, some promising consequences have also emerged from these enterprises; significant advancements in the improvement of

women's self-esteem, personal development and access to resources and knowledge have been documented. An exploration of these micro-enterprise initiatives is of critical importance when analysing rural women's capacities to transform and improve their livelihoods in the wake of the prolonged crisis in the rural sector which Mexico has experienced during the last three decades.

2.5 Conclusion

The literature review provided the background and basis for the research aims, which are to comprehend the potential of herbal product manufacture for creating income and benefits for women living in poor rural areas of Mexico, understanding the challenges they face and grasping the role of knowledge in a commercial sector that is tied to popular medical knowledge.

The first section of this chapter reviewed the importance of medicinal plants in health care systems all around the world. The growing literature on the topic places these resources in a privileged position in view of their importance regarding future access to traditional medicines and modern pharmaceuticals, but also demonstrates the current problems of overexploitation of plant species and human groups dedicated to the trading of these valuable plants. One of the main solutions to their growing consumption and the social and environmental problems this situation has generated has been the small scale cultivation of local medicinal plants in agro-forestry systems and the processing of these into products by local communities.

The current research explores the potential of a small scale herbal product micro-enterprise based in a rural community in Veracruz (Mexico). Although the literature has identified the risks and problems associated with the transformation of market opportunities into concrete options for poor rural groups, this study is interested in gaining empirical evidence of the potentials and problems of women's medicinal plant based micro-enterprises. There are some studies of these issues in India and some areas of Africa, but virtually none have been carried out in Latin America and Mexico.

The case study also engages with the potential role of women in these initiatives. Research has demonstrated the crucial role of women's medicinal plant knowledge, and as we saw above, in Mexico it has been identified as a medical practice in its own right denominated 'domestic medicine' and crucial to family health as the first stage of diagnosis and treatment of illnesses. Additionally, some authors have suggested that the home garden may be a suitable

place for the cultivation of these medicinal plants as they already occupy an important space in home gardens and could help women to engage in both market and family reproductive activities.

Although medicinal plants and herbal products as a component of rural micro-enterprise initiatives has not been studied in Mexico, the engagement of women in micro-enterprise efforts, on the other hand, has been extensively studied and analysed. As mentioned in the literature reviewed above, since the 1970s Mexico has implemented policies to set up these commercial ventures among poor rural women. However the outcomes of these policies have been mostly negative or at best short lived; the authors reviewed here seem to agree that government programmes aimed at creating women's micro-enterprises have been focused on creating income for women, but these policies and programmes have been characterized by a lack of proper investment, insufficient technical support for women, and few market feasibility studies among some of the factors that have contributed to the economic failure of these initiatives.

The literature likewise points out a number of contradictions inherent in these micro-enterprise programmes aimed at incorporating women to the economy through the commoditisation of production. On the one hand they have not considered that women are already integrated into the economy, through the various domestic and productive activities linked to the family economy. The invisibility of their work has meant that policies that aim to incorporate them to the formal economy have not considered the excess workload micro-enterprise efforts place on women's shoulders. On the other hand, the lack of attention to social norms present in rural societies, expressed in outright opposition from family and community members, limited access to land and/or credit, and discrimination, have greatly constrained women's efforts to participate and succeed in these enterprises. It is crucial, therefore, that within the current research I consider the gender component, analysing both women's medicinal plant knowledge and the constraints they face due to their traditional roles and activities in rural societies in Mexico today.

Finally, section 2.3 provided a framework on which to base the analysis of medicinal plants, health and markets. This is important to understand the complexities involved in the consumption of medicinal plants, which, unlike other agricultural or harvested products, are directly linked to knowledge and practices associated with health systems. This is why one of the aims of this research is to unravel the issues involved in this knowledge based commercial

sector, where differences in power and recognition of health systems play an important part. Another purpose is to understand where the medicinal knowledge required to make the products came from, how this knowledge was transformed in the commercial process, and the struggles over value and meaning that might have occurred.

3. AN ACTOR-ORIENTED APPROACH FOR SOCIAL AND KNOWLEDGE NETWORKS

3.1 Introduction

This chapter introduces key concepts and ideas from the actor-oriented approach, which constitutes the theoretical foundation of the research. The first part presents the case study micro-enterprise as a development intervention situated within the domain of commercial and gender policies. The section explains how the research uses the notion of networks throughout to aid in the analysis of social relationships and presents the main debates that have framed rural women's development policies. In the following section I review gender theories and propose 'empowerment' as a concept that will allow the analysis of the individual impacts of participation in the micro-enterprise on the women in the case study group. Next, I introduce the concept of social capital, which enabled an exploration of the women's capacity for collective action and their access to social networks and hence to resources, opportunities and knowledge. Finally I present the framework applied to analyze the use, dissemination and transformation of knowledge, using the concepts of 'knowledge interface' and 'knowledge networks'. The concepts are all framed within recent debates and discourses in development studies.

3.2 Gender issues: Social networks and empowerment

This first section provides an overview of how a combined analysis of social capital and gender draws attention to the opportunities and constraints faced by women participating in a micro-enterprise. Next I explain how an empowerment approach helps in understanding the impacts of the women's participation in the micro-enterprise.

3.2.1 Women's social networks

The analysis of social capital from a gender perspective has underlined significant differences in the types of social networks that men and women have access to and the sort of gains that these social relations may procure (Gidengil and O'Neill 2006; Molyneux 2002; Silvey and Elmhirst 2003). The main argument is that the different spaces that women and men occupy in society are directly related to the type of relationships that they can count on and benefit from. The differences between women and men's social networks have been described using the 'bonding' and 'bridging' typology of social capital, whereby women are more involved in kin-based bonding networks as opposed to the men's employment-based bridging networks (Silvey and Elmhirst 2003). The differences of men and women's networks therefore reflect

the gender division of labour. It is argued that while women primarily occupy the family domain, they lack the quantity and diversity of social networks necessary to access important information and economic opportunities (Crowell 2004; Granovetter 1990). Additionally, women's involvement in their networks depends on the time available within their domestic responsibilities and revolves around non-paid exchanges (Molyneux 2002).

Women's inclusion in income-generating activities is at the heart of much of the discussion on access to social capital. Their engagement in employment outside the household is seen as an important factor in expanding their networks in order to access the benefits that bridging networks can mobilize. The main idea is that once women engage in employment this expands their connections to include ties that connect them to a wider array of information and economic opportunities. For instance, a number of studies highlight how women's involvement in micro-enterprise and micro-finance initiatives has been important in developing their social capital through an extension of their relationships and networks (Crowell 2004; Dowla 2006; Martínez-Corona 2005; Mayoux 2001). Dowla (2006) finds evidence to suggest that the group meetings which are a central part of the Grameen Bank micro-finance strategy have been crucial to expanding women's social and knowledge networks beyond immediate family. Further, initiatives that build on and develop women's networks through group activities have proved to have the potential to contribute to women's empowerment (Mayoux 2001).

Other authors highlight the benefits of women's bonding social networks and question the assumption that only employment gives women access to benefits, opportunities and knowledge. Jackson (1999) argues that this view undermines women's reproductive work and its importance for women's identity and relational networks. Women's kin-based networks are also important in the passing on of knowledge. Howard (2003) argues that although knowledge transmission and the type of information transmitted are related to differences in women's and men's social networks, this does not mean that women's kin networks are less valuable as sources of knowledge, authority and status.

The hypothesis exists that women's networks are likely to be based on notions of solidarity and cooperation and are a positive element which enables collective action (Lin 2000; Westermann et al. 2005). Westermann et al. (2005) suggest that the presence of women in natural resource management groups increases the group's collaboration, solidarity and conflict resolution abilities. Micro-finance initiatives have also been formulated to take

advantage of women's kin networks, since strong cohesion and solidarity among groups of women can replace the financial collateral needed in the selection of loan beneficiaries. However, Mayoux (2001: 454) suggests that this view of the cooperative nature of women's relationships misrepresents the power and complexity of relations between women, where 'the social capital of some women may operate to the serious disadvantage of others'.

Another aspect that has been highlighted in the gender and social capital literature is the subordination and inequality that women face in both kin and employment networks. Silvey and Elmhirst (2003) examined the kin-based networks of working migrant women in Indonesia and found that although these provided safety nets in times of crisis, they also brought about unwelcome claims to their income and adherence to strict social norms that did not apply to male siblings. A number of authors argue that income and employment programs overestimate the control that women exercise over their earnings once these reach the household, and even their capacity to use and take advantage of these benefits is limited by hierarchical relations within households (Bebbington 2007; Eversole 2004). Additionally, women's micro-enterprises may be constrained by inequalities even further afield through 'segregation in markets, unequal vertical linkages with middlemen and macro-economic and institutional discrimination' (Mayoux 2001: 449).

Research with a social capital and gender perspective has highlighted the inherent differences in women and men's social networks and adherence to norms and their consequences for women's access to opportunities, contacts, resources and knowledge. Although the solution to this problem has been addressed by incorporating women in micro-enterprise and micro-finance groups, there is considerable debate on the impact of this strategy. Even as women expand their networks through employment or income-generating activities, gender inequality persists through the social norms that limit their rights and actions and segregate them in the wider social arena. On the other hand, a closer examination of women's bonding kin networks demonstrates that these are also an important vehicle wherein knowledge, opportunities and resources are disseminated. A social capital perspective helps to unravel the factors that affect women's participation in a micro-enterprise initiative and how they use and benefit from their kin (bonding) and micro-enterprise based (bridging) social networks.

3.2.2 Empowerment dimensions

As seen in the literature review in Chapter 2, women's micro-enterprise policies in rural Mexico have mostly been undertaken in order to address the 'practical' gender interests of

women by enabling access to complementary income. However, evidence suggests that regardless of their economic impact on family livelihoods, these have set in motion a deeper process of transformation. Changes in women's self-perception and consequently in their relationships with others seem to suggest that micro-enterprise projects have had an influence on their 'strategic' gender needs, which are defined as those that entail transformative goals for women's emancipation and gender equality (Molyneux 1985).

The concept of empowerment has created much controversy due to the multiple ways in which it can be understood and the difficulty of reaching a consensus on how it should be evaluated. It has often been used in gender discussions and policy to understand the process by which women achieve greater participation in decision making within the household and, more broadly, in social and political life. However, 'empowerment is a complex phenomenon, with multiple dimensions' (Kabeer 2001: 80): embedded in the term 'empowerment' lies the concept of power, which has multiple meanings and connotations. Kabeer (1999: 437) proposes that 'among the ways of thinking about power is the ability to make choices: therefore [empowerment] refers to the processes by which those who have been denied the ability to make choices acquire such ability'. Empowerment may also be the creation of capacity for action with respect to these choices (Haugaard 2003).

Rowlands (1997: 13) identifies the following dimensions of power which help us to understand her framework to analyze empowerment: '"power to" is productive and creates possibilities for action without domination; "power with" relates to a sense of being greater than the sum of individuals, and "power from within" implies inner strength, self acceptance and self-respect' (see Table 3.1: Empowerment framework for micro-enterprise analysis). Therefore empowerment can be seen as a process that enables an ability to make choices and act within a broadened individual consciousness and in relationship with others. 'At its core, empowerment is a process about transforming social relations' (Rowlands 1997: 131). This notion feeds into Kabeer's (2001:80) argument that empowerment needs to be conceptualized within an understanding of relationships of dependence and interdependence.

Table 3.1 Empowerment framework for micro-enterprise analysis

POWER DIMENSION	CHARACTERISTICS
power to	Generative or productive power, which creates possibilities of action. It implies changes in capacities and material strength, by increasing skills, access and control over income and resources, access to markets and networks.

power from within	Implies inner strength, is basis of self-acceptance and self-respect which extends, in turn, to respect for and acceptance of others as equals. Increase awareness of choices and options, increase confidence and widened aspirations
power over	Controlling power, which may be responded to with compliance, resistance or manipulation Increased role in decision-making and bargaining power within the household
power with	Organizational strength and participation The capacity to achieve with others what one could not achieve alone (Townsend et al 1999) Core values: group identity, sense of collective agency, self-organisation and management

Source: Rowlands, J. (1997) and Mayoux, L. (2003).

In order to grasp the impacts of the women's participation in the micro-enterprise case study and address the transformations that occurred within their social relations, the research uses Rowland's (1997: 15) framework which separates empowerment into different dimensions: a) personal: developing a sense of individual confidence and capacity, undoing the effects of internalised oppression; b) relational: developing the ability to negotiate and influence the nature of a relationship and decisions made within it; and c) collective: where individuals work together to achieve a more extensive impact than each could have had alone.

Women's control of economic resources has been found to positively enhance their personal empowerment. Testimonies have shown that their capacity to contribute economically to the household has been related to a sense of self worth (Kabeer 2001). Research has also shown that one of the most important catalysts for personal empowerment in productive and micro-enterprise projects is the opportunity the projects offer for learning. Vazquez (2002: 101) found that among women participating in a government credit scheme to fund micro-enterprises in Tabasco (Mexico), the acquisition of new knowledge and experiences gave the women a sense of authority, independence and self-esteem.

Relational empowerment concerns the capacity to negotiate and influence decisions in the family domain as an outcome of women's increased income, but this dimension of empowerment has been found to be weaker and culturally variable (Blumberg 2005). In the same study of micro-enterprise groups in Tabasco, Vázquez (2002) found that the women's attempts to influence family decisions and make changes to their domestic obligations generated the greatest resistance among husbands and family members. For some rural

women in Mexico participation in micro-enterprise groups has forced them to learn how to speak in public, express their demands and defend their views (Mercado 1999). The development of these skills may significantly empower women to negotiate and influence decisions in their various relationships.

Finally, collective empowerment has been observed where participation in micro-enterprise projects combined with the establishment of networks of relationships has supported women to overcome isolation and exclusion in their everyday life (Martínez-Corona 2005). The core elements of this type of empowerment are collective agency, group dignity, and self-organisation and self-management. This dimension of empowerment is seen when women value belonging to an organization and are able to reach goals collectively and transform their lives. Nevertheless, the dimension needs to take into account the fact that woman within a group participate with different levels of experience, skills and resources. The nuances of group organization and cooperation were analysed using social capital theory, as explained next.

3.3 Social capital: Debates, definitions and dimensions

Social capital is an attractive and at the same time contested concept. 'The popularity of the idea stems from its connection with the notion that: family, friends, and associates constitute an important asset, one that can be called upon in a crisis, enjoyed for its own sake, and/or leveraged for material gain' (Woolcock and Narayan 2000: 67). When the concept of social capital is understood as a factor that may help to alleviate poverty and vulnerability the idea becomes even more appealing. Nevertheless, the notion that social ties are an asset or a resource to generate prosperity is highly contested. In the following sections I review the debate about social capital as well as the definitions and theoretical dimensions that have been proposed to advance empirical studies based on the concept and which are used in the present research.

3.3.1 Social capital: The debate in development research and practice

The World Bank calls attention to the idea that social capital is critical if societies are to prosper economically, and advocates its usefulness in improving project effectiveness. The organization has been at the forefront in publicizing information on the topic through the creation of a website that includes an extensive database of reports, journal articles and books on social capital. Bebbington (2007) explains that the concept was incorporated in World Bank

discourse in order to strengthen two ongoing agendas within the institution: incorporating the measure of national wealth beyond income-based approaches and addressing the importance of bottom-up participation and civil society organizations. Arguably these two issues are of relevance to development policy today. However, the way in which social capital has been defined, analyzed and applied in academic and development projects on the ground has varied greatly and created much controversy and debate.

Social capital is defined by the World Bank as 'norms and networks that enable collective action. It encompasses institutions, relationships, and customs that shape the quality and quantity of a society's social interactions (World Bank 2009). These social resources (institutions, norms, networks) have been found to positively determine individual and household income (Narayan 1999), as well as provide valuable resources and livelihood strategies for poor families (Cox and Fafchamps 2006; Fraser et al. 2003). The social networks where social capital can be found have been especially valuable for social groups that have few power resources other than their capacity for collective action (Fox and Gershman 2000).

The positive relationship between social capital and collective action has been one of the central features of studies on the subject and is often embedded in its definition. Fox (1996) describes social capital as encompassing 'those social relationships that facilitate collective action'. Krishna (2002) affirms that 'collective action in support of shared goals is more likely where social capital is high'. Finally, Robert Putnam, an important and visible figure in the popularization of the idea of social capital, defines it as 'features of social organization, such as trust, norms, and networks that can improve the efficiency of society by facilitating coordinated actions' (Putnam 2000: 5). The above definitions use the concept of social capital to explain how individuals, groups or even societies use social relationships with others to achieve certain goals. Differences exist in the scale of analysis and the manner in which the benefits of social capital can be gained. For example, debate continues about whether social capital resides only in individuals and groups or if it can be correlated to the analysis of communities, regions and countries (Portes 1998). The scale of analysis in this research is the group, and I make no assumptions about whether it can expand beyond to the community or region. However, the local historical context within which the group's social networks occur is taken into account, revealing how this relates to the case study group.

The manner in which the benefits of social capital can be gained has also caused great controversy. International development organizations tend to focus on the positive outcomes

of associations, considering social capital inherently good for the individual, the group, the community and even society as a whole. However, this approach to social capital is highly contested and criticised by scholars who argue that it lacks attention to aspects of hierarchy and social exclusion present in social relationships at all levels. Harriss (2001), for example, points out that a feature of being poor is precisely that one is excluded from certain social networks and institutions. Cleaver (2005) argues that the application of social capital in development projects overlooks how social relationships constraint as often as they enable, and that collective action for the poor may be risky.

Feminist researchers have pointed out how social norms that may enable collective action are often also used to reproduce inequalities. They have strongly criticized how social capital has been applied on the ground in development projects, questioning the assumption that families and communities are 'harmonious institutional frameworks' where social capital can be created (Rankin 2002: 6). They stress the need to consider the gendered division of power (Arneil 2006; Molyneux 2002; Ranking 2002; Wetterber 2007). Molyneux (2002) criticizes the World Bank for endorsing the family as a prime space in which social capital can be worked with and strengthened, but taking little or no account of the gendered divisions of labour and power within it. The main contention of the authors who criticize the application of the concept in development practice is that expectations of the benefits of social capital have been overestimated without looking at the inequality and aspects of power and exclusion inherent in social networks, gender relations and social norms.

As a response to these criticisms, the use of the concept of social capital in development studies research has been moving closer to Bourdieu's approach to social capital and his Theory of Practice (Bebbington 2007). Bourdieu (1986: 248) defines social capital as: 'The aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition'. His definition, although functional in that he points out the resources that can be accessed by a person's network of relationships, leaves social capital to be understood in the backdrop of relations of power. 'Bourdieu's Theory of Practice provided the critical framework the concept needed by demonstrating the ways that social capital has supported and maintained capitalist society and its inequalities' (Edwards 2006: 3). Various authors point out that Bourdieu's perspective of social capital includes a recognition of how power is reproduced in social networks (Wetterberg 200) and an understanding of how access to social capital is determined by the individual's position in social space (Arneil 2006). Bebbington (2007: 160)

highlights the strength of Bourdieu's approach which: '[is] historically and geographically situated, understood in conjunction with the mechanisms that are used to reinforce boundaries of particular status groups and visualizes the distribution of resources and power within relationships'.

Despite an entrenched debate and criticism on how social capital should be defined, understood and applied in development practice, the concept of social capital has also be found to be useful in understanding how people exercise agency in social relationships (Cleaver 2005) to expand the ways we think about questions of poverty and social exclusion (Bebbington 2002) and to question how we might understand cooperative and 'solidaristic' action (Bebbington 2007). In this research, the concept of social capital helps to focus on two different but interrelated issues: the factors that enable or limit cooperation and collective action (in the case study group); and understanding the structure of women's social networks (kin and further afield with external actors from civil society) and the influence of these on their access to opportunities, resources and knowledge. The following section deals with ways proposed for analyzing these aspects of social capital empirically, using the bonding and bridging typologies. These typologies, described below, have been enriched and developed with insights from the intellectual history of social capital (Farr 2004; Woolcock 1998) and from lessons gained from empirical material and grounded analysis (Bebbington 2004; Woolcock 1998).

3.3.2 Social capital dimensions: Bonding, bridging and linking social capital

Woolcock (1998) provides the basis of a conceptual framework for understanding social capital by integrating perspectives taken from different lines of thought in sociology and the sociology of economic development. The synthesis he proposes rests on the centrality of key concepts concerning two distinct forms of social organization: 'embeddedness' and 'autonomy'. His analysis of embeddedness leads him to use the term 'integration' to refer to strong group and intra-community ties which may create positive outcomes such as access to resources, psychological support and low risk of malfeasance, as well as negative outcomes such as high demands on group members, restricting individual expression and advancement. Similarly, Portes (1998: 8-9) discusses 'bounded solidarity' as a factor that may create the basis for socioeconomic ascent and entrepreneurial development in some groups by serving 'as a source of social control, family support and benefits through familial networks', but that can also be a source of public evils such as mafia families, youth gangs or gambling rings. As the

positive and negative outcomes of embedded and integrated social relations came to light Woolcock (1998: 164) observed that scholars from the different fields of economic sociology also suggest the importance of autonomous social ties. This line of research builds on work by Granovetter (1973) who indicates that 'weak' ties with people from differing socio-economic backgrounds, class and geographical settings might be an important resource in making possible social mobility and opportunity.

The distinction between embedded and autonomous ties was developed by Woolcock (1998, 2000), leading him to propose three dimensions of social capital: bonding, bridging and linking social capital. Bonding social capital refers to 'the strong ties between immediate family members, neighbours, and close friends who share similar demographic characteristics'; bridging social capital to 'those weaker ties between people from different ethnic, geographical and occupational backgrounds but who share similar economic status and political influence', and linking social capital to 'the ties between poor people and those in positions of influence in formal organisations such as banks, agricultural extension offices, schools, etc '.

For my analysis I use two of these dimensions: bonding social capital and bridging social capital. I find these categories useful to the degree that they help to differentiate between ties that are internal to a specific group and those that are external and that reveal geographical, occupational and/or socio-economic differences. Bonding social capital has been associated with research that emphasizes the analysis of behaviours and attitudes of trust that occur in combination with reciprocity and cooperation in closed groups or communities (Durston 2002). Bridging social capital has focused on 'relationships of mutual acquaintance' (Bourdieu 1986) between people from different socio-economic, geographical and occupational backgrounds and how these influence people's access to resources or opportunities.

In this research, bonding social capital refers to relationships between and among people who know one another in multiple and repeating settings and roles, without assuming that these relationships are reciprocal or trusting. The analysis of bonding social capital is situated in the relationships amongst the group of women of the Las Hamelias micro-enterprise, focusing on the characteristics and dynamics of these relationships, observing issues and group characteristics that might enable cooperation and collective action. For this analysis I use Ramos-Pinto's (2007) proposition of observing issues of social identity, power, norms and

strength of ties. The questions of social identity and power differentials refer to the ascribed characteristics of group members, or whom the networks connect; and on the other, the quality of the relationships between them, encompassing the strength of that tie, and the rules that direct such relationship (ibid 2007).

Table 3.2 Typology of networks and norms

Ascribed characteristics:

- Degree of social identification
    - From Bonding to Bridging
- Relative power position:
    - From horizontal to vertical

Quality of Relationship:

- Degree of Norm Enforcement:
    - From weak to strong
- Degree of symmetry of inputs and outputs:
    - From Equal (conjoint) to unequal (disjoint)

Source: Ramos-Pinto, P.(2007: 60).

In this research, bridging social capital refers to the relationships between the women in the case study group and actors from NGOs, government extension offices and academic institutions. It is important to understand this dimension of social capital since it deals with relationships among people who move in different social circles and therefore have access to different types of information and resources (Granovetter 1973). An individual's access to this type of bridging social capital can enhance access to information, influence and social credentials (Lin 2001). Therefore the benefits of social capital lie not only in access to tangible resources such as land and money but also in intangible resources such as access to information and knowledge, which this research focuses on. Next, I review how I analyzed issues of information transmission and knowledge within the case study.

3.4 Understanding knowledge creation, dissemination and encounters

In agreement with Pottier (2003), I find that within the context of unequal power relations an empirically-grounded understanding of how knowledge is created and disseminated constitutes a prerequisite for any attempt to help people to benefit from development interventions. In this research, knowledge is of crucial importance in the commercialization of herbal products, which requires specific knowledge about the curing properties of medicinal

plants, the formulations and methods for elaborating herbal products and commercial aspects. The knowledge needed to produce, manufacture and consume them is specialized and framed in complex discussions coming from contested medical paradigms and includes issues such as claims of safety and efficacy. The following sections offer conceptual and theoretical insights that provide the means to understand these knowledge processes.

3.4.1 Debates on knowledge access in development research and practice

Development research and practice have witnessed an ongoing debate concerning access to knowledge for creating wealth and promoting development. Access to scientific knowledge and technology has been highlighted as key to the promotion of economic development. Various foreign aid policies and national government programs have been created with the aim of closing knowledge 'gaps' based on the idea that to 'catch up' with developed countries (or with other regions of countries) there is a critical need for knowledge and technology transfer to poor and underdeveloped regions of the globe. These ideas are based on modernization theories that visualize development in terms of a progressive movement through a succession of different stages of capitalism, moving towards technologically and institutionally more complex and 'modern' societies (Long 2001: 10-11).

Major shifts have since taken place in development thinking which have questioned these determinist and linear explanations of development as well as the predominance of scientific knowledge (Long 2001). New development theories have begun to reveal the erroneous assumption that scientific knowledge is universal and can easily be transferred to other cultural and social contexts. At the same time there has been growing acknowledgment of the appropriateness and value of traditional and local knowledge. For example, the 'rediscovery' of indigenous ecological knowledge has been found to significantly contribute to the sustainable use of natural resources (Berkes et al. 2000: Folke 2004). Various authors have highlighted how the practical everyday knowledge of ordinary people can enrich 'science' and improve development practice (Chambers 1983, 1992). Within this new development paradigm, proposals for more democratic and participatory approaches to development interventions that work closely with local people's knowledge domains are deemed vital (Bocco et al. 2000; Pottier 2003).

Some authors have questioned the usefulness of research focusing on traditional knowledge within a dichotomy of opposing knowledge types - traditional/scientific, western/indigenous, local/external- (Agrawal 1995; Martin 2003; Scoones and Thompson 1994). Scoones and

Thompson (1994), for example, have observed that knowledge within communities tends to be differentiated among class, power and gender; while Agrawal (1995) argues it is problematic to define complex systems with a small and fixed number of characteristics and to ignore the fact that knowledge is dynamic and always changing and interacting with other types of knowledge. Therefore, in much of the development literature the analysis of knowledge has turned to the study of the interaction and synergy between knowledge types (Blaikie et al. 1997) and to understanding how syncretic processes and knowledge transformations occur within the livelihood strategies of families and social groups (Ibargüen and Chapela 2007).

For Leff (2002 [1998]) these knowledge interactions, or 'dialogues of knowledge' as he calls them, have enriched indigenous and scientific knowledge but have never managed to neutralize the power relationships that are embedded within these relationships. He argues that the management of knowledge in today's society rests on economic and technological power, where the economic appropriation of knowledge has become another way to control and monopolize access to wealth. (Leff 2002 [1998]: 101) gives the example of indigenous and peasant ethno-botanical knowledge which has been used by biotechnology enterprises to create economic wealth. Post-modern critiques similar to that of Leff stress that knowledge is directly related to the exercise of power, and that it is imperative to discuss it within the social, economic and political dimensions of its emergence and use (Pottier 2003).

Participatory development approaches based on people's knowledge are often constrained by the wider political structure of which project planning is a part and are actually 'less participatory then we are led to think', while more complex knowledge dynamics and negotiations are taking place (Mosse 1996). As Martin (2003: 68) has pointed out: 'it is necessary to interpret all knowledge as mediated by institutional and cultural contexts'. Long (1992:24) observed that particular development intervention models (or ideologies) have become strategic weapons in the hands of those promoting them. Escobar (1996: 309) has repeatedly argued that development discourses act as 'mechanisms for the production of truth' and are an integral part of the exercise of power and domination. New paradigms in development thinking influenced by postmodernist ideas have critically revealed that: 'the analysis of knowledge must include an appreciation of the power relations that underpin it' (Pottier 2003: 4).

One of the classical arenas in which power struggles become evident is gender relationships, and the particularities and contests over medicinal plant knowledge are particularly relevant to

this research. Recent research has demonstrated that women's plant knowledge had been greatly undervalued since the knowledge of formal healers, who are often powerful men and the most visible holders of this type of specialized knowledge, has been given priority and attention (Howard 2003; Browner 1991). Awareness of the importance of the knowledge held by the lay healers in *campesino* societies who administer preventive and therapeutic care and who are predominantly women has grown only recently (Alberti 2006; Howard 2003b; Kothari 2003). 'Women in their maternal roles know a great deal about plants, yet by virtue of their gender they are denied the power and status of the expert' (2003: 150-151).   Howard (2003b: 25-26) explains: 'Just as in post-industrial societies, knowledge in indigenous and peasant societies is used to confer status, manipulate social relations, gain material advantage and maintain control'.

Howard (2003: 22) suggests that research take into consideration the '"gendered knowledge" which is held either by men or women, but not by both…that exists because men and women do different things…and which emphasizes experience and practice as a source of knowledge'. This understanding of knowledge transmission is based on the social distribution of knowledge and implies that society's stock of knowledge is structured in terms of what is generally relevant and what is specific to certain roles in society (Berger and Luckmann 1966). Social interaction, irrespective of a person's role in society, has also been found to be significant in the distribution of plant knowledge. Browner's research on the distribution of therapeutic knowledge in a small village in Oaxaca (1991: 117) found that 'while some knowledge is acquired within social roles, this is not the only or necessarily the most important route for such learning'. The interactionist view holds that patterns of interaction are more important than status and gender roles. However, as we have seen previously, social interaction has also been found to be related to the spaces that women and men occupy in society and the type of social networks that they can count on and benefit from.

The issues surrounding knowledge creation, transmission and transformation are complex. Knowledge is both specific and general, and is determined by social roles and wider social interaction.   The actor-oriented approach (AOA) argues knowledge is dynamic and heterogeneous and, crucially, is permeated by the power relations found in society, and therefore proposes engagement with issues of knowledge and power through the analysis of the life-worlds of social actors, focusing on what people know in their everyday lives (Berger and Luckmann 1966) and the points of intersection where their diverse life-worlds meet. From an AOA, the creation and transformation of knowledge can be analysed 'through the

appreciation of how people...build bridges and manage critical knowledge interfaces' (Long 2001:170). By focusing on the knowledge interface, Long (2001) argues, one can move beyond the strict categorizations of knowledge 'types' based on their origin or authority and gain an awareness of power through struggles over meaning, conflicts and negotiations that take place at the interface of people's life-worlds.

3.4.2 Analysing knowledge through interfaces and networks

Arce and Long (1992: 211) define knowledge as 'constituted by the ways in which people categorize, code, process and impute meaning to their experiences...it is fragmentary, partial and provisional in nature and people work with a multiplicity of understandings, beliefs and commitments'. At the same time knowledge is created in the process of interacting and communicating with others; therefore it is a relational process (Long 1992:27). The abundance of understandings that a person has and the constant intermixing of different people's understandings and interests make the analysis of knowledge very complex. Therefore when faced with these multiple realities, the AOA proposes the analysis of the knowledge interface to help to unravel whose interpretations or meanings prevail over those of other actors and under what circumstances (Long 1992: 26-27).

This inquest on knowledge interfaces is especially relevant in development interventions, as these encounters are 'just as likely to reflect and contribute to the conflict between social groups as they are to lead to the establishment of common perceptions and interests' (Long 1992: 27). For example, in the case study the encounter between the women participating in the micro-enterprise and actors from NGOs and government agencies involved with Las Hamelias micro-enterprise constitutes an arena where the different actors' perceptions, values, objectives and interests became clear. Through careful analysis of the knowledge interface we may be able to find where there is agreement and progress towards a common objective or otherwise identify those points of conflict where struggles over meanings take place and where activities and knowledge are imposed. This is why Long (2001) argues that the use of the social interface may help in developing more adequate analysis of policy, as it provides a more detailed understanding of the responses of local groups to development interventions.

Up to this point I have talked about knowledge in the sense of the everyday and commonsense knowledge of Berger and Luckmann (1966: 27) which 'constitutes the fabric of meaning without which no society could exist'. However, I was interested in understanding the

particularities of the knowledge interfaces surrounding the commercialization of herbal products. Various topics became relevant as there was an intermixing of issues related to medicinal plants, markets and health. In order to narrow down the topics on which to focus when analyzing knowledge interfaces, I used Hughes' (2000) (based on Appadurai 1986) classification of the three types of knowledge essential to understanding the social life of a commodity (in this case the herbal products): a) the knowledge that goes into its production; b) the knowledge that fuels the commodity's circulation and exchange; and c) the knowledge required to consume it.

In this research, the knowledge that goes into the production of the herbal products engages with aspects such as the knowledge on the therapeutic properties of certain plants, how and when to use them, where to harvest them, as well as information about on the manufacture of the herbal products including plant combinations, dosages and methods of preparation. Knowledge about the commodity's circulation pertains to knowledge of target markets, marketing strategies and logistics for the commercialization of the products. Appadurai (1986) asserts that large gaps in knowledge about commodity circulation often generate the deprivation of producers and excessive profits for traders, who provide the logistics and bridges between two worlds of knowledge. This highlights the importance of understanding how the women in the case study are involved in creating a bridge between their world and that of their target markets and creating conditions for the commercialization of their herbal products.

Finally, analysis of the knowledge required to consume the product is related to issues of commercialization, since the herbal product as a commodity should contain the information required to consume it on the packaging, be made available at the point of sale and have gone through a process of certification by a health institution following standardized norms and procedures. However, looked at from another perspective the knowledge required to consume the herbal product is related to knowledge about the effectiveness of certain medicinal plants and herbal combinations to cure a particular health problem. The origin of the knowledge that deals with the validity of medicinal plant knowledge is of central importance because it touches on the therapeutic knowledge that lies behind the herbal product as a commodity. Thus understanding the origin of the knowledge surrounding the use of specific medicinal plants to prepare the products is important in this research.

Through analysis of the knowledge interface the reinforcement of existing types of knowledge or the transformation and emergence of new forms can be assessed (Arce and Long 1992). This study aims to understand where the medicinal knowledge required to make the products comes from, how it is transformed in the commercialization process and the negotiations and struggles that occur in the process. Long (2001:75) proposes that the processes of knowledge dissemination/creation include understanding of the following interconnected elements:

1)   actor strategies and capacities for drawing upon existing knowledge repertoires and absorbing new information;

2)   validation processes whereby newly-introduced information and its sources are judged acceptable and useful or contested; and

3)   transactions involving the exchanges of actors involved in the production, dissemination and utilisation of knowledge.

The concept of the knowledge interface helps to analyze an actor's strategies and validation process where new knowledge is accommodated or contested, such as within the development intervention of Las Hamelias herbal products micro-enterprise. However, in order to understand the wider transactions involved in the production, dissemination and utilisation of knowledge, the idea of knowledge networks has been helpful to uncover how individuals and groups create mechanisms to disseminate their world views or ideological positions on a particular issue or subject (Long 2001: 70). In the context of this research I was interested in understanding the role of knowledge networks in disseminating ideas about the validity of using medicinal plants and herbal preparations for attending health care. The existence of a project of medicinal and herbal product micro-enterprises needs to be framed within past and present social struggles concerning contemporary medical paradigms about how we should prevent and care for illness in our society.

Another approach to the study of networks for understanding knowledge creation, dissemination and power structures in society is the Actor Network Theory (ANT). ANT has been used most extensively in sociology of science and technology where it has been used to understand how scientific disputes become closed and claims to truth and knowledge come into being (Knox et al. 2006). Callon and Latour (1981) propose changing the framework of analysis to networks and focusing on how these appear and become powerful by convincing others of their terms and meanings. The amount of power exercised is in relation to the

number of agents (human and material) involved in network constitution and the number of relations that can be put in 'black boxes' which contain 'that which no longer needs to be reconsidered, those things whose contents have become a matter of indifference' (Callon and Latour 1981: 287). Long (2001: 182) points out how 'effective agency requires the generation/manipulation of a network of social relations and the channelling of specific items [such as claims to knowledge and information] through certain nodal points'.

These approaches contend that networks that control knowledge and information are an important component of power. Knowledge networks are closely related to the concept of 'epistemic communities', which Haas (1992: 3) characterizes as those that 'share inter-subjective understanding; have shared ways of knowing; patterns of reasoning; have a policy project drawing on shared values, shared causal beliefs, and the use of shared discursive practices; and have a shared commitment to the application and production of knowledge'. An important difference between epistemic communities and other groups or networks of actors with shared beliefs is their authoritative and recognized expertise in a particular knowledge domain (Haas 1992: 16). Long (2001: 180) notes that network analysis helps to identify boundaries of epistemic communities and to identify gatekeepers or brokers that play strategic roles in facilitating and blocking the flow of certain types of information and are of crucial importance in understanding the functioning of knowledge networks.

3.5 Conclusion

The concepts and theories reviewed above frame the research of the Las Hamelias herbal product micro-enterprise within three main areas of concern:

1) The factors that affect women's participation in a micro-enterprise initiative and the impact of participation on the broader empowerment process;

2) The characteristics of the group and its capacity for collective action as well as the examination of social networks' influence on access to opportunities, resources and knowledge;

3) The analysis of processes of knowledge creation, dissemination and transformation within a commercial sector that is immersed in issues of validity and social recognition.

4. METHODOLOGY

4.1 Introduction

This chapter begins with a description of the methodology adopted for the case study, the rationale behind the choice of the particular case selected and the specific thematic areas and questions that guided the research effort. I describe the methodological approach, which is based on networks, and why it was chosen and then review the ethical considerations involved in the methodology and present my personal reflections related to building trust and consent in my relationships with the participants. A detailed description of the field-work activities, sites and chronology follows, describing how my contact with the case study group originated and the evolution of the research. The last section presents the methodology choices for data collection and data analysis concluding with some critical reflections on the research approach and methodology.

4.2 Research Design

4.2.1 Case study of a rural women's herbal product microenterprise

This research investigates whether the potential of herbal product micro-enterprises as a component of rural development could be fulfilled through the creation of women's micro-enterprises. The inquiry was based on a number of studies that advocate this course of action and the manifold benefits of the commercialization of medicinal plants through the development of herbal product enterprises in rural communities (Balick et al. 1996; Srivastava et al. 1996; Heywood 1997; Schippmann et al. 2003; Karki et al. 2005; Lambert et al. 2005; Rao and Rajeswara 2006). No previous research on links between rural development and the creation of small-scale herbal enterprises in Mexico was found and thus the nature of the study is explorative, aiming to discover important issues, trends and patterns.

The research was guided first by a review of the literature on a number of related topics: the herbal product trade and links to rural livelihoods; health systems and medicinal plant use; women's role in the use, knowledge of and procurement of medicinal plants; and policy relating to women's microenterprise in Mexico. Taking into account the multiplicity of issues inherent in these related topics, a qualitative case study was decided upon in order to expand knowledge of this issue in Mexico and test the wide potential of herbal product micro-enterprises.

Stake (1998) describes case studies as intrinsic, instrumental or collective depending upon the purpose of the study. My case study was instrumental in that I sought to 'provide insight into an issue (or a number or issues) facilitating understanding of something else', rather than intrinsic (seeking to understand a particular case) or collective (comparing cases) (ibid: 88). While the case and context of the Las Hamelias micro-enterprise is unique, the experience of the women sheds light on the potential of the medicinal plant-based herbal product micro-enterprise as a component of poverty alleviation and rural development. Other important issues, such as understanding the factors influencing the role of knowledge in market-based interventions such as micro-enterprises; the characteristics and dynamics of relationships established within development interventions; the challenges faced by rural women entrepreneurs, and the identification of the specificities of the herbal product market were also explored as part of the case study.

The Las Hamelias herbal micro-enterprise is run by a group of women with various years' experience manufacturing and commercializing herbal products. They live in the municipality of Pajapan in the small rural community of Pescador, which has fewer than 300 inhabitants and is categorized as highly marginalized (CONAPO 2005). Although it lies close to two important industrial cities in the region the village is in a remote area only recently connected to the main motorway by dirt roads. The village lies on the fringes of a strategic area of natural resource conservation, the Los Tuxtlas Biosphere Reserve (TBR), which contains the last remnants of neo-tropical forest in Mexico. The location of Las Hamelias in this context is significant for the research, as Pescador's proximity to the TBR gave the women ample contact with local and international organizations, government agencies, national networks, and universities working in the area, mainly on conservation issues. This situation allowed exploration of the links between environmental policy and market initiatives such as rural micro-enterprises and demonstrated the impact of the women's ties to a range of external development actors.

Stake clarifies that the case study is not a methodological choice but a choice of the object to be studied, and that for those using qualitative strategies the inquiry is dominated by 'strong naturalistic, holistic, cultural, phenomenological interests' (ibid: 86). The significant features of qualitative research incorporated in the research design include: 1) the holistic study of the multiple constructed realities; 2) the researcher and the participants interact and influence each other; 3) the purpose of the inquiry is not generalization but an idiographic body of knowledge; 4) the researcher and the researched are constantly shaping one another so that

cause and effect cannot be determined; and 5) the inquiry is bound by the researcher's values in choosing the problem and framing the paradigm that guides the research, the substantive theory guiding the collection and the analysis and interpretation of data (Lincoln and Guba 1985: 36-37).

The qualitative research design chosen for this study is based on inductive and holistic approaches with the aim of understanding the human experience in a context-specific setting (Denzin and Lincoln, 1994: 2); however, throughout the research process constant dialogue with the theories and concepts described in Chapter 3 was needed as it allowed seeing what otherwise would be missed and which helped anticipate and make sense of what was observed in the field (Merriam 1998). Therefore although the research was mostly inductive and interpretative, it was analyzed in the light of theoretical concepts, terms, definitions and assumptions. As Merriam (1998: 48) argues, '[t]heory is present in all qualitative studies because no study could be designed without some question being asked (explicitly or implicitly). How that question is phrased and how it is worked into a problem statement reflect a theoretical orientation.'

4.2.2 Research Questions

The theoretical framework allowed the delimitation of the research in three main areas of interest or themes: gender, social capital and knowledge. Within these themes, the questions that served to guide the data collection, analysis and writing-up process were the following:

Gender

- What factors affected the women's participation in a micro-enterprise initiative?
- What was the impact of participation in the Las Hamelias micro-enterprise on the women's empowerment process?

Social Capital

- What were the organizational characteristics of the Las Hamelias micro-enterprise group? How did these characteristics impact on their capacity for cooperative and collective action?
- How did the women's social networks influence their access to opportunities, resources and knowledge? How were these relationships established?

Knowledge

- How was the knowledge of medicinal plants and herbal products used for Las Hamelias products created, disseminated and transformed?
- What was the source of the women's knowledge of medicinal plants and herbal product preparation?
- What were the 'knowledge interfaces' between the women participating in the micro-enterprise and external development actors? How was new knowledge negotiated and accommodated?

4.2.3 Social networks: A lens to view families, friends and work groups

The exploration of social networks is an approach than can be used to describe families, friendship networks, work groups, and so on. Inquiry is accomplished through extensive qualitative interviewing at the community level, combined with observation of people's behaviour. This approach 'allows the researcher to move beyond the level of the individual into the social context where most people spend the majority of their lives, living and interacting with the small groups that make up the world around them' (Trotter II 1999: 5-7). The women of the Las Hamelias micro-enterprise were not lone actors involved in herbal product manufacture, solely affected by family and community members. They were also influenced by and involved with people from diverse government agencies and NGOs related to health and sustainable development. The perspectives of these actors were explored in the research as part of a social network methodology.

The use of networks in my research required an approach that would provide detailed descriptions of the ways in which people articulate their relationships with one another and one that could provide information on what type of knowledge circulates throughout those relations and how. Knox et al (2006) explain that the two major disciplinary areas with the longest history and tradition of using network methods in research are social network analysis (SNA) and social anthropology (SA). These two disciplines, grounded in distinct epistemologies, illustrate different ways of approaching networks: 'SNA relies on a series of mathematical concepts and technical methods, drawing specifically on graph theory' (ibid 2006: 116). This type of analysis tends to focus on the number of links, density and patterns of connections, range of social contacts and other quantitative methods.

In contrast in SA, network analysis has most often been used as a metaphor to address questions about relatedness and interconnection and relies on qualitative methodologies to uncover detailed aspects of 'how people's interrelationships with one another produce particular kinds of understandings about the world in which they live and the people with whom they interact' (Knox et al. 2006: 123).   My research is akin to this approach as my concern is to understand the impact and influence of social relations on the experience of the women participating in the case study and understand methods of knowledge dissemination and use. These issues are not quantifiable, the number of contacts or density of networks reveal nothing about the quality of the contacts, dynamics of the relationships or people's understandings of these.   The current research is interested in understanding the perceptions of the women in relation to their participation in the micro-enterprise, the ways they relate to external development actors and some of the ways they incorporate or reject new knowledge, aspects which aim to shed light on the power/ knowledge dynamics of social relations.

The understanding of meaning through social interaction is important to the research. From this perspective reality is understood through the study of the interaction of actors, each with agency and in a determined context. Long (2001: 49-50) describes this: 'Social action is never an individual pursuit: it takes place within networks of relations, is shaped both by routine and organising practices, and is bounded by social conventions, values and power relations'. The research adopted a social constructionist perspective which is concerned with understanding 'the processes by which specific actors and networks of actors engage with and thus co-produce their (inter)personal and collective social worlds' (Long 2001).   Studies of social networks allow an exploration of the ways that humans organize themselves into groups, communicate about critical life circumstances and work out the problems that they encounter in everyday life (Trotter 1999:2).

The common concern from a social constructionist point of view is how people assign meaning to their world (Hannigan 1995).   Inquiry from this perspective aims to understand the constructions or understandings that people hold or assume, which are multiple and sometimes conflicting (Guba and Lincoln 1998). Schwandt (2003) explains: 'Particular actors, in particular places and at particular times, fashion meaning out of events and phenomena through prolonged, complex processes of social interaction' (ibid 1998; 130).   Denzin and Lincoln (2005) employ the term interaction to refer to the idea that people not only act with one another, but interact with one another. Trotter also clearly describes this view: 'Much research in the social sciences has concentrated on individual behaviour, motivations, and

other personal conditions that influence behaviour. However many human behaviours are not conducted alone. Most are the result of interactions, not simple reaction, and network research is pre-eminently the study of these interactions' (Trotter II 1999: 15).

My own position on the research interaction was the acknowledgement that I was not a separate observer of the reality I wished to understand. From the moment I arrived in the field, asked questions and interacted with others, I participated in the reality of the site and the people, affecting the relationship that I formed with each of my informants. I brought into the research and the field certain values, opinions and assumptions about the world, and with my persona I depicted a certain socio-economic and cultural context. The most appropriate way of dealing with this, in my view, was to be as transparent as possible with those with whom I interacted and to reflect on my biases and how my actions affected the participants, as well as on how I was affected by the actions of the participants. The manner in which my research engaged with aspects of my interaction is the topic of the next section.

4.3 Ethics and Reflexivity

4.3.1 Reflexivity in development research

Qualitative research assumes that there are multiple realities, that the researcher and the object of inquiry interact and influence each other and that the inquiry is value-bound by the researcher's values (Lincoln and Guba 1985). My belief is that making it explicit that the inquirer has certain values should not make the research less valid, particularly in a study in the development discipline. The use of the word *development* is already a political statement, since the word implies a concern that someone somewhere is lacking in 'development'. But what type of 'development' is lacking? I brought to the research my subjective ideas on what is wrong in our society, and specifically in my country, and a concern to understand how change can happen in those areas that I perceive need to be transformed. Molteberg and Bergstrom (2000) point out that Development Studies is a field with a political agenda, but strives to maintain a critical and reflexive distance from that same agenda. As they explain: 'Knowledge generation is not an end in itself, but a means of contributing to improvement of social conditions' (ibid 2000; 7).

Reflexivity in development research refers to the careful consideration of the consequences of interaction with those being investigated (England 1994). It implies looking at oneself in

relation to others (Patric 2003; 11). Doucet and Mauthner (2002) propose looking at reflexivity as something that 'holds together methodology, epistemology and ethics'. Their idea is that researchers should be 'as transparent as is reasonably possible, about the epistemological, ontological, theoretical and personal assumptions that inform our research generally and our analytical and interpretive processes specifically' (ibid 2002: 125).

Field work is a sensitive aspect of development studies research. In natural science disciplines going 'into the field' implies working with plants, animals or inanimate objects, but in social science disciplines, it means dealing with people in their own setting and cultural context and interacting with individuals of determined psychological, social, economic and historical backgrounds. Implicit in development studies is working with marginalized and vulnerable groups of people from whom we, as researchers, differ, usually in terms of formal education, status, class and ethnicity. Sheyvens et al. (2003) point out: 'Whether we like it or not, the nature of much Development Studies research means that we will be in positions of power in relation to most of our participants, a fact which can and should make us engage in some awkward self reflection about the value of our research' (ibid 2003: 149).

Development research and field work therefore entail facing not only a reflexive process regarding our individual values and the validity of our research but also constant negotiation of the different relationships established in the field. To begin, we must recognize that the research subjects did not call us to the field but rather that we gained access and brought our own agenda of what we wanted to learn, with little regard for the time and attention required from our participants to comply with our requests. England (1994) stated: 'Fieldwork is inherently confrontational in that it is the purposeful disruption of other people's lives' (ibid 1994: 85).

My field work experience was no exception. When I arrived in the community I had planned to stay in the community's eco-cabins in order to disrupt the women's daily family life as little as possible. However the women of Las Hamelias decided that the cabins were too far away from the rest of the houses and they were concerned for my safety. They explained that if I needed help nobody would hear me, that there was insufficient light at night and I would have to cross an open expanse where there were often snakes. I took their opinions and preferences into account since I was their visitor. The women opened the doors to their homes and they decided whose house I would sleep in and with whom I would eat. This situation was positive in that I had the opportunity to experience their family life more intimately, but I sometimes

felt that I was a burden. To counteract this situation I was careful to help around the house, cooking, cleaning and entertaining the children as much as possible. I likewise contributed a small amount of money to the two families that accommodated and fed me and often brought books and games as presents for the children

Qualitative research assumes inter-subjectivity between researcher and participant since: 'In a certain sense, participants are always 'doing' research, for they, along with the researchers, construct the meanings that become 'data' for later interpretation by the researcher' (Olesen 1994: 166). Researchers have recently also highlighted the importance of exposing power relations embedded in any research relationship and the need to attempt to minimize hierarchical relations. My opinion is that relationships are constantly being negotiated, and although power and socio-economic differences exist in relationships established in the research process, the view of power differences should not be ' zero-sum, i.e. the more one person has, the less the other has' (Rowlands 1997) but rather that 'power is dispersed, contingent and unstable' (Jackson 1999: 132). It would be much more appropriate to acknowledge differences and highlight the agency we all have. As Chapman (2003) argues, we should not forget that those who participate in interviews often display their own power in the interview process by refusing to speak, or refusing to speak the truth.

Another element of qualitative research which elicits further reflection is that of establishing rapport with participants. Establishing rapport in research is understood as the ability to see the situation from the viewpoint of the respondents (Frey and Fontana 1998). Patton (1990: 317) explains that there is a delicate balance between establishing rapport with a participant and not undermining the sense of neutrality that should be held by the researcher about the content of that being disclosed: 'Neutrality means that the person being interviewed can tell me anything without engendering either my favour or disfavour with regard to the content of their response...Rapport is built on the ability to convey empathy and understanding without judgment'. Various writers have suggested that outwardly friendly interviews and the establishment of rapport lie within the instrumental purpose of persuading interviewees to provide us with 'data' and therefore imply 'faking friendships' (Duncombe and Jessop 2002: 107). 'Frequently researchers establish rapport not as scientists but as human beings; yet they proceed to use this humanistically-gained knowledge for scientific ends, usually without the informants' knowledge' (Oakley, 1981 cited in Duncombe and Jessop 2002).

Duncombe and Jessop (2002: 111) question rapport: 'If interviewees are persuaded... by the researcher's show of empathy and the rapport achieved in conversation, how far can they be said to have given their "informed consent" to make the disclosures that emerge during the interview?' My experience in the field with one of the women participants is indicative of this fine line between consent and building rapport. The woman, with whom I established a close relationship, confided to me that she had serious problems at home with her husband, as well as sad and dark childhood memories. I felt satisfaction that we had built a relationship of mutual trust and friendship, but the implications of writing about such personal matters were delicate since her work with the microenterprise impinged on the marital relationship. I had gained the women's consent to research her experience in the micro-enterprise, but I wasn't sure whether these friendly conversations counted as part of this or they belonged to the realm of our friendship.

Studies of ethical considerations when carrying out qualitative research led me to clarify this on my return to the field by asking for informed consent on that specific issue. I asked the woman in question: 'May I write about the marital problems you have had with your husband?' She agreed and said, 'Well, after all nobody in England knows me, so who cares' *(Sí, si nadie en Inglaterra me conoce, que importa)*. I explained that even though I would use pseudonyms, what I wrote in England could be read by people in Mexico. Still she seemed unmoved, saying: 'Those who are involved [referring to her husband and mother] I'm sure will not read what you write' *(Sí, pero los que están metidos en esto no van a leer lo que tu escribes)* (March 2008). Thus in the end I was able to resolve this problem. I agree with Edwards and Mauthner (2002), who argue that the researcher should highlight contextual aspects and reflect on each ethical dilemma s/he comes across. Therefore ethical considerations should be analyzed case by case. The following section will deal with issues of ethics in the research process.

4.3.2 Ethical issues and consent

The University of East Anglia and the department of international development require an ethical approval process be undertaken before field work which demands from the researcher a reflection on issues such as: risks to participants, consent, payment and incentives, and confidentiality among other issues. In my ethical approval form I established that consent would be obtained orally and among the dispositions I would follow to assure ethical research practices were: ensure anonymity when required by using pseudonyms, be careful not to

disclose information to third parties and make clear that participation in the research was voluntary and informants would have the choice to withdraw at any point as well as to take back any information previously given.

The Las Hamelias group came to my attention via a website[19] promoting fair trade and environmentally-friendly products. The information on the webpage stated that they were a small-scale rural enterprise that produced medicinal plant remedies, located in the area of Los Tuxtlas in the southern state of Veracruz, a region to which I had travelled on various occasions for recreational purposes. The environmental challenges and government projects of the region were well known to me. A professor from the National Autonomous University of Mexico (UNAM), who was also a member of the board of the NGO for which I had worked during the previous year and who had supported the women in their enterprise, became my entry point to gain access to the group. I had never met the professor personally, but was familiar with her work. When I arrived in the community, the women of Las Hamelias were curious about how I had heard about them. I answered that I had seen their products on the Internet and was given their phone number and location by the professor, although she and I had never met. I presented myself as an independent researcher and made clear that they had 'the right of not participating without prejudice' (Scheyvens et al. 2003). I explained the purpose of my research and why I found their group interesting. I also informed them that if they agreed to participate they would have the right at any point to tell me not to use certain information or not to comply with my requests.

I introduced myself to the Las Hamelias group at the end of a holiday in Veracruz in the company of my mother, who was interested in accompanying me to the community to meet the women and tie up our family holiday with my work. I was reticent about arriving by car to a community where this would establish a clear socio-economic situation, but I realized that this would be made explicit by other factors such as my education, class, and even skin colour. I agree with England's (1994) statement: 'The researcher cannot conveniently tuck away the personal behind the professional, because fieldwork *is* personal. A researcher is positioned by her/his gender, age, race/ethnicity, sexual identity and so on as well as by her/his biography, all of which may inhibit or enable certain research method insights in the field' (England 1994: 84).

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[19] The website address was no longer functioning in October 2009 when last viewed: http://www.bioplaneta.com/

This first personal contact, accompanied by my mother, turned out to be positive as it opened the door to them knowing me not just as the student and woman from the city but also as a daughter. O'Brien, a female researcher, described her parents' visit to the field as a 'fixing' process which allowed contacts to be strengthened:

> My parents were the first to visit, and this was as it should be for the villagers. The effects of this visit were manifold. My credentials were established. I had respectable parents, who approved of what I was doing. They had not abandoned me, in fact they were concerned enough to visit…the difference their visit made was closely connected to being a woman researcher, and in particular to the protection that a community can feel is necessary for a single woman living with them. (O'Brien 1993: 240)

My experience elicited a similar reaction from the women of the community in Veracruz. When my mother and I were saying goodbye, one of the women told my mother not to worry because they would take good care of me. I felt this first contact placed my relationship with them in transparent and balanced terms, as they too had the obligation of making sure I was all right. Additionally, often the topic of my mother came up in conversations about family life and I was able to talk openly about my own family experience. Oakley (1981) asserts that intimacy established in an interview process mandates that the researcher reciprocates with personal information.

Recently, attention to aspects of the research process related to power differentials in research relationships and to the need for recognition of diversity and reciprocity have been highlighted by various authors (Chapman 2003; Edwards and Mauthner 2002; Jackson 2006). For example, feminist writers have expressed concern about how to 'include the voices of "others" without colonizing them in a manner that reinforces patterns of domination' (England 1994: 84). They have proposed capturing the participants' own words through tape-recorded interviews which allows the participants' voices to emerge. In my experience, this method encountered field work dilemmas as the formal nature of the interchange with a tape recorder intimidated the women and impeded more expressive and detailed accounts, which occurred more often during informal conversations. The taped interviews and all conversations with the women were held in Spanish. On translating the conversations the tone and distinctive vocabulary of their voices were altered. As England (1994: 86) points out: 'The published text is the responsibility of the researcher…it is the researcher who ultimately chooses which quotes and therefore, whose voices to include.' In my case, I also selected the words to use in the English language translation to represent the ideas expressed by the women and the

diverse actors whom I interviewed in Spanish. Thus although I included the voices of the participants in the text, I accept full responsibility and authorship for what was written, interpreted and translated.

4.4 Field work

4.4.1 Field work chronology and sites

My field work was divided into two main stages separated by ten months and which added up to a twelve month stay in the field. The first eight-month period of data collection was divided between the community of Pescador, where the women of the micro-enterprise lived, and other towns and cities in the states of Veracruz and Mexico such as Texcoco, San Cristobal de las Casas, Cuernavaca and Mexico City. The second stage, ten months later, comprised four months of field work divided between the two major research sites of the Pescador community and Mexico City. The following is a detailed table of field work sites and the main activities conducted.

Table 4.1: Fieldwork chronology and main activities

FIRST STAGE: June 2006-January 2007

DATE	PLACE	MAIN ACTIVITIES
JUNE 2006	Mexico City	• Preparation for field work and sourcing inputs for the women's group such as medicinal plants and plastic containers for their cough syrup.
	Pescador, Veracruz	• Participant observation of the group in workshop (21 & 22 and 28-29) and PO of life in community. • Unstructured interviews with women and their family members. • Joint narrative of genealogy of group and micro-enterprise formation. • Semi structured interviews with consultants from local NGO (Tssoka-Teyo de la Sierra).
	Mexico City	• Organisation and management of documents from local NGOs, expansion of journal entries, transcription of taped interviews and revision of periodical information on history of Los Tuxtlas region.
	Xalapa, Santiago Tuxtla, and Chinameca, Veracruz	• Semi-structured interviews with NGO consultants working with Las Hamelias micro-enterprise (Sendas and Proyecto Sierra de Santa Martha). • Semi structured interviews with health promoters in a clinic in Santiago Tuxtla and with director of health promotion NGO

JULY-AUG **2006**	Pescador, Veracruz	• Life story with leader of group. • Participant observation with women from Las Hamelia and interviews with family members. • Interview with leader of another productive group in the community. • Other activities: Visit to botanical garden in Xalapa, attendance at conference on culture and history of 'Los Tuxtlas' region and at regional festival and 'fandango' in Santiago Tuxtla.
	Mexico City and Cuernavaca, Morelos	• Interviews with director of two NGO's giving training on traditional indigenous medicine also formerly involved in health promotion (Tlahui and Tlahuilli). • Visit to the ethno-botanical garden and interview with head of the programme 'Actors of Medicinal Plants in Mexico (Cuernavaca). Semi-structured interviews with officials from the Ministry of Health and with member of health promoter movement (Mexico City).
SEPT **2006**	México City, Ajacuba Hidalgo and Texcoco, State of Mexico	• Attendance of 'National Plant Fair', interview with Mario Rojas, the organizer of the event and director of Tlauhi, participation of workshop on Traditional Medicine and informal interviews with individuals selling herbal products in market. • Attendance of the Congress of Traditional Medicine in the Agrarian University of Chapingo. Interview with organizer of event and head of the university programme on traditional medicine. Participation of workshop titled 'Organic cultivation of medicinal plants'. • Interview with the head of the National Herbarium of the National Social Security (IMSS) and with head director of a National Network of Medicinal Plants.
OCT-DEC **2006**	Pescador, Chinameca, Tatahuicapan, Catemaco, Jaltipan, Minatitlán & Coatzacoalcos, Veracruz	• Participant observation in Pescador and travelling with women to various local fairs and events such as the Mosaic of Culture Fair in Coaztacolacos and an event organized by the Biosphere Reserve in Catemaco. • Semi-structured interviews with director of 'Los Tuxtlas Biosphere Reserve' (Catemaco), health officials from IMSS (Jaltipan) and director of NGO network (Bioplaneta) involved with many rural cooperatives and groups including Las Hamelias. • Attendance at the anniversary event of the local NGO with the women of Las Hamelias. • Participant observer during the visit of health and social development officials to the group's workshop. • Interview of a traditional doctor and a group that had participated in health promotion network, like the leader of Las Hamelias.
JAN **2007**	San Cristobal de las Casas Chiapas and Minatitlán, Veracruz	• Trip to Chiapas to interview the main consultant for Las Hamelias and visit the traditional medicine museum. • Trip to Minatitlan to interview a women's health group that collaborated with Las Hamelias group and was part of the health promotion network.

DATE	PLACE	MAIN ACTIVITIES
JAN 2008	Mexico City	• Interviews with people from National Network of Health Promotion (PRODUSSEP), revision of documentation of health promotion network as well as literature review of movement. • Interviews with the director and sub director of 'Intercultural Medicine' of the Ministry of Health.
FEB-MAR 2008	Pescador, Veracruz	• Semi-structured and taped interviews with women of Las Hamelias, and participant observation to gain a sense of how the micro-enterprise was doing a year on from the death of the leader. • Life history of one of the women from the group. • Community survey on productive projects and opinions on the groups in the community. • Unstructured interviews with family members and the community authorities. Semi-structured interviews with other NGO consultants.
APRIL 2008	México City and Cuernavaca, Morelos	• Visit to the ethno-botanical garden in Morelos and interview with the director of the programme 'Social actors involved with medicinal plants in Mexico'

The field work locations, in addition to Pescador, the rural community in Veracruz where the women of Las Hamelias lived and made their products, were the nearby towns and cities where the women went to sell their products, buy supplies and where local NGOs are based. The towns of Chinameca, Jaltipan, and Chacalapa (which do not appear in the map, but lie between Pescador community and the cities of Minatitlan and Coatzacoalcos) were common field sites. However, the study of the women's social networks included a wider circle of government, NGO and academic agencies, organizations and groups which broadened the field work site to the capital city of the state, Xalapa and to other cities in the region such as San Andres Tuxtla and Catemaco. Inquiry into other institutional and business links of Las Hamelias, likewise reached beyond the state of Veracruz to actors and organizations found in Mexico City and surrounding cities (such as Texcoco and Cuernavaca in the state of Mexico and Morelos respectively). The following map signals with pink circles the main sites where field work activities were conducted.

Figure 4.1: Map of field work sites

4.4.2 Research evolution

An important principle in qualitative design applied to the research process is the element of flexibility, understood as a circular and open perspective which may lead, as the research unfolds, to redesigning objectives, hypotheses, methods of analysis, the selection of informants and even the inquiry strategies (Denman and Haro 2000). This element of flexibility is necessary, given the goal of studying a reality not previously known and the spontaneous opportunities and intuitive understandings which emerge during the research process. Throughout the evolution of this research, changes to the focus and to certain topics emerged and gained relevance during the field work and even later, whilst reviewing new literature and analysing the interviews and data. The choice of topics or themes, described by Stake (1998) as 'abstract dimensions' or 'issues' are chosen differently by different researchers but are connected to the concerns of diverse academic disciplines. However each of these responds to questions that revolve back to the case being studied and maximize an understanding of the particular case: Which issues were initial concerns? Which issues pointed

out unique aspects of the case? Which issues offer opportunities to understand the case further? (1998: 92).

An important development in the case study was the death of the leader of the group during the first stage of field work, in September 2006. This situation caused turmoil among the women and I was able to observe important changes in the group dynamics. Quite soon after her passing, two members quit and the women seemed to be greatly affected by the leader's absence. This realization prompted me to consider going back to the field a year after the leader's passing in order to gauge some of the most important transformations and in order to be able to observe changes in social relationships, gain less emotionally affected retrospective data and better understand the impact of the absence of the leader (See chapter 7, section 7.2.1 The element of leadership for an analysis of the impacts of the leader's passing on Las Hamelias).

During the research process two changes in focus also occurred. The first was related to the issue of gender. In my initial research design I did not wish to direct excessive attention to this aspect and only briefly mentioned it. However, as my field work advanced I understood the importance and relevance of viewing the gender dimension in the exploration of my research aims, not only in terms of women's medicinal plant knowledge but also within broader equity issues that arise as rural women occupy public spaces that have been reserved for men. The second change in focus had to do with medicinal plant knowledge. I had assumed that the medicinal plant knowledge of the group would be linked to women's kin networks. During the field work I learned that most of the knowledge of the medicinal plants used for the preparation of the products could be traced back to civil society associations working on health promotion and the recuperation of medicinal plant knowledge in the 1980s and early '90s. These changes in perspective meant that the research questions and the focus of analysis had to be adapted, which also implied the exploration of new concepts and theoretical frameworks.

4.5 Methods

Two methodological approaches to data collection were used for this research, based on qualitative methods and centring on the lived experience of the research subjects. First, data on the women were collected through semi-structured and unstructured interviews,

participant observation, life histories and a community survey. A second approach was based on 'following knowledge' by identifying and interviewing the actors involved in transmitting medicinal plant and product preparation knowledge from diverse organizations or government offices and reviewing documents pertinent to Las Hamelias and these other organizations.

4.5.1 Participant observation

Field work is the main activity of the researcher who adopts the role of participant observer, a role which may vary from fully observing to fully participating, depending upon factors such as how much and what is known about the researcher and the research by those being studied, and what kinds of activities the researcher does or does not participate in (Atkinson and Hammersley 1998). Patton (1990) places the role of the observer on a continuum from complete immersion in a setting as a full participant to complete detachment from the setting as a spectator (Patton 1990). Rock (2001) distinguishes some aspects of participant observation:

> Research hinges on participant observation: participant because it is only by attempting to enter the symbolic life-world of others that one can ascertain the subjective logic on which it is built; and feel, hear and see a little of social life as one's subjects do…but observer because one's purposes are always ultimately distinct and objectifying. As an observer, one tries to stand back and analyze in a way possibly foreign to the subject. (Ibid: 32)

The role of participant observer that I adopted was one of almost complete immersion for the periods that I was in the community. I participated and was involved in the family life of the two households with whom I lived and ate. I helped to cook and clean, played with the children and watched the evening soap opera with the family. Participating in these events gave me the opportunity to observe the women's interactions with their families and understand their daily household activities and thus better understand the women's *bonding ties*, i.e. those related to kinship, friends and other community members. Other activities that were a part of my participant observation work were going to the beach on a day off, attending church, making *tamales* for a special birthday celebration and going to a *novillada* (an amateur bullfight with a young bull).

I accompanied the women in their workshop making the products and selling them at local fairs, and attended two capacity-building workshops. I was present at the anniversary celebration of the local NGO and on the day the health officers from the IMSS and the

president of the municipality visited the women's enterprise. These events allowed observation of how the women interacted with buyers and external actors who were involved with their initiative and helped me to understand issues related to the women's social networks, social capital creation and knowledge access.

To understand the women's experience with the micro-enterprise and delve into the dynamics of their relationships required living in the community, accompanying them in their daily chores and workshop activities and travelling to sell their products in nearby towns. Silverman (2006) describes this process: '…the study of people in naturally occurring settings or field by methods of data collection which capture their social meanings and ordinary activities, involving the researcher participating directly in the setting, if not also the activities in order to collect data in a systematic manner' (Silverman 2006: 67). By participating with the women in their workshop activities I learned to hand-make and shape soaps, fold boxes, make an inventory of products and sterilize bottles with alcohol. I helped to harvest plants, sort out accounts from previous sales, fetch water from the well and clean workspaces, among many other daily chores and activities. Time spent in the workshop with the women on Thursdays and sometimes Fridays were fruitful moments which allowed for participation in informal conversations and observations on how the women got along, influenced each other, related to one another and made decisions. My observations of the dynamics of the relationships among the group helped me to understand issues related to leadership, cooperation and trust among the women participating in the micro-enterprise formation. I once set up the tape recorder and left it running for the whole length of time that I was with the women. However, I found it more useful to remember the conversations and make notes later. Frey and Fontana (1998) argue that unstructured interview in the field can provide greater depth to participant observation.

I came and went from the community to other towns in the region, ultimately returning to Mexico City to 'touch base' and organize the data. This strategy functioned well for various reasons. First, interspacing my stays in the community was, I sensed, more comfortable for those who were hosting me in their homes because it allowed me to avoid imposing excessively on their time and space. Second, by coming and going I could be useful to the group by helping them to source some inputs such as containers from distributors, medicinal plants from the central market of Mexico City (*Mercado de Sonora*) and chemical inputs from specialized pharmacies. These activities helped me to understand how the enterprise functioned and to communicate with some of the women's external contacts.

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Another reason for interspacing my time in the community was that in the field I did not have much time to be on my own and write about the day's events and my impressions or to write extensive entries in my journal. Field work requires a chance to step back and analyze what has been observed. However I did keep a field work journal in which on many nights I had the chance to write down the day's activities, register important issues that came up in informal conversations or jot down contextual information regarding the time spent doing certain activities in the workshop. Back in Mexico City I expanded on these notes. I wrote down my personal opinions and accounts in English and in a journal which I always kept with me.

A final reason for the strategy of coming and going to the community site was that my methodological approach consisted of understanding the social networks and 'following knowledge', which required that I track key actors and information throughout the region and the country. I therefore split my time between experiencing the everyday lives of the women and carrying out semi-structured interviews with key actors. In Mexico City I found specialised libraries and organisations that provided documents on related government health programs and legislation.

4.5.2 In-depth, group and semi-structured interviews

Taylor and Bogden (1984) define in-depth interviews as those that occur through repeated face-to-face encounters directed at understanding the informants' perspectives on their lives and experiences, expressed in their own words. I conducted in-depth individual interviews with each of the eight participants of the Las Hamelias group. Most of these interviews were what Stage and Mattson (2003) call 'contextualized conversations', because they were somewhat informal and emergent rather than guided by purposeful, predetermined questions. These 'contextual conversations' often involved topics about relationships and how these had an impact on participation in the micro-enterprise. They also gave me the opportunity to talk about each woman's family history, activities, education, interests and views. My conservations covered each woman's use of medicinal plants and how she learned which plants to use and when. These conversations were preceded by information about my background, why I was studying in a foreign country and my interest in medicinal plants.

In the group interviews I asked questions about the group's origins, the key people who had supported the initiative and the kinds of capacity building the group had received. The purpose of my questions was to tap into their intersubjective reasons for participation, to grasp shared

ideas on the usefulness of the micro-enterprise and to expand on aspects of the group's internal dynamics. Although I tried to moderate the interviews so that each woman got the opportunity to have her say, I also let the women with greater disposition to talk do so, letting conversations or points of dispute develop without my intervention. For example, in one of the group interviews one of the women complained that things were not openly discussed in the group. I realized that I needed to let her keep talking to see the others' reactions to her complaints and how the confrontation evolved.

During the second stage of field work and after establishing a more trusting relationship with the women, I began to use a tape recorder for the individual interviews. In these in-depth interviews I asked what each woman's motivations for participating were, which individuals they thought had been important in helping and who or what had hindered their participation, what had been the most difficult aspects and the most gratifying experiences of participation and what they valued about the knowledge they had acquired through it. Although most of these issues had been discussed in previous contextualized conversations, I asked the women to build on specific issues about which they had talked to me. These individual interviews allowed me to record the women's voices in order to incorporate their own words into my text and delve deeper into specific issues I had identified from previous conversations.

I conducted two life histories: one originating from various informal contextualized conversations with one of the women and her daughters, and another that was more purposeful because the subject was the leader of the group and played a central role in this initiative. She died while I was in the field, and although I had been able to conduct two long interviews with her, one of which I had recorded on tape, I also talked with her husband, son and two daughters; however because her death was so recent this was difficult at times. It was very important to be very tactful: I realized that because she had died there was a need to talk about her but in very sensitive and appropriate way.

I conducted semi-structured open-ended interviews with people external to the community, most related to the women of Las Hamelias through their involvement in capacity-building efforts, such as technical advisors involved in local NGOs with whom the women had regular contact and government officials who were involved through financing or other support for the group. Other interviews were held with relevant actors involved in the dissemination of medicinal plant knowledge at a national level, an aspect which I explain in section 4.5.5.

Table 4.2: In-depth, group and semi-structured interviews

Type of interview	Participants	Tape recorded	Not tape recorded	Total Interviews
Semi-structured interviews				**37**
	Women of LH	6		
	Ex-members of LH	1	3	
	Members of NGOs	7	7	
	Government officials		5	
	University professors		5	
	Traditional doctors		3	
Group interviews	Women of LH		3	**3**
Life histories	Women of L H	2		**2**
Total		**16**	**26**	**42**

4.5.3 Community survey

I conducted a small survey in the community that consisted of closed and open-ended questions. The survey was not carried out to collect statistical information on the community of the case study, even though some of the questions did shed light on contextual information about the number of individuals in the households, migration, main productive activities, etc., but rather to get the opportunity to meet and chat with people in the community not directly related to the group of women. To address the issue of social exclusion it was necessary to talk to other women in the community to understand why they had not participated in the Las Hamelias group and whether they had been involved in other productive activities. The men that I contacted through the community survey contributed information about productive projects that I had heard about. This survey allowed me to place the Las Hamelias project in the context of the community members and activities.

Table 4.3 Survey of community projects and productive activities

GENERAL HOUSEHOLD INFORMATION:

- Number of people that live in house: _____
    - Men_____
    - Women_____
    - Children: boys_____ girls _____
- Years living in community: _____
- Employment outside the community?
    - Men _____
    - Women _____

The survey's questions differed for the women and the men. The open-ended questions for the men were directed at their general opinions and perceptions about the productive aspects of the community. From the women I was interested in learning their reasons for participating – or not – in productive projects. I mostly talked to the men and women separately. During the day the women were alone at home, which facilitated the opportunity to talk to them. Talking to the men was more complicated because they would leave early in the morning to go to the field and arrive very late to have dinner, at which time it was not appropriate to call.

Initially the survey was not part of my research plan because my methodology revolved around the women of the group, their social networks and the knowledge networks that stemmed from them. I later realized that to understand the context of the group of women more deeply I needed to inquire about their interactions and ties not only with their kin and friends but also with other people in the community. The survey was carried out at the end of the field work period. If it had been done at an earlier stage of the research process it would have been more useful because it would have enabled me to become familiarized with a larger segment of the community. On the other hand, focusing on the Las Hamelias women and their networks at the beginning helped me to concentrate on my research questions. The survey gave me a broader understanding of the community's history, productive activities, methods of work and

the opportunity to find out what other community members thought of Las Hamelias micro-enterprise initiative.

4.5.4 Following knowledge

Triangulation in qualitative research can be understood as the use of a variety of sources-interviews, observations and documents to build on the strengths of each data gathering strategy (Patton 1990) and as a process to 'clarify meaning by identifying different ways the phenomenon is being seen' (Stake 1998:97). A variety of methods also enables a more integral and holistic view of the case. Each method has strong and weak points: interview of participants are subject to 'distortion due to personal bias, anger, anxiety, politics, and simple lack of awareness'; observations focus only on external behaviour but 'provide a check on what is reported in interviews'; and documents provide a behind-the-scenes look at the program that may not be directly observable' (Patton 1990: 245).

A recent contribution to network analysis has come from the sociology of science through the insights of actor-network theory (ANT). ANT has two major methodological foundations: one is to 'follow the actor' via interviews and ethnographic research and the other is to examine 'inscriptions' which include texts, images, databases and all aspects which are central to knowledge work (Van House 2002). Callon and Latour (1981) argue that an actor grows in size and power with the number of relations he can put in 'black boxes' and these symbolize a particular type of knowledge that is established as a truth: 'that which no longer needs to be considered' (ibid: 25). The insights I took from ANT pointed me in the direction of following those actors and their activities to disseminate or establish knowledge about certain areas of interest. In the sociology of science, where ANT has had greatest influence, the method requires following scientists; in the case of this research the idea was to follow social workers, doctors, or academics, who were involved in community development activities or in health promotion and the recuperation of medicinal plant knowledge.

ANT establishes that the most useful way to plunge into discerning issues of knowledge creation is through networks. The methodological challenge was to effectively travel through the networks that originated from our case study group, looking for the actors involved in this particular knowledge domain. This section describes how I decided which 'nodes' (actors or organizations) of the network to follow.

The first step into the issues of knowledge creation came from the answers of the women to the questions:

- Why did you get involved with medicinal plant products and remedies?
- Where did the idea come from? Have you always used medicinal plants to cure yourselves and your family?
- Why did you consider that this activity could be potentially interesting as a productive initiative?

The answers inevitably led to a narrative of the genesis of the group. The leader of the group had a decisive role in the origins of the group and in choosing and proposing activities to the other women. Her answers took me on a journey that I had not imagined. Her main motive and interest in medicinal plants was related to her participation in a health group linked to the activities of the Basic Ecclesial Communities (BECs) (sub-units of parishes with either lay or religious leadership responsible to the parish priest; they are self-reliant and mission-oriented) where she learned how to work with plants and gained a fuller understanding of their use. With her, I gained a first glimpse of how following knowledge through networks could greatly expand the scale of the investigation.

The aim to find out more about the activities of the BECs revealed the work of non government organizations with health promotion and medicinal plant knowledge dissemination at a regional scale, at which time I contacted the surviving health groups and started to piece together the history of these. I interviewed a woman from the nearest health group in the area, in which the leader of Las Hamelias had participated. She gave me other names and groups to visit, and with each interview I learned of other people and organizations that had been involved. This process created a snowball effect whereby one contact led to others (Patton 1990).

Following knowledge led to visits to two health groups as advised by the women. One was in the nearby city of Minatitlán and the other was in the town of Santiago Tuxtla. The health group in the city of Minatitlán was concerned not only with health issues and the production of medicinal plant remedies but also with community work of various types, including workshops on gender and self-esteem that some women in my case study group had attended. This overlapping of issues and groups was not uncommon. Often an interview with one person

about a specific topic led me to another person, demonstrating close links not at first apparent.

A couple that I interviewed in the second health group in the town of Santiago Tuxtla connected me to a national network of civil organizations working specifically with health promotion, Promoción de Servicios de Salud y Educación Popular (PRODUSSEP). One of the people involved in the organization in Mexico City had worked for many years in the region of my case study on issues related to health promotion in rural areas and broadened my understanding of the context within which the groups of health promoters and NGOs operated.

The second strategy for following knowledge began with the Las Hamelias group, this time related to the training they had received. The questions posed were about the topics covered in their trainings and who had organized them:

- Which of the trainings had they had found especially useful?
- Which people or groups did they consider they had learned most from?

I organised a list of all the trainings they had received and examined the didactic material they had received at these workshops. The information reviewed led me to individuals linked to the health promotion in the state of Veracruz, which then linked to a network of BECs in the state of Veracruz as well as the states of Chiapas, Tlaxcala, Morelos and Mexico City. The main data-gathering method used was semi-structured interviews using a check list of open-ended questions as a guide. I used a tape recorder when given permission to do so.

The information I acquired from other actors in this field of knowledge provided one method of triangulating my research data. Patton (1990) states that the purpose of triangulation is to strengthen a study design which may include mixing quantitative and qualitative methods. Within an entirely qualitative inquiry this may entail including multiple perspectives. To understand knowledge creation in medicinal plant use I followed alternative links to knowledge creation by researching the work being done by academics in conventional institutions for knowledge creation (universities). I interviewed academics involved in research on medicinal plants from five universities: the National Agrarian University (Universidad de Chapingo); the Autonomous University of Tlaxcala; the Metropolitan University (Universidad Autónoma Metropolitana); UNAM's Mexico Nación Multicultural programme; and the National

Institute of Anthropology and History (INAH-Morelos). Finally, I attended two events where medicinal plant knowledge was being disseminated: the four-day Medicinal Plant Fair in the town of Ajacuba, in the state of Hidalgo and the week-long Congress of Traditional Medicine in the National Agrarian University in Chapingo, where I attended various presentations, interviewed academics and participated in a two-day workshop on the organic cultivation of medicinal plants.

Although most of the information on the topic of knowledge creation and dissemination was gathered through interviews with actors in the networks, I also collected a considerable amount of information in the form of pamphlets, articles and popular dissemination books which I analyzed to triangulate the data gathered previously and to give more substance to the interviews I conducted with NGO and government actors. For example, the information on the financial resources received by Las Hamelias came from interviews with the women as well as official document reports from NGOs channelling the resources to the group. Thus, 'following knowledge' with the actors who influenced the women in their organization, knowledge acquisition and product creation activities, as well as with actors who gave insight into the origins of the medicinal plant revival expanded on the women's narratives and situated the ideas they expressed and their organisational activities within the wider regional and national context to which they were linked.

4.5.5 Use of documents

Documents for case studies can include everything from newspaper accounts, to song words, diaries or personal papers, historical or journalistic accounts, as well as records of organizations, corporations and government offices. Merriam (1998) includes physical materials or 'artifacts' defined as 'symbolic materials such as writing and signs and no symbolic materials such as tools and furnishings' (LeCompte and Preissle, 1993 in Merriam 1998: 113), as well as researcher generated documents, such as photographs or surveys (ibid). The documents collected in this study included the pamphlets of Las Hamelias and other organizations, booklets to disseminate medicinal plant uses and manufacturing methods, financial records from NGO's which contributed to Las Hamelias projects, and quantitative data from the government statistical office. Researcher generated documents were the community survey and photographs taken of the community and the work setting and activities of the women of the microenterprise.

Patton (1990: 234) states that the best use of documents and records of programs or organization is 'to get a behind-the-scenes look at program processes and how those came into being'. The role of reviewing documents pertinent to the case of Las Hamelias emerged principally with the onset of contacts with other NGO's and government institutions. I found that the NGO reports on Pescador community helped me understand the recent history of the community, and identified gaps in the information which I was interested in. This helped me to elaborate the questions I asked community members. Merriam (1998: 133) states that documents 'can help the researcher uncover meaning, develop understanding, and discover insights relevant to the research problem'. I found, for example, that by reviewing the training handbooks from organizations working on health promotion was key to discovering the source of herbal knowledge used by Las Hamelias. I was able to compare and contrast the information found in these with what I observed the women do in the workshop and the medicinal uses of their products. Analyzing the text of training material from the health promotion organizations helped me understand the ideological foundations of their work, such as the Marxist understanding of health problems. In these documents I was also able to find out which international development institutions helped finance the health promotion organizations and triangulate this information with that of the semi-structured interviews I had conducted.

4.6 Data analysis

Data analysis is the process of making meaning from all the data, not only from what people have said in interviews but also from what the researcher has gathered from documents or observed in the field: 'Data analysis is a complex process that involves moving back and forth between concrete bits of data and abstract concepts, between inductive and deductive reasoning, between description and interpretation' (Merriam, 1998: 178). The analysis of data in my research went through three main stages similar to those that Taylor and Bogden (1984) suggest for the analysis of qualitative data: a discovery stage which involves searching for common and repetitive themes from the data; the organization and analysis of data by developing categories for codification; and a third stage involving the interpretation of and critical reflection on the data in context.

The first step in the analysis of my data was the literal transcription of recorded interviews, the organisation of field notes on the word processor and their input into Nvivo7 software. This first stage of analysis involved separating data into 'free nodes' which necessitated their

codification into main topics and issues. The second step involved refining the analysis by grouping data and prioritizing information forming 'tree nodes' and 'cases', searching for relationships and using concepts and theoretical insights. The use of 'cases', for example was used to group together the information that involved retrospective data and was titled: 'History of Micro-enterprise'. A great deal of the information on group relationships required the use of retrospective data about the history of the micro-enterprise and involved remembering aspects such as how the group was established, how contacts were made, why some members dropped out, how work was organized and what had been the major conflicts. When possible, retrospective information about the history of the micro-enterprise was analysed together with institutional reports and documents.

The theoretical framework acted as a guide in formulating the categories and ideas. For example, the categorization of social interactions was carried out by considering the bonding and bridging typology of social capital, which later involved more detailed categories such as social norms, trust, cooperation, conflict, exclusion, among others issues. Categorizations and relationships emerged from data from interviews, journal recordings and field notes, so that new categories and relationships originated. Therefore I used both categories taken from the theory and those which 'derived from the terms and the language used by actors in the field' (Coffery and Atkinson 1996: 32).

The research into the case study's social networks involved highlighting general information about relationships, such as: a) the extent of reciprocal relationships among individuals; b) the degree to which a person in a network gives and receives information or other resources; c) roles in relationships; and d) issues of power and influence. Patterns of information flow were analyzed by the identification of gatekeepers and organisations dedicated to disseminating knowledge (Trotter II 1999: 30-31). In addition to Nvivo software, the analytical journal was an important tool for data analysis as it was where everyday reflections and analysis occurred. In the journal I recorded questions and important connections and drew diagrams and conceptual maps. The basic structure of the chapters and the main points that I wished to cover were outlined first.

The analysis and interpretation of the data even occurred while writing, as new insights emerged from the writing process. Denman and Haro (2000) observe that data analysis in qualitative research is not a culminating activity but an ongoing and permanent endeavour that is initiated with the design of the project and which continues throughout, guiding and

leading the researcher to consider and reconsider the research questions and strategies. The analysis and interpretation of data from interviews, conversations with the women and observations in the field began during the data collecting stage as I identified issues and wrote them down in my field journal, and continued throughout the process of writing the chapters, during which further interpretations emerged.

4.7 Final reflections and limitations of methodology approach

A focus on social relationships strengthened the details of data obtained and gave insights into how actors interrelate, how they communicate and work out everyday problems (Trotter 1999). However a major limitation related to analyzing social interaction is that relationships are not static, these are always changing and the research process only manages to take a snapshot of social interaction in a particular time and place. In this research this became evident when the leader of the Las Hamelias group passed away and the interactions between the women started to change (see chapter 7 for a detailed account of the implications of this situation for the group of women). The coincidence that my field work study took place in the middle of a process of dramatic change in the Las Hamelias micro-enterprise group due to the death of the leader made the contingent and changing aspects of the social relationships evident. However it also meant that a great deal of information from the interviews became a 'before' and 'after' narrative, where there was a continuous reference to the past and quite possibly an idealisation of the leader who had just passed. In many conversations and interviews with the women of Las Hamelias, reference to past interactions was always present, however using retrospective information to understand changing social relationships is not without its problems. On the one hand, reference to past events may be imprecise; remembering an event (or a person) is always dependant on the individual's perception and emotional state at a particular moment; the way we remember, or indeed 'interpret,' a past event is also subject to change. On the other hand, case studies are situated within a particular timeframe and thus, this happening was reflected in the data gathered on the women and their microenterprise.

Denman and Haro (2000) argue that an important element of a qualitative design is that one remains with an open perspective as the research unfolds, redesigning objectives, hypotheses, and methods of analysis. My research approach incorporated this concept of flexibility; however this approach did imply an adaptation in situ considering the incorporation and

selection of informants, visits to new fieldwork sites and an overall reformulation of field work plans and logistics. A fundamental problem with an approach and methodology that is both open to the changes brought about in field work and is flexible in order to incorporate other themes of relevance is the excessive broadening of the research inquiry. A significant challenge of qualitative case study research is that it is difficult to grasp the complexity of a particular case; including or excluding certain types of information requires the analysis of a great deal of data. The number of issues and topics that can become known and interesting to the researcher once in the field can be daunting and does not take into consideration time and money. Within this approach limitations of scope appear. For example, one of the consequences of my focus on the women of Las Hamelias and their external social networks meant I wasn't able to do more in-depth interviews with other community members. This may have limited my understanding of the opinions of the other community members with respect to the women and their microenterprise and therefore to the possibility of gaining deeper insights on aspects of exclusion.

Another consequence of the broadening of issues is the need to interview a large number of people in a limited time frame. In the research this limitation was observed when interviewing family members (especially husbands) of the women of Las Hamelias. The lack of time hampered the possibility of building a relationship of trust with all the husbands, and thus enabling long and meaningful conversations with them. With only two of the husbands was I able to have various conversations in which they opened up to what they thought of their wife's participation in the micro-enterprise. The same was not possible with other husbands as in some cases they were away (one in the USA and the other one always working in the city) and in other cases they didn't seem interested. One man openly expressed that he did not wish to speak to me. Two others I did interview, but they did not engage with the topics I wanted to raise and instead spoke of other issues. Therefore, one of the limitations of the research was that the opinions of husbands were known mostly through the voices of the women. Ultimately the researcher does have to decide upon the persons that better engage with the initial research aims or that prove to be most relevant and critical to both the informants and researcher and, in this case, contribute to an understanding of the women and the microenterprise.

Despite the limitations mentioned above, the methodology focus of a case study allowed me to question each lead or data gathering activity as to its specific contribution to the case being

studied. The approach worked well, as I was able to acquire detailed descriptions of the women's perceptions, opinions and the multiple ways they lived their experience in the micro-enterprise. I was able to observe the dynamics of relationships within the group and with outsiders and obtained insight into knowledge use and transformations. While the broadening of topics and leads was difficult to manage at times, the research opened up many new issues and questions for further research and exploration, which was a key aim of the methodology approach.

4.8 Conclusion

The purpose of this chapter was to explain and justify the qualitative, interpretive methodology chosen for research of a case study of women and their microenterprise in the state of Veracruz, Mexico. The epistemological foundations for choosing qualitative interpretive methods were based on my view that interactions among the women as well as the relationship established between us would affect the research process and was inevitably a co-constructed process. The ethical issues this process entailed, as well as issues of researcher rapport and bias, were discussed. The choice of a methodological approach based on social networks aided in understanding the women within their broader social context, which included not only their families, the work group of Las Hamelias and the community, but actors from government agencies and NGOs.

The epistemological view led to the choice of a qualitative research methodology, which in turn, guided the data collection methods and analysis. The development of the research questions prior to and during the fieldwork was presented. The data collection process beginning with entry into the field and the activities during fieldwork through participant observation and in-depth, group and semi-structured interviews and document reviews were explained. Data analysis using qualitative methods was presented. Finally, the research limitations were considered. An extensive understanding of the context within which the case was situated is needed in order to understand it in its entirety, aspect which is the aim of the following chapter.

5. CASE STUDY BACKGROUND AND LOCAL AND REGIONAL CONTEXT

5.1 Introduction

This chapter presents a comprehensive background of the case study group, that of the microenterprise Las Hamelias. An understanding of the particular historical background of the community of El Pescador, in which Las Hamelias is situated, and the ideological foundations of the groups and actors involved with the micro-enterprise were deemed necessary to situate the case within the complexities of the wider local, regional, and national context.

The first section of the chapter deals with the historical process that led to the formation of the village and the land dispute from which the community emerged to shed light on internal organizational patterns, the mixed composition of households and the network of institutional actors that the community engaged with at its origins. The environmental context and main economic activities of the community will also be reviewed. The second section describes how the creation of Los Tuxtlas Biosphere, the area where Pescador village lies, became a focal point of interest for conservation groups and civil society organisations working on the integration of economic and environmental objectives. A description of the actors involved in health promotion and rural development in the south of Veracruz during the 80's intends to give background information of the process which led to the recuperation of medicinal plant use, the elaboration of herbal preparations and the creation of a network for sharing medicinal plant knowledge that greatly influenced the founding leader of Las Hamelias, and in turn, the women of Las Hamelias.

The chapter ends with a general description of Las Hamelias, the history of the group, their main activities, products and commercial strategy, as well as their links to government institutions and NGO's. I address some of the transformations the group went through from their beginnings in 1999 until July of 2006 at the onset of my field work in the community. This section integrates the transformations as the women perceived and talked about them, as well as information from interviews with actors who were involved with the group and NGO reports and documents, which helped to triangulate the information.

5.2 Local context of El Pescador: History, livelihood and socio-economic profile

To enable a deeper understanding of the social, economic, political and organizational life of Pescador and, in consequence of our case study, the first and second sections describe the process that led to the establishment of the community and the land struggle from which it

emerged. The third section provides information of the main productive and livelihood strategies that have been pursued by village inhabitants.

5.2.1 Recent history: The struggle for land

Three main factors of the history of the community stand out: 1) Pescador is a pioneer community of recent settlement, 2) the community was established by a mix of landless families originating from different parts of Veracruz and other states; 3) the people of Pescador built up a network of relationships with government officials and civil society institutions to gain full access and rights to the contested land that continues to this day, albeit differently.

In the early 1980s the government planned to build an industrial port on the banks of the Laguna del Ostión and for this purpose it expropriated over 5,000 hectares (12,360 acres) of communal property originally from the village of Pajapan. The subsequent cancellation of the port project and land conflicts among the residents of Pajapan and local ranchers created an ambiguous legal situation which opened a window of opportunity for landless peasants from neighbouring villages to occupy the lands in dispute, among which were those now occupied by Pescador village.

During the last 50 years the area commonly called Los Tuxtlas was dominated by the expansion and investment of capital in the cattle industry and the concentration of land in the hands of a few cattle ranchers (Chevalier and Buckles 1995). The El Moral ranch, where Pescador now lies, was embedded in the typical social framework of power exerted by a local political boss or *cacique* with interests in the cattle industry who controlled the land belonging to the indigenous community of Pajapan.[20] Amadeo González Caballero, an important figure in the power structure of the south of Veracruz, was leader of the Regional Livestock Association (*Asociación Ganadera Regional del Sur*) and held various important public offices. He kept tight control over important public positions and used fear tactics, employing henchmen to support his interests (Moreno 2005). González Caballero had illegally rented the land that was part of the indigenous community of Pajapan and when he died the land remained in the hands of other *caciques* and ranchers who had been his close collaborators, such as Aurelio Fernandez

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[20] '*Caciques* are strong men who combine economic and political power…*caciquismo* involves a particular correlation of political and economic force, o where hegemonic rule is exercised through institutional control but also through personal, informal and illegal mechanisms: paramilitary force, corruption, nepotism, patronage' (Chevalier and Buckles 1995:111).

and later José Manuel Fernandez, who kept the land by illegally 'buying' it from the Pajapan authorities (interview with local informant).[21]

In the 1970s and '80s the predominance of power and property in the hands of cattle ranchers started to be rivalled by interests from the oil industry. Southern Veracruz became a focal point for development of the industry, so much so that by the early 1980s approximately 70% of basic petro-chemical output, 90% of crude oil and 80% of natural gas produced in the country came from the region (Chevalier and Buckles 1995). In 1980 the federal government launched an initiative for the creation of an industrial port on the banks of the Laguna del Ostión. The lagoon, located in a geographically strategic area in the Gulf of Mexico and on the Isthmus of Tehuantepec, is the shortest distance between the Pacific and the Atlantic oceans after the Panama Canal. Government authorities responsible for the mega project stated to the press at the time that the port terminals of Ostión (on the Atlantic Ocean) and Salina Cruz (on the Pacific) would in time become the largest on the continent (Correa and Cárdenas 1985). The Laguna del Ostión project called for the construction of 1,900 metres (approx 1.2 miles) of docks and a deep-water zone capable of handling boats of up to 100,000 metric tons. A large industrial park was to be built for basic and secondary petrochemical plants, agro-industries, mining and service industries (Chevalier and Buckles 1995).

The federal government expropriated almost a third of the communal land of the indigenous community of Pajapan, about 5,154 hectares (12,740 acres) of flat lowlands (Correa and Cárdenas 1985). The people of Pajapan were divided over this expropriation, but the majority of the population of landless workers and peasants approved the government proposal, since virtually all the land in question was already controlled by wealthy ranchers. Despite harsh conflicts, ranchers, peasants and opposition groups eventually allied against the federal state agencies to obtain the best possible conditions from the expropriation (Chevalier and Buckles 1995). However, in the end the project did not materialize. In 1982 Mexico was hit by an economic crisis brought on by the drastic drop in oil prices. The revenue from the oil boom, which had supported the Mexican government's excessive borrowing, tumbled. In December 1982 the new president installed austerity measures. The return of the expropriated lands to the community of Pajapan in October 1984 marked the beginning of the land disputes. Ranchers and peasants from Pajapan and landless peasants from neighbouring towns on the expropriated land wrestled to gain control of the land.

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[21] Before 1993 it was illegal to sell or rent land belonging to an indigenous community. Despite recent land reforms that enable private land titling and ownership, in Mexico, indigenous community members have mostly rejected the option (Plant and Hvalokof 2001).

The *Coordinadora Nacional de Pueblos Indígenas* (CNPI), a national umbrella organization for indigenous people, took legal action against the government's expropriation of the communal lands of Pajapan. After the cancellation of the port project, Genaro Dominguez, a CNPI leader, advised landless peasants in the neighbouring village of Minzapan to take advantage of the legal void left by the expropriation and the conflict among the various factions in the indigenous community of Pajapan. Thus, Pescador's history began:

> On December 31st 1985, 45 individuals arrived at midnight and expelled the ranch foreman from their houses next to the river. This was an astute strategy of the advisor from the CNPI because on the night of December 31st everyone was getting drunk and they were not prepared to confront the people who moved in. They managed to expel the ranch foreman and stayed on the land, but a month later on February 15th came the repression from the government of Agustín Acosta Laguna, governor of Veracruz. He had told the occupiers that he wanted dialogue, but they came to evict and repress...they came to hit, but because people were not sure of their intentions some of them hid in the mountains and when they saw that it was not about dialogue they got into a gun fight. The police captured 35 of the initial occupiers and sent them to the prison in Acayucan where they were beaten and tortured. (Interview with local informant, June 2006)

Genaro Dominguez negotiated with the authorities to get the 35 men out of prison. To protect themselves, the families that had occupied the land, which was called Leñador at the time, organized watches by day and night to oppose the repression from the armed guards of the ranchers and the flying columns of the government. Between 1986 and 1990 the families suffered great repression. The village was burned down twice and in 1988 peasants from Pajapan attempted an occupation, which ended with two people jailed and one person seriously wounded. As the struggle became public, with landless peasants organizing hunger strikes in Mexico City and Xalapa, the state capital, direct violence diminished and fear tactics became the main strategy used to deter them from staying on the land.[22]

Some families left, although sixteen families remained to struggle for the land. Those who stayed cultivated their first crops with the support of their neighbours in the Basic Ecclesial Communities (BECs), who sent food, medicines and clothes. Meanwhile, the CNPI leader pulled in landless families from other regions in Veracruz and Mexico to populate the new settlement. The Pescador community became a heterogeneous mix of *mestizos* and indigenous people including speakers of Nahuatl, Popoluca, Totonaco and Mixteco (SEMARNAT-PRODERS 1997).

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[22] Sources: local interviews and government document *Diágnostico y propuesta del plan de desarrollo comunitario de el Pescador, Municipio de Pajapan Veracruz 1997*. Universidad Autónoma Chapingo (UACH), Proyecto Sierra Santa Marta (PSSM), Instituto de Investigaciones Sociales (IIS-UNAM) SEMARNAT.

A strategy of the colonizers to secure the land was carrying out public works that would demonstrate the existence of a settled community. During the first year the leader of the CNPI negotiated with the federal government an endowment of mango, orange and lime trees for an orchard and obtained 20 tons of cement to build the community shop and sports court. Between 1990 and 1995 the pre-school, primary school, a storage facility and a communal house were constructed with government funds and community labour. All goods had to be carried by horse and donkey from Minzapa, but in 1990 the construction of the dirt road started and a few years later a bus service was set up.[23] The colonizers worked to get the land situation legally established, but were faced with the political and economic clout of the ranchers, who wanted the land back.

> The ranchers would say there was no one in this area. Meanwhile, the paperwork to get the land legalized was turned down over and over again because the ranchers were putting money in the pockets of the local president of the agrarian reform office. The papers kept on appearing negative and they wanted to move us to another area, but we said: How is it possible that a cow will have more right than us to be here? They'll only take us out of here dead. (Interview with local informant; June 2006)

The settlers of *Leñador*, now called El Pescador, achieved their objective to build public works through the organization of specific committees which distributed tasks. There was a committee for each project such as building the school, the communal shop, the maize mill and the latrines. Each committee presented its requirements to the community assembly and tasks (*faenas*) were agreed upon and distributed (SEMARNAT-PRODERS 1997). Another strategy to consolidate the tenure of the land was the establishment of projects related to natural resource conservation (interviews with local informants). One of the actions decided upon was to leave approximately 390 hectares (964 acres) of land untouched for natural regeneration of the forest. Between 1992 and 1997, Pescador participated in government reforestation programmes in which about 100,000 mahogany, oak and cedar trees were planted (SEMARNAT-PRODERS 1997). In 1994 the community became involved in reforesting areas of mangrove. They had to guard the mangrove forest from fires and looters, especially between the months of April and May when agricultural fires from neighbouring communities could burn down dozens of acres of mangrove trees. The community established 125 hectares (about 309 acres) of mangroves as a communal reserve area and in 1993 developed a set of rules (*Reglamento de Ecología de* Pescador), which regulated agricultural fires, established

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[23] The ranchers who had previously controlled the land arrived in the area by light aircraft. In fact, the main boulevard of the community was the landing strip and it was rumoured to have been used for illegal trafficking (interview with local informant) (see photograph 5.1 of the village boulevard).

criteria for the felling of mangrove trees and arranged for the protection of deer, blue crab and other flora and fauna found in the community (interviews with local informants). These provisions put the people of El Pescador in direct confrontation with people from neighbouring communities who would trespass on their land to cut or set fire to the mangrove trees to more easily capture the blue crab (*Cardisoma guanhumi*) and source timber for construction. The lack of certainty in their land tenure made the protection of the resources complicated and even illegitimate in the eyes of people from neighbouring villages.

Actors from local and regional NGOs and government officials with whom I spoke considered El Pescador community to be in the vanguard of the struggle for the conservation of natural resources. Their involvement in these activities began as a response to the strategic objective of establishing their presence and occupation of the land; today, ironically, some local people perceive that the conservation activities of the community have hindered the possibility of growing crops, since the areas set aside for conservation have created refuges for wild animals that destroy crops. The following section gives a more detailed view of the tenure and productive activities that are followed by households in the community.

5.2.2 Land tenure, communal work and livelihoods

In January 1995, ten years after their first occupation of the land, the Agrarian Tribunal resolved in favour of the community of Pescador in the land dispute with the ranchers. The execution of the judgement took another two years, but finally in 1998 the *ejido* was established and the land was divided into plots. Each head of family received 20 hectares (49.4 acres) of land divided into two plots, one of good land for agriculture and another one of low-lying, seasonally-flooded land (Villegas 1997). Fifty-four individuals were formally registered in the *ejido.* By September 2003 the community was registered under the Program for Certification of Rights to *Ejido* Lands, called PROCEDE (*Programa de Certificación de Derechos Ejidales y Titulación de Solares*), the government programme in charge of giving individual certificates of land property to *ejidos* that voluntarily subscribed to the programme (SEMARNAT-PRODERS 1997).[24]

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[24] As part of a program for the neoliberal modernization of the countryside, the Mexican government in 1993 under President Carlos Salinas de Gortari reformed agrarian law with the purpose of allowing and even promoting the privatization of *ejido* land, previously inalienable. The Program for Certification of Rights to Ejido Lands and Titling of Urban Patios (PROCEDE) was set in motion in 1993 with the promise of judicial certainty regarding the tenancy of land, regularize agrarian rights, resolve conflicts over limits and grant individual property certificates that enable the proof or transfer of those rights (Diego et al 1998).

The process of gaining land security changed many aspects of the community's organization, especially regarding communal work. Economic activities shifted from being collective to individual. At the beginning, Pescador had been a mix of communal land possession and individual production. The community as a whole owned a herd of cattle while some people also owned animals individually.[25] They had also organized communally around various productive and commercial projects, such as the cultivation of macadamia nuts, rice and papaya. Unfortunately none of these projects prospered. However the income from communal livestock activities paid the quotas for schools, road works and electricity, as well as payments to the CNPI leader to follow up the land tenure paperwork (SEMARNAT-PRODERS 1997).

According to some villagers, the possibility of cultivating commercial agricultural products disappeared when the land was separated and each family received 10 hectares (less than 25 acres) of highlands suitable for farming. The low prices paid for agricultural produce, problems of collective organization, lack of appropriate technical assistance eventually discouraged many from working communally. A local informant described the changes:

> Before, the traditional way of working was to work in community groups where everybody would sign up, but with time people started to drop out. Here people don't believe in group work anymore, surely they have told you. A lot of people have become individualists because many people worked in community groups before and didn't see results. But how do you recuperate this? It's very difficult and that is a limitation for any productive project. Work gets individualized. (Interview with local informant; March 2008)

However, not all communal work was lost. The community still organized *faenas* (communal tasks) to improve public services and protect communal resources (see photograph 5.2 of the place where heads of household meet and decide on communal tasks). They often helped each other to build their houses. While I was in the field I observed (and enjoyed) the seasonal harvest of blue crab. Groups were organized to supervise the areas next to the river day and night where the crabs nest. On January 2, the community celebrates its anniversary and all the families collaborate in the festivities with food, a *novillada* (a bullfight with young bulls) and a fandango.[26] In the household survey I conducted, community members expressed a mixed

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[25] In 1997 the community livestock consisted of 77 animals, with a further 90 animals owned individually. All the animals, including sheep, grazed in a total area of about 300 hectares (Document Proyecto de Sierra Santa Marta PSSM. Diagnóstico El Pescador).

[26] The *fandango* is a traditional celebration from the south of Veracruz where people gather to celebrate and socialize in community. People congregate around a platform to dance and sing songs of *son jarocho,* based on a three-chord pattern with mostly improvised lyrics. The *fandango* mixes Indo-American, Castilian-Spanish, Bantu-African and Arabic-Andalusia culture.

sense as to the value of communal work: some missed getting the work done communally, while others felt that working individually was preferable.

Today, families in Pescador live mostly on the proceeds of their livestock production with 60% of land use dedicated to extensive livestock production. The main activity men are involved with is tending and breeding their animals (mostly cows). The majority of men leave very early before the day gets too hot to go to the field. There they are involved in making fences, managing pasture lands, and assuring that the animals are healthy. Cows are milked both for family consumption and sale, everyday an intermediary comes to buy the milk which gets sold in the nearby towns. Many families also have a small *milpa* dedicated to cultivating maize, beans, and squash for family consumption, and all plots have a few fruit trees, mostly orange, grapefruit and mango. Seasonally other resources that are consumed and often sold in nearby towns and villages are the blue crab (*Cardiosoma guanhumi*) and the river shrimp. For a few weeks in the summer months, the entire family goes to the river banks to catch the crabs which leave their nests as the rivers overflow and females search for sandy areas to lay their eggs. Nets are placed during the rainy season along the two rivers to catch river shrimp. Although the community lies on the banks of the Lagoon, ironically, most families in Pescador do not know how to fish. The community was inhabited by families not originally from the coast who didn't have the knowledge or skills. Only a couple of families have a small boat (*panga*) and regularly go out fishing, but this is complementary work to livestock rearing which is the main economic activity. Many women in the community help their husbands in the field but most are involved in home activities, taking care of the children, fetching wood, cooking, cleaning and washing clothes. (The activities of women are described with more detail in Chapter 6).

 The majority of families in Pescador have access to government programmes and resources. In the survey of 25 households that I conducted, 9 men said they were in a government programme called 'double purpose livestock' production. This type of production is aimed at producing both meat and milk in tropical pastures by breeding cebú and European milking races of livestock, which requires low use of inputs and technology. Other households (15) are involved in a verbal credit scheme (*crédito a la palabra*) intended for low-income farmers with no more than 20 hectares (49.4 acres) of rainy season land under cultivation with the purpose of increasing their productive or human capital and otherwise not eligible for bank credits. Almost all community members in Pescador have income through the government subsidized programme called PROCAMPO, which is a direct money payment to support those

with a unit of land who grow eligible crops, such as maize, beans, wheat (among others) or with an ecological project endorsed by the ministry of environment. Other households in Pescador are involved in environmental projects, such as the breeding of deer and ecotourism.

Another source of income for families in El Pescador comes from a government support programme called 'Opportunities'. *Oportunidades* is an inter-institutional programme that involves the ministries of education, health, social development and the Institute of Social Security, as well as local and state governments. It is a direct money payment to women with the goal of strengthening their position in the family and the community and is subject to children attending school and families going to health clinics. In 2005, 47 out of the 51 households of the Pescador community received the monthly stipend (SEDESOL 2005).

The community's history of land struggle gave the people tangible experiences of mobilization and collective action which helped them to achieve important goals, not least their access to land and the establishment of basic services. Their collective experience and capacity for action determined the way people related to each other and to external agents. This situation created a community with recent experience in collective action and established ties to NGOs and government programs.

5.2.3 Socio-economic profile

The village of El Pescador, home of the Las Hamelias group, is located between the Sierra Santa Marta mountain chain and the industrial cities of Coatzacoalcos and Minatitlan. The village is surrounded by mountains, pastures and lush vegetation and lies on the banks of El Ostión (The Oyster) lagoon. The lagoon is surrounded by a mangrove of 5,172 hectares (12,780 acres) and lies just outside the limits of the Los Tuxtlas Biosphere Reserve (Paré 1997). The village is flanked by two rivers that flow into the lagoon and which overflow during the rainy season often leaving the community without communication for days or even weeks.

Pescador pertains to the municipality of Pajapan, which is categorized by government agencies as highly marginalized (CONAPO 2005) (see table 5.1: Socio-economic indicators for Pescador community). Although it lies close to two important industrial cities in the region, the village is located in a remote area that has only recently (in the last 10-15 years) been connected to the main motorway by dirt roads. The village lies in an area that had been used as pasture land for many years and had been scarcely developed in any other way. Taking into consideration variables, such as education, infrastructure and access to services in homes, CONAPO has

defined the poverty index for the community as high; however, beyond the statistics the following description of Pescador aims to give a wider picture of the community.

Table 5.1 Socio-economic indicators for Pescador community

Locality: Pescador	
Total Population:	206
Men	110
Women	96
Population of 5 years or more that speaks an indigenous language	29
% population of 15 years or more illiterate	14.84%
% population of 15 years or more who have not completed primary education	53.54%
% homes without drainage or toilet	5.88%
% homes without electricity	1.96%
% homes without indoor plumbing	100%
% homes with cramped quarters	54.9%
% homes with dirt floor	29.41%
% without home refrigeration	66.67%
Code of marginality	High

Source: (CONAPO 2005)

Pescador is a small rural community of 51 households and 206 inhabitants.   The urbanized area is divided in lots of 50 square meters allocated to each household and is formed by blocks measuring 100 x 100 meters.   The divisions between plots are bushes and diverse vegetation, so that chickens and dogs roam freely as these small farm animals are not confined and homes are not separated by walls or fences. The walls of the majority of houses in the community are made with cement blocks and the ceilings are made of corrugated asbestos planks. Most homes have cement floors, but as the CONAPO survey above shows, 30% of households still have dirt floors and some are still built with mud and palm roofs.

Almost all households have electricity and there is public lighting in the main street. The community has no drainage system, but in 1996 the ministry of environment supported a project for the construction of dry latrines to curb the contamination of the underground

water affecting the lagoon, and now all homes have some type of latrine or cesspool. Additionally, all households have a well to tend to their water needs. The women speak of a time, less than ten years ago, when they had to go everyday to the river to wash clothes and fetch water. Most households cook over wooden stoves; only three or four families have gas stoves, and these have not completely substituted the wooden stove as wood-cooked tortillas have a superior taste. Other household appliances, such as refrigerators or washing machines can be found in some homes. According to the 2005 census, of the 51 households, 17 households did not have any appliance, while 33 had a television, 17 a refrigerator and 13 households had a washing machine (INEGI 2005).

The community infrastructure has grown significantly since its establishment, due to help from government programmes and communal labour. Pescador has two shops, a government shop (*Conasupo*) and another one administered by the community; both have telephones lines where individual calls can be made with a charge and loudspeakers announce when someone receives a call. In addition to the two shops, the people of Pescador have built a storage house, a communal house for meetings and events, a chapel and two schools, one for primary and one for preschool. According to a document of the community made by the ministry of environment, there are two teachers who attend 41 children from first to sixth grade, and one person who attends 14 children in preschool. There is no health clinic and the closest one is 5 km (3.1 miles) away in a neighbouring community. This rural clinic mainly serves preventive medicine functions and will diagnose serious conditions and refer patients to a hospital in the town of Jaltipan, 50 km (1 ½ to two hours bus ride) from El Pescador. The next section expands on the wider regional institutional context, including the activities of NGOs in both the promotion of environmentally-sustainable economic initiatives and the 'recuperation' of medicinal plant use.

5.3 Regional context: Conservation and community development

The 1990s was a decade defined by the awakening to environmental concerns worldwide and epitomized by the 1993 Earth Summit. Political will in favour of conservation efforts started to take precedence in Mexico. The region of Los Tuxtlas in the state of Veracruz was one focus for these efforts. The area contains the last remnants of neo-tropical forest in Mexico and is a highly populated area with a recent history of severe environmental degradation. The following section describes the process that led to the establishment of a Biosphere Reserve and the opposing positions held at the time: those who promoted people-centred

conservation strategies and those who promoted a hands-off conservation policy. The section explains the regional and environmental context that shaped and influenced the NGO actors who set up conservation and development projects in Pescador and the civil organisations which were directly related to the formation of the Las Hamelias micro-enterprise group.

5.3.1 Los Tuxtlas Biosphere Reserve

The Los Tuxtlas Biosphere Reserve (TBR) is an important enclave of tropical forest conservation with approximately 50,000 hectares (about 193 square miles) of forest characterised by a wide altitudinal range, with both volcano peaks and coastal mangroves part of the reserve. The position of the mountain range in relation to the humid winds which come from the Gulf of Mexico produces climatic conditions that contribute to the variety of vegetation types and the existence of many endemic species (Paré 1997). [27] The reserve and its surroundings form a culturally rich area that has been subject to numerous waves of migration and settlement since early colonial times. The population is made up of *mestizos* (mixed white and indigenous people), as well as significant numbers of two major indigenous groups: the Nahuas and Zoque Popolucas. In various municipalities of the region more than 50% of the population speak an indigenous language. In the municipality of Pajapan, where our case study is situated, 67% of the population speak an indigenous language (CONAPO 2005). The mixture of Indian, Spanish and African roots, together with rich natural resources, makes the area distinctive and renowned.

The region has suffered severe environmental harm through the loss of the original forest cover as a consequence of public policies applied from the 1950s to the 1980s.[28] Governmental policies supported the expansion of extensive livestock production, promoted the colonization of lands as an escape valve for the demands of land in other parts of Veracruz and Mexico and passed laws to cut down forests considered idle (Chevalier and Buckles 1995; Paré 1997). In the 1980s, conservation efforts began to take form, but contradictory policies at federal and state levels resulted in conservation efforts which did not prosper due to the continuation of government credit for extensive livestock production (Paré and Fuentes 2007).

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[27] This region is characterized by its notable diversity of plant and animal life and is the northern geographic limit of the moist neo-tropical forest in North America. Inventories of flora have documented 2695 plant and 561 bird species, some of which are endemic due to their ecological isolation and environmental characteristics of the region (CONANP 2004).

[28] It has been estimated that more than half of the forest (51,770 ha) was cut down between 1967 and 1990 (Paré, Velázquez et al. 1997).

In the 1990s during the presidency of Ernesto Zedillo, Los Tuxtlas, as TBR was known, became one of the priority conservation areas for the federal government's Programme for Regional Sustainable Development (PRODERS) (*Programa de Desarrollo Regional Sustentable*) (von Bertrab 2002). Many of Mexico's prominent biologists at the Ministry of the Environment (SEMARNAT) had carried out research at the National University's Los Tuxtlas Tropical Biology Station and had a particular understanding of the area's ecological importance.[29] Academic institutions and NGOs began to promote the conservation of the Tuxtlas forest through activities uniting conservation, research and sustainable development. In 1989 the University of Veracruz (UV, *Universidad Veracruzana*) bought 220 hectares (544 acres) of land and established another centre for tropical investigation, the Tropical Flora and Fauna Park (*Parque de la Flora y la Fauna Silvestre Tropical*). Two years later a civil society organization, The Ecological Rescue Group of Veracruz (*Grupo Veracruzano de Rescate Ecológico)* acquired 300 hectares (741 acres) of jungle. Other NGOs, such as, the Project of the Santa Marta Mountain Chain *Proyecto Sierra Santa Marta* (PSSM) and the Tropical Forest Action Programme (*Programa de Acción Forestal Tropical)* began promoting sustainable development projects in communities of the region (Paré and Fuentes 2007). The federal government, through PRODERS, promoted a participatory community diagnosis of natural resources and support of community development plans in order to create a framework through which communities could reflect on the state of their natural resources and propose changes in productive activities (Paré and Fuentes 2007).

International organizations, such as the Rockefeller Foundation and the Netherlands Organisation for International Development Co-operation (NOVIB), became involved in promoting agro-ecological projects. At the same time collaboration between academic and civil society organizations with finance from the Global Environment Fund (GEF) evaluated the cost of biodiversity conservation and created a methodology to achieve participation in and appropriation of conservation efforts by the local population.[30] The investigation emphasized the importance of the concept of the establishment of the reserve as a process constructed with the people of the communities which included the needs and expectations of the population and could be compatible with conservation objectives (Pare and Fuentes 2007). While many of the NGOs were concerned with achieving this connection between

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[29] More than 1,200 students from undergraduate to doctoral level have done their thesis research at the UNAM Tuxtlas tropical station since its creation in 1967 (Ruiz Cedillo, J. and L. Duran (n/a).
[30] Those involved were the National Autonomous University of Mexico (UNAM), the *Proyecto de Sierra de Santa Marta* (PSSM), International Maize and Wheat Improvement Centre (CIMMYT) and the University of Carleton, Canada.

conservation and people's needs, other groups such as academics from the Institute of Ecology of Veracruz and high profile officials in the Ministry of Environment argued for the creation of a traditional out-of-bounds reserve (von Bertrab 2002).

The TBR was created by presidential decree on November 23rd 1998, spearheaded by the Veracruz government and the State Offices of Agriculture (SEDAP) just a few weeks before the end of the governor's term of office. The initiative was not devoid of individual political interest and manoeuvres, which according to von Bertrab (2002: 47) resulted in 'an unjust, unilateral, haphazard and arbitrary reserve design process, where the design was made behind closed doors and with no consultation of local communities'.[31] Previous work by national and international institutions, local NGOs and even government agencies linked to a participatory analysis of the resources and community development plans, (including the voluntary establishment of areas of community conservation) were ignored. The decree expropriated land resulting in the cancellation of the land rights of about 250 families while many others' rights to access and use of the land were affected (Paré and Fuentes 2007). Proposals by the NGOs who had done the field work and were familiar with the situation and the area were not taken into account in the final plotting of the reserve's boundaries. The process of social construction and consensus in the conservation of resources in the region was greatly undermined (interview with Luisa Paré/ July 2006).

The community of El Pescador included a mangrove forest and was situated within contested areas for the limits of the reserve. The community had made a diagnosis of its resources and agreed on action for the custody of their natural resources in a process aided by several NGOs. The community developed internal norms to protect the deer and the blue crab, contracted to reforest 200 hectares (494 acres) of mangrove and established an area of 125 hectares (309 acres) for communal conservation. However, in the final design of the reserve it was left in the buffer zone and its own conservation efforts never received government recognition (Paré and Fuentes 2007).

Although the creation and design of the reserve were autocratic, strategic objectives were put in place to help resolve the agrarian conflict that followed the expropriation of land for the reserve. The management of financial resources for sustainable community projects concentrated on productive reconversion. The director of the TBR, José Antonio González

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[31] Von Bertrab (2002: 47) describes how the minister of SEDAP was 'keen on the notion of expropriation as he was hoping to become sub-secretary in the national Ministry of the Environment (SEMARNAT) and expropriating was a gesture towards the SEMARNAT minister who was in favour of the action'.

Azuara, stated that the main objective of the reserve was to conserve the natural heritage of the region, a complicated process if the occupation of the territory by indigenous groups, farmers and cattle ranchers was not understood. A fundamental premise underlying the actions of the TBR was that conservation needed to be integrated into local development. Under this lens, the reserve's objectives were to promote initiatives that mitigated the extreme poverty of the communities of the region, mainly through alternative productive activities (interview González Azuara, March 2006).

In its first years the reserve had limited resources – barely enough for a small operating team. At present it manages resources from various programmes linked to the Ministry of Environment and agencies at federal and state level, as well as financial support from international development and conservation agencies, significantly the Global Environment Facility (GEF-MIE).[32]   Most of these resources for direct investment in the region's communities are managed not by reserve personnel but by diverse civil society organizations, technical service offices and professionals working individually (Paré and Fuentes 2007).[33] Paré and Fuentes (2007) explain that this does not mean that those in influential positions in the reserve office, international organizations or federal agencies do not influence how the investment is directed. These actors openly encourage the NGOs to work towards specific goals such as ecotourism, soil conservation, forest plantations, handcrafts, aquaculture and intensification of livestock production.

The director of the reserve explained that projects to recover knowledge about medicinal plant use were an important part of rescuing peoples' cultural heritage:

> We find that it would be more viable to protect and conserve the forest if we rescued the management tradition of this ecosystem that has been used by man for many centuries. The forest has been managed one way or another since Olmec times – even in the highest hills and in the volcanoes – even the steepest areas have been used…there has always been management of the vegetation. (Interview, March 2006)[34]

The TBR focus on community management of biodiversity is also related to agro-biodiversity in family orchards and home gardens. As part of its strategy to include people in the conservation

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[32] MIE stands for Integrated Management of Resources, and was a lump financial resource of 15 million dollars from the GEF to three priority conservation regions in México: Los Tuxtlas, Veracruz; La Montaña, Guerrero, and La Chinantla, Oaxaca.

[33] The director of the reserve chose to give space to civil society actors that already had a direct relationship with the communities rather than relying on the traditional corporate/party groups.

[34] The *Olmec* were an ancient pre-Columbian people living in the tropical lowlands of south-central Mexico, in what are the modern-day states of Veracruz and Tabasco, from around 1400 BC to about 400 AC. They were the first Mesoamerican civilization and laid many of the foundations for the civilizations that followed.

equation, the reserve supports an integrated management of the home garden, where traditional environmental knowledge, such as that of medicinal plant use, is recovered and valued. This occurs more frequently in predominantly *mestizo* communities where the maize plot (*milpa*) and the forest have been replaced by pasture. The director of the reserve explained that they contract NGOs to work on projects centred on the integral management of the home garden, an aspect he considers important as it involves revaluing people's culture and ancestral knowledge. As will be seen in Chapter 8, Las Hamelias micro-enterprise fits in with this strategy where agro-biodiversity and economic projects underpin the sustainable development strategy of the region.

5.3.2 Civil society organizations

A year after the declaration of the Reserve in 1999, seven civil society organizations united to create a Centre for *Campesino* Capacity Building (CCC) in the Sierra de Santa Marta, with the idea of strengthening farmers' technical capacities and developing human resources to foster environmentally-sustainable productive projects. The training and capacity building efforts were not conceptualized within the vertical approach of rural extension services but were firmly rooted in new development paradigms that highlighted the importance of local participation and knowledge. Their approach was based on the idea that it is not feasible to protect natural resources without taking into consideration the needs and opinions of local people, who often possess crucial knowledge of natural resource management. The project aimed to bring together 150 education promoters and 1500 farmers to create a model that married productive objectives based on commercial diversification with the recovery of local knowledge and culture.

Some of the NGOs that participated in this capacity-building project later formed the Coalition of Organizations for Sustainable Development of the South of Veracruz (CODESUVER). The coalition was created as a network of civil society and producer organizations intended to exert greater influence on public opinion and policy while driving the CCC to further strengthen local technical and organizational capabilities. Its objectives were mostly geared at fostering autonomous productive projects while promoting agro-ecological principles and techniques.[35]

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[35] Mok-Cinti, Fomento Cultural y Educativo, Movimiento Agrario Indígena Mapatísta, Sendas A.C., Desarrollo Comunitario de los Tuxtlas, Comité de Defensa Popular de Zaragoza and INIFAP. Information about the CCC is taken from a document on the mission, objectives and activities of the coalition or network of organizations *and from*

The most influential of these organizations in relation to the case study group was the environmental education NGO 'Pathways and Encounters for Sustainable Development' (SENDAS), whose objective is 'to promote the improvement of the living conditions of the population in Los Tuxtlas as well as the recovery, preservation and enrichment of their culture; the aim is to foster sustainable development with justice and dignity.'[36] The organization, led by a team of nine professionals from varied disciplines including biology, anthropology and community psychology organised capacity-building workshops for the communities, *ejidos* and other groups. Since 2000 SENDAS has worked on environmental education projects with a regional focus on the natural and cultural contexts in association with the office of the TBR, the Ministry of Education (SEP) and the National Institute for Adult Education (INEA). The SENDAS team has extended its activities from the micro to the macro level, involving itself directly in education for communities while at the same time working with government institutions to influence education policy so that regional environmental dimensions are included in the curricula of schools and government programs.[37]

In 2001 SENDAS was given a grant by the Institute of Social Development (INDESOL) to work on a regional development strategy that would kick off different productive projects in communities of the area. A local organization grouping all these projects together was created with the name Tssoka-Teyo de la Sierra.[38] From the start its structure was based on *campesino* management and participation. The intention was to allow the local population to be involved in its own development decisions and plans. The task for external advisors was to encourage a process of deliberation and analysis and help achieve the development objectives through technical advice and capacity building by the various groups. The actors working in the SENDAS teams as well as the technical team from Tssoka Teyo de la Sierra forged an important relationship with the group of women from Las Hamelias and were influential in building opportunities, resources and knowledge that the micro-enterprise could access. Chapter 7 focuses on the nature and dynamics of these relationships and Chapter 8 considers the knowledge interface between these development actors and the women involved in the micro-enterprise.

Pare (2000). See www.imacmexico.org/file_download.php?location=S_U&filename=10261845820codesurver-imac-historia_red.doc

[36] Author's translation of objectives as stated in the webpage of SENDAS: http://sendas99.wordpress.com/

[37] Construyendo una Estrategia de Educación Ambiental para Los Tuxtlas: Helio García Campos y Demián Ortiz Maciel (Sendas, A.C.) http://www.dematac.org/sendas.html

[38] *'Tssoka'* in the Popoluca dialect means 'men/women of thunder' and *'Teyoo'* in Nahuatl also means thunder; *de la Sierra* refers to the mountains.

Another influence that illustrates the wider context of the genesis of the Las Hamelias micro-enterprise and its incorporation of medicinal knowledge used for the manufacture of their products was the nationwide process of recuperation and revaluation of traditional herbal knowledge by certain sectors of Mexican society during the 1970s and 1980s. The leader of the Las Hamelias group became involved in this process through her participation in a Basic Ecclesial Community (BEC) and her training as a community health promoter. Chapter 8 analyses the involvement of church and civil society actors in this process in the state of Veracruz, the ideologies that gave strength to their objectives as well as the networks that were formed and the type of knowledge that circulated. The following section introduces some of the actors involved in the process of medicinal plant knowledge recovery and the influences and ideas that they drew upon.

5.3.3 Health promotion and the Basic Ecclesial Communities

The Basic Ecclesial Communities (BECs) were groups of Catholic worshippers guided by a commitment to social justice who had made a pledge to improve social conditions in their communities. Their vision came from concepts about society, justice and the role of the Church that evolved from the Liberation Theology Movement, a movement which influenced an important segment of the Catholic Church. The movement had at its core the mission to bring justice to the poor and oppressed, advocate for the 'church of the poor' and promote the idea that human beings build the kingdom of God here and now on earth and need not await the reward for their suffering in heaven. Liberation theologians stated that the critique of the social order should be analyzed by the poor themselves and that social change must be carried out by laypeople, especially the poor, conscious of their social reality and committed to principles of justice and solidarity (Gooren 2002).[39]

The health group in the town of Chinameca, Veracruz, in which *doña* Flor, leader of Las Hamelias, participated for 12 years was made up of individuals who integrated a Basic Ecclesial Community (BEC) and had been trained as volunteer health promoters. *Doña* Flor explained

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[39] Basic Ecclesial Communities became widespread In Latin America during the 1970s and 1980s: in 1978 an estimated 150,000-200,000 were active on the continent. Their origins were traced to the second and third General Latin American Bishops Conferences, which took place in Medellin, Colombia, in 1968 and in Puebla, Mexico, in 1969. The documents that resulted from these conferences present the BECs as an important pastoral option and characterize them as 'the most basic expression of the Church and the gathering of the faithful at the grassroots level' Marins (1989) and Marins (2002)

how the health group in Chinameca sprung up as part of the formation process of a Basic Ecclesial Community due to the efforts of a priest.

L. How did the health group come about? Where did the initiative come from?

S. That came from the Basic Ecclesial Communities. There was a priest (Father Modesto) who was very active, very hard working and he had some friends that liked this thing of helping people, they came from the town of San Andrés. With them a regional network was formed, we were the ones from 'La Sierra', others were from 'Los Tuxtlas' and others from 'Los Rios'. We would meet three times a year, the first one for planning, one at mid-year to see how we were progressing and at the end of the year to make an evaluation

In order to organize and strengthen these BECs, Father Modesto called upon individuals involved in popular education and community organizations, such as Jesus Morales and his wife Guadalupe Abdó, who took charge of the capacity building that Father Modesto supported. I interviewed both. Jesus described the civil association which they created and which was involved with the BECs.

This work started around the end of the 1970s. We were accompanying a project that a priest ran with the people of the indigenous and farming communities of the area around Chinameca [the Sierra Santa Martha, Otepan, Zaragoza, etc]. [Father Modesto] had work in all that area and he invited us to help him organize people in what started to be the Basic Ecclesial Communities. So we started to work with an assembly of representatives of communities where the needs and problems of each community were addressed, and the idea was to organize action with respect to those problems. Easily around 50 representatives of communities were involved, and among the range of problems that were discussed, from passenger buses to municipal authorities, the problem of health was raised (Interview with Jesus, August 2006).

Guadalupe and Jesus became involved in an education strategy which had the objective of forming health promoters specialized in health prevention, nutrition and first aid. Their civil association was called the Centre for Popular Promotion (CPP) (*Centro de Promoción Popular*) which later became the Regional Centre for Education and Organization (CREO)(*Centro Regional de Educación y Organización*). The aim was that the same people who were already organized as a Basic Ecclesial Community (BEC) would choose someone from their group to train as a health promoter in order to give that service to the rest of the community. According to Guadalupe and Jesus, a diverse group of people arrived at the workshops, from traditional indigenous doctors to people who were totally new to the topic of health. The couple created a regional network of all the people from the BECs working on health related

issues. They gathered together to share experiences and knowledge, learn about health problems and cures, analyze the social causes of illness and read the Bible together.

Discussions on health became a springboard from which other issues, such as the lack of sanitary infrastructure, poor housing or exploitive working conditions, could be discussed and tackled. One of the themes that ran through the workshops given by CCP and CREO involved understanding illness and its link to poverty. Jesus Morales explained:

> In the beginning we started to train health promoters to see only the problems of sickness and cure. For example, diarrhoea needs to be cured this and that way and by looking into the main principle of prevention that is managed in allopathic medicine. But then we started to give the health work another focus, searching for the causes, the social causes that were determining certain health problems. In fact, during the workshops we started to change and started talking about gastrointestinal problems as the cause of a sickness that is linked with contaminated water, and this is likewise linked to the lack of sanitary services. (Interview with Jesus Morales, August 2006)

Much of the work of CREO aimed to disseminate information on common health problems, their link to social context and conditions as well as basic ways of dealing with them. They often ended with a reflection of faith and the celebration of a liturgy, which linked the material with the spiritual aspects of the Basic Ecclesial Communities. Thus the Basic Ecclesial Communities (BECs) were groups committed to creating consciousness of and improvement of the social conditions of the community at large and had two main strategies a) interpreting the gospel in terms of contemporary problems; and b) clerical action to organize communities for social change; both strategies that CREO was immersed in through their work on health promotion.

In addition to the influence of Liberation Theology, CREO was involved in the Movement of Popular Health (MPS) where other ideological influences converged. The MPS emerged in Mexico in 1981 as a result of the First National Health Meeting. This forum had the objective of sharing experiences among people who worked in community health projects and became an annual event attended by allopathic doctors and people involved in social work, members of the BECs, and in general, people who worked on health issues with rural and indigenous communities or with the urban poor. Hernán García was an allopathic doctor involved in rural community health projects in the states of Hidalgo and Veracruz who was involved in the MPS from the start. He explains the source of inspiration for many of the participants:

In the Popular Health Movement there was the participation of many BECs so there was also an important amount of religious motivation. For many, including myself, we received inspiration from the gospel and the life of Jesus. So it's an element that inspired us a lot, and although there were also atheists in the movement, many of us shared that inspiration. It was at the beginning of the 80s when we started to get together and although we had different visions, (some were more religious, others more political, some more inclined to the left or to the right), we were all concerned with the people's health and wanted to have the opportunity of having a say in this, so we created the Popular Health Movement...It was a plural movement. We didn't want to impose an ideology but worked towards our common goal of health. However, various individuals influenced our ideas and methodology. One was Ivan Illich, with the issue of people appropriating their health. The second was Pablo Freire with his participatory education methods and the third was David Werner (Hernán García, January 2008)

For many people involved in the movement, Ivan Illich and Paulo Freire's writings became the cornerstone that justified change through participatory and grassroots efforts. Their intellectual strength established the theoretical foundations that guided diverse community actions. For example, Paulo Freire's theory of popular education emphasized the need to expand people's consciousness and learn to perceive social, political and economic contradictions, while taking action against the oppressive elements of reality (Freire 1970). He also stressed that teaching implied respect for the knowledge of those being taught. For those working with health issues, the first step to impact people's consciousness was to analyze the social causes of illness: that is, to understand how living and working conditions determine the health of a population. This approach to understanding health emphasized how health and illness are not only a technical problem that can be resolved by more investments in hospitals or the training of doctors; the health problem is essentially political in that a positive impact on people's health should be preceded by improvements to the living and working conditions of the masses. In academic circles the current of thought named 'social medicine' and based on a Marxist analysis of health issues was popular. The focus of social medicine was to study social inequalities and how these determine health/illness processes in populations (Castro 2001).

This approach to health analyzed the reasons the official health system did not offer solutions but rather became an element that sickened and controlled people. The criticism, some of which was based on Ivan Illich' work, was that the health model focused exceedingly on organs, microbes, parasites and viruses, transforming illness to a merely biological problem that can only be solved by a medical practice linked to the interests of the great pharmaceutical companies. The model not only oppressed those with less economic resources, it discredited all other health systems while taking away people's own ability to

decide how to cure and confront illness. Ivan Illich's book of 1976, *Medical Nemesis: The Expropriation of Health,* argued that the medical establishment had become a major threat to the health conditions of people and used the concept of *iatrogenesis* (*iatros*, physician and *genesis,* origin) to make a criticism of the modern/scientific health system. Illich pointed out that there is 'a crisis in confidence in modern medicine', but that this crisis could become an opportunity to 'allow the layman effectively to reclaim control over his medical perception, classification and decision-making' (Illich 1976: 3), a control which society had transferred to physicians and gave them the exclusive right to determine what constitutes sickness, who is or might become sick and what medical processes to administer.

Illich lived for many years in Mexico and was familiar with the way that the medical system had taken over the capacity of people to deal with their health and the confidence of people in their own capabilities and knowledge.

> Only ten years ago, when drugs were relatively scarce in Mexico, people were poor, and most sick persons were attended by grandmother or the herbalist, pharmaceuticals came packaged with a descriptive leaflet. Today drugs are more plentiful, more powerful and more dangerous; they are sold by television and radio; people who have attended school feel ashamed of their lingering trust in the Aztec curer; and the leaflet has been replaced by one standard note which says 'on prescription'. (Illich [1974] 2002; 64-65)

The medical system in Mexico, Illich argued, claimed authority over how people could deal with their health needs. Popular and indigenous medical knowledge became illegitimate and doctors became the only people capable of offering a solution. The system 'emptied health and sickness of cultural meaning, taking away the ability of an individual to, from his own culture, religion, and personal values, deal with pain, sickness or death' (ibid: 67). The Popular Health Movement advocated that people needed to become the principle agents of their own health. It was important to disseminate knowledge not only of allopathic medicine but also of other health systems that could contribute to curing and preventing illness. Thus medicinal plants were found to be powerful and accessible tools for achieving this goal.

The description of the actors and ideological currents constitute the framework for understanding the institutional and social context that underpinned the creation of the Las Hamelias micro-enterprise. The account of the creation of the Los Tuxtlas Biosphere Reserve aids in understanding the regional environmental context of Pescador community and the significance of its location in the buffer zone of TBR; the aims and objectives of the actors and organizations gives insight as to the background of those who promoted and financed the

creation of the micro-enterprise; and the report on the BECs sketches the ideas of social justice, education and health that influenced and inspired the leader of Las Hamelias and the civil society actors that promoted the recuperation of medicinal plant use in Veracruz during the 1980's. The following section will introduce our case study group by giving an overview of the history of Las Hamelias.

5.4 History of Las Hamelias micro-enterprise

Before becoming the Las Hamelias micro-enterprise, a group of women from Pescador got together to prepare simple herbal remedies for the benefit of their families and the people in the community. The initiative of the group was based on the vision of one of the women, *doña* Flor, who had previous experience as a health promoter and had learned to treat many common ailments cheaply and efficiently using medicinal plants and herbal preparations. *Doña* Flor became concerned when she noted that in Pescador there was an excessive reliance on the clinic and costly pharmaceuticals to treat simple and common ailments, so she decided to invite other women to form a health group in the village where they would get together to learn about the medicinal uses of local plants and prepare simple herbal preparations for some of the basic ailments present among the population in the village.

Doña Flor's idea initially had nothing to do with creating an alternative income for the women; on the contrary, she insisted that her intention was to form a health group similar to the one she had participated in for 12 years in Chinameca. This health group was based on voluntary and community work and had originated as a Basic Ecclesial Community (BECs). *Doña* Flor told me she initially summoned twenty women from Pescador whom she thought would be interested in participating in a village health group, but found that because the initiative required a contribution of time and money, she was able to gather only nine women enthusiastic with the idea; among them, two family members: her daughter in law, Jenni and her sister-in-law, Blanca. Two close neighbours also joined, Lupe and Martina, as well as her friend Charo to whom she originally proposed the idea. The other women from the community who joined were Josefina, Viviana and Jacinta and later on Charo's sister, Sonia.

According to the women's accounts of the beginnings of the group, the 10 women who finally integrated the group started working in 1999 making medicinal soaps with local plants such as the 'valletilla' (*Hamelia patens*) and the 'maguey morado' (*Rhoeo discolour*), both of which are used to treat wounds and various types of skin infections. They also elaborated a cough syrup

and another one to treat gastritis and plant tinctures to treat various ailments such as diahorrea which they elaborated with the leaves of the guava tree.

Doña Flor knew how to make the tinctures, soaps and cough syrup because of her previous experience in the BEC health group. The women would elaborate these products about once every month and would rotate meeting at each of the women's homes. These activities went on for about a year. The group soon went through a significant transformation when individuals from the coalition of NGOs working in the region with specific development projects in Pescador saw the economic potential of the group and encouraged them to consider the option of commercializing their products. The transformation of the group from a voluntary community based activity to a micro-enterprise evolved as they began receiving external financing and the advice of consultants from a number of development organizations.

In 2001, the eight women who remained in the group (Flor, Jenni, Josefina, Lupe, Sonia, Blanca, Charo and Viviana) began to receive regular support from Cristina Guerrero, an agronomist who helped the group with the product development phase; to choose the name and logo and to make their promotional material. She collaborated with the local development organisation, Tssoka Teyoo de la Sierra (TTS) to help the group access financial and capacity building opportunities. The women remember that Cristina went to Pescador for over a year about two times a week and they would all get busy making teas and soaps with medicinal plants. They also began attending capacity building workshops and selling their products at fairs and events of larger neighbouring towns.

Cristina recalled that the group would prepare the herbal products based on the knowledge and contacts that *doña* Flor had previously due to her work as a health promoter:

> We started to make the products with the medicinal plants that she knew and I do remember clearly that we used a lot of the local knowledge and experience that already existed in the region, for example, a health promoter from the village of Zaragoza, came to give us a talk and we did a botanic walk, and he had a very precise method of how to go about the botanic walk, how to collect the plants, press them and classify them to understand which parts are used and what they are used for...it was very interesting. His name was Genaro Santos. Then we got a lot of help from the health group from Chinameca. (Cristina)

> 'Before we had received the visit from a colleague from Zaragoza who was a health promoter from the region of 'Los Rios', then from the village of Ursulo Galván came a health promoter from the region of 'La Sierra'; and that way always one goes looking for the contacts that one had before and it is people with years of experience that helped us a lot (Flor)

With the collaboration of NGOs, the women took various workshops with people from local NGO's. They recalled that among them, the ones that they had found most helpful were the those given by Alejandro Negrete of the NGO SENDAS, Dr. Marcela Carranza, a collaborator of a ecological group called 'The guardians of the earth' (*Los Guardianes de la Tierra*), and Veronica Munier, an advisor of Tssoka Teyoo de la Sierra (TTS) NGO, all of whom they contacted through a Luisa Paré, an academic founder of the SENDAS and TTS NGOs.

> This doctor Marcela was very good and she did a botanical walk here in Pescador and we would be walking and she would see a plant and give us the common name and the scientific name and what it was for. We didn't walk even three steps when she would tell us see another one that worked for this and that, and I was surprised to see that there were so many plants with so many uses that I didn't now, she also showed us how to make tinctures (Jenni)

Alejandro Negrete went to Pescador to give workshops and showed the women how to make a number of plant-based products, both medicinal and cosmetic and later on taught them how to give therapeutic massages and the traditional *temazcal* bath. They trusted him and liked how he taught them. The group also took workshops on self-esteem, gender, and environmental education issues with Veronica. Josefina recalls that she was greatly moved by those talks about gender and self-esteem. The following table is a list of some of the workshops, talks and capacity building experiences the women received from 1999 until 2006.

Table 5.2 Las Hamelias capacity building experiences: 1999-2006

THEME	ORGANIZATION OR PERSON RESPONSIBLE	YEAR
Medicinal plant identification and production of medicinal products	Dr. Marcela Carranza, Los Guardianes de la Tierra	1999
Botanical walks with health promoters	Genaro Santos Zaragoza, Veracruz	1999
Elaboration of cough syrup	Tomasa Pareli and other women from the health group in Chinameca, Veracruz	2000
Elaboration of new medicinal plant products	Alejandro Negrete and Concepción Espinosa SENDAS	2002
Interchange of experiences with women's cosmetic micro-enterprise in Mazunte, Oaxaca	Bioplaneta	2002
First Aid	Organización Regional de Pueblos Indígenas Nahuas y Nuntajexji del Sur de Veracruz	2002
Elaboration of natural soaps	Ma. Antonia Oviedo Mendilula y Alfonso Aconcedo García, SENDAS	2003
Gender issues	University of Veracruz, faculty of psychology	2003
Environmental education for participants of projects on sustainable local development	Tsooka-Teyo	2002
Gender issues and leadership	Regional Coordinator of Women from the	2003

	South of Veracurz	
Savings	Martín Zuvire Financiamiento Local y Dearrollo, A.C.	2003
Sharing of experiences	Women from the health group of Minatitlán	2004
Massages	Alejandro Negrete SENDAS	2004
Massage and *temazcal*	Alejandro Negrete SENDAS	2005

The commercial strategy that was initially encouraged for the Las Hamelias micro-enterprise by NGO consultants was the reception of orders from steady clients through the Tssoka-Teyoo office in the town of Chinameca and then the dispatch of the boxes with the products through a courier service. However the group did most of their selling by setting up their stand in the local town fairs, or in various cultural events organized by government authorities, NGOs or universities. In 2003 an important breakthrough in their commercial strategy occurred when they were granted a space outside the public hospital in the town of Jaltipan to set up a stall and sell their products. This happened once a month on Thursdays and provided them with a stable place where to sell their products and for people to get to know them. However expanding the markets for their products was, according to the women, one of most complicated aspects of the micro-enterprise efforts. It required travelling, getting information about various events and town fairs where they would be allowed to sell their products and this didn't occur often enough. In order to aid the commercializing strategy, the women received help from Susana Cruz, a biologist collaborating with the SENDAS, who was given the task of trying to find markets for Las Hamelias products that enabled less travel and more stable transactions. She researched the possibility of placing their products in established shops and with bigger commercial chains. She soon realized that this strategy presented complications due to the volumes most commercial chains demanded as well as legal and sanitary requirements. This complicated and costly process was left unfinished. (Chapter 8 will delve in greater detail the issues of product registration and sanitary certification)

In addition to the role played by external consultants accompanying the Las Hamelias activities and advising on various aspects of group and product development, the work of NGOs was vital to help the group access financing. The women recalled that the first external financial help they received was to buy agricultural tools, such as picks and shovels, to be able to start cultivating medicinal species in their home gardens. The money was administered through the local NGO (Tssoka Teyoo de la Sierra) and the bulk of their funding originated from the federal

government social development institute, INDESOL (Institute of Social Development). Other important sources of financing were the Los Tuxtlas Biosphere Reserve and later on, the Mexican Institute of Social Security (IMSS). The following table demonstrates the main sources and amount of funding, as well as the focus objectives from 2000 to 2006.

Table 5.3: Government funding for Las Hamelias micro-enterprise: 2000-2006

Year	Institution	Amount *Mexican Pesos*	Activity
2000	INVEDER/ TBR	36,698	Agricultural tools for cultivating medicinal plants
2001	INDESOL	58,863	Capacity building workshops and elaboration of labels and publicity material
2001	INDESOL	4,000	Home garden initiative
2002	INDESOL	3,000	Revolving fund
2003	SEDESOL	68,883	Construction of workshop building-place to elaborate products
2003	IMSS	22,500	To finish the construction of workshop
2004	IAF Bioplaneta	30,000	Trip to Oaxaca to learn from another women's group
2006	IMSS	35,000	Improvement of workshop (toilets, shower, well, outer wall, *temazcal*)
TOTAL	**Government Support**	**258,944 (13,436.81GBP)**	

Another transformation of Las Hamelias, in addition to the changes brought about by consultants, was related to the type and variety of products that they commercialized. In 2003 the group began to explore the possibility of diversifying the range of products they sold. The first products the women commercialized – the three medicinal soaps and the cough syrup – were made using local plants. Only two of the 21 plants used to make the cough syrup, the *gordolobo* and the eucalyptus, were bought at the local market; the others were either cultivated in their home gardens (*solar*) or gathered in the surrounding areas. Some of the cultivated plants included common species such as, arnica, basil, oregano, guava, aloe, and purple maguey and local plants the women collected were *valletilla* (Hamelia patens Jacq. Ruiaceae) and *cundeamor* (Murmodica balasamina). In fact the name of their group originated from the *balletilla* (or fire bush) which is a shrub of about 2.5 meters with red tubular flowers and orange fruits.

In previous capacity building courses the women learned not only to make shampoos, creams, mosquito repellents and other items. However the groups incursion into the manufacture of cosmetic products began when *doña* Flor went to Mexico City to take some courses that were offered in the pharmacy where they purchased some of their plastic containers. The *Droguería Cosmopolita* is one of a few long running establishments that market a large range of essential oils, emulsifiers, extracts, chemical inputs and pharmaceutical products, in addition to dried medicinal plant parts. The group's commercial relationship with this pharmacy eventually led them to manufacture new cosmetic products, such as anti-wrinkle and anti-cellulite creams. The push for this diversification of products came from within the group as *doña* Flor was the person who took the courses and taught the other women how to make the new products.

The changes in their product range implied that the manufacturing of the products was centred on the purchase of plant extracts and essential oils. With time, Las Hamelias began to rely less on local harvested or cultivated medicinal plants and more on essential oils and extracts that were bought from the Droguería Cosmopolita in Mexico City. By the summer of 2006, the group had a line of 20 different products many of which were cosmetic and toiletry products. (See Table 5.4 below for a list of Las Hamelias' product range in 2006). They still cultivated medicinal plants for the manufacture of some of their original products, such as the medicinal soaps and the cough syrup (21 different plants were used of which they bought only two); however most of their products required a large investment in externally sourced pharmaceutical inputs.

Table 5.4: Las Hamelias products (2006)

SOAPS	SHAMPOOS
With oats	Shampoo to strengthen hair
For infections	Shampoo to prevent hair loss
For spots	Shampoo for dandruff
SYRUPS	**COSMETIC CREAMS**
Cough syrup	Anti-cellulite cream
Syrup with cuachalalate	Anti-wrinkle cream
Syrup for gastritis	Anti-wrinkle cream with avocado
MEDICINAL CREAMS	**TOILETRIES**
Cream with calendula	Mosquito repellent
Cream with sulphur	Talcum powder
Cream for bruises	Tooth paste
Cream for rashes	
Vickrub	

In 2005 another shift came about in the Las Hamelias group's activities, this time driven by consultants from the local grassroots development organisation. The women began to receive training on massage techniques and the *temazcal*[40] bath ritual. This new strategy had the objective of giving the women more skills and knowledge so that they could further diversify their livelihood options toward health tourism, moving away from the emphasis on commercialization and manufacturing of products with bought inputs. The idea was also to incorporate Las Hamelias to the development strategy of another community group, which offered ecotourism services. Consultants from local NGOs believed that a service that could be offered to eco-tourists could be the massages and *temazcal* baths.

Previously, in 2002, Las Hamelias had established the group's internal regulations where they agreed on rules concerning attendance to meetings, hours of work, penalties for missing or arriving late and how earnings were to be distributed. Additionally they decided how many hours a week they would work and created a revolving fund that would reinvest 50% of their earnings. In Chapter 7, I analyze some of the main issues and problems of the internal organization of the group. One aspect that will be addressed was the lack of observance of these rules. For example, a revolving fund was established in order to reinvest in the micro-enterprise activities, however in practice the women would take personal loans from the fund and the reinvestment of the earnings for the micro-enterprise became difficult. Penalties for missing work or arriving late were also not properly followed. The following box details the rules and regulations of Las Hamelias as they were written in 2002.

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[40] The temazcal is a hot vapour sweat bath used in traditional indigenous medicine. It is usually done in small round stone or mud structures and the vapour is produced by heating volcanic stones. Medicinal plants are commonly used.

Table 5.5 Rules and regulations of herbal group Las Hamelias

On the 18th of January 2002 and with the presence of 9 of the 10 partners, the group agreed on the following:

I.   Attendance

1.   Attendance is obligatory for all partners to the group and coordinating reunions
2.   Viviana will be in charge of taking note of attendance to reunions
3.   A maximum of 15 minutes of tolerance will be granted, if one of the partners arrives after this she will get a late mark and with three accumulated marks a non-assistance will be recorded
4.   One day of work will be discounted for every non-assistance at the time of payment
5.   Only if notice is given that same day will she be permitted not to attend work; but compensatory work at home equivalent to the hours worked by the others will be required

II.   Work

1.   It was agreed to work twice a week as a minimum, from 9:00am to 3:00 pm; the days can change as long as the majority of partners agree
2.   Viviana will be in charge of keeping a registry of the inventory of raw materials and finished products
3.   Jenni will be in charge of sending the products and buying the inputs

III.   Revolving Fund for the purchase of raw materials

1.   The partners present agreed to recuperate 50% of sales money from January 2002 to integrate a revolving fund for the purchase of inputs in a way that the financing given by INDESOL through SENDAS will not end and can keep serving the group.
2.   The money recuperated through the revolving fund will be deposited in a bank account that will not be used for any other activity.

IV.   Office bearers

1.   It was agreed that group representatives will be selected with a minimum of five months of anticipation so that the management of the micro-enterprise may be learned with the help of previous officers
2.   The officers that were elected in this session are integrated in the following manner:
     i.   President: Blanca
     ii.   Treasurer: Sonia
     iii. Secretary: Jenni

V.   Payment of Work

1.   The payment of work will be made in three payments every year; the first one in May, the second one in September and a third payment in December
2.   The payment will depend on the utilities of the micro-enterprise in the above periods.

I will argue in Chapter 7 that the lack of regard for these rules, and their limited scope to address other internal disputes that occurred, caused misunderstandings that led to the

quitting of two more members of the group between 2003 and 2004. After these two women left, only 6 remained working in the micro-enterprise.

Another central issue within the internal organisation of Las Hamelias that likewise played a role in how the relationships among the women were established and how the group worked internally was the distribution of work. Even though the official rules of the group established office bearers and the rotation of group representatives, in reality there was an excessive reliance on the leader of the group who took on most of the responsibilities and controlled much of the decision-making. In September 2006, the leader of the group died, which occurred during my fieldwork stay. This situation caused great disorganization and confusion among the group. Two women decided they didn't want to go ahead with the project without her. By the beginning of 2007, when my fieldwork ended, only three of the original members of the group remained and as I will address in Chapter 7, they had great difficulty to re-organize the internal functioning of the group, conflicts were constantly arising. Of the ten original women interested in forming a health group at the beginning of 1999, seven years later only three women remained.

5.5 Conclusion

The chapter narrated the local, regional and national background and context needed to understand the case study in depth. The events surrounding the intense struggle by the settlers of Pescador to defend their right to land and to construct the basic infrastructure of their village have shaped how the community is organized and the nature of relationships within it. External development actors repeatedly expressed the idea that Pescador exhibited a great capacity to organize and act collectively. This may offer important insights for the analysis of social capital issues, for an understanding of the capacity of the Las Hamelias group for collective action, as well as for leadership formation.

The regional context and the geographical proximity of the community to the Tuxtlas Biosphere Reserve and to one of the largest industrial regions in the country created a series of circumstances that helped to identify the social and political conditions in which the case study group is embedded. For example, information about the series of events that led to the constitution of the Tuxtlas Biosphere Reserve may help in visualizing and contextualizing the wider political and ideological struggles and the concrete objectives and agendas of local NGOs

working with the group. The context of community health promotion and the process of revaluation of traditional herbal knowledge among groups in Mexico situated the process of knowledge re-creation and dissemination related to medicinal plants and herbal preparations. Finally the description of the emergence of Las Hamelias as a microenterprise introduced the case study group and some milestones that will help give context to some of the issues that will be dealt with in the following three analysis chapters.

5.1 Village Boulevard said to be previously air strip

5.2 Circle of Chairs where community reunions take place

5.3 Fisherman in *Laguna del Ostión*

5.4 Mangrove area, part of Pescador community natural reserve

6. LAS HAMELIAS MICRO-ENTERPRISE: WORK, TIME AND EMPOWERMENT

6.1 Introduction

The micro-enterprise sector has been identified as a source of income and employment for increasingly large numbers of poor women in the world (Mayoux 2003: 443). The creation of micro-enterprise projects for rural women in Mexico has been promoted in many policy circles because of its potential for improving women's access to income while at the same time giving sufficient flexibility for domestic activities (Rodriguez-Garcia et al. 2004). Cunningham (2000: 1) explained: 'The time and work location flexibility makes it an attractive alternative to salaried work for women who, unlike men, must play a dual role in the household'. Additionally, women's participation in micro-enterprise projects has been seen as a 'magic potion' due to its effects on gender equality, not only for its contribution to family welfare and as a means for women's control of income (Blumberg 2005) but as having the potential to unlock 'virtuous spirals' of increased well-being and empowerment (Mayoux 2006).

On the other hand, Buvnick (1986) suggested that the policies promoting income generating projects are time consuming and often do not offer sufficient income and resources to improve women's livelihood. Studies focusing on household relationships have found that micro-enterprise programmes tend to over-estimate the control women exercise over their business earnings once they reach the household (Eversole 2004: 126) and that participation in these initiatives does not exempt them from their usual work load, which means that women have to extend their working hours. In México, the literature suggests that policies for rural micro-enterprise development have not taken into consideration social norms that limit women's effective participation as well as the weight of their household activities and time availability (Canabal 2006; Colinas 2008; Kusnir et al. 2000; Suárez 2005; Urquieta et al. 2009; Zapata and Mercado 1996; Zapata et al. 2005).

The first section of the chapter will analyze the issues faced by the women of *Las Hamelias* and other women in the *Pescador* community to be able to participate in the micro-enterprise, as to domestic work, time and travel constraints. I will review the factors that enabled some of the women to participate, looking at examples that suggest women's age, family context and education may be crucial variables. The second section will analyze the impact of participation in the micro-enterprise on women's empowerment and how participation by the women had

consequences on their lives and personal growth, related to their capacity for action and decision making.

6.2 Women's constraints to participation in the micro-enterprise projects

The first section illustrates the main activities and duties involved in the participation of the Las Hamelias micro-enterprise, taking into account the time and effort needed to cultivate, harvest and manufacture the products and the time needed for travel to attend capacity building workshops, go to meetings and commercialize the products. It will be argued that micro-enterprise activities demand a considerable amount of time, effort and skills, aspects not to be undervalued. Some of the obstacles the women from the group faced in order to participate in the micro-enterprise are analyzed taking into account the gender division of work and the social norms that limit women's mobility and time availability for extra domestic activities. I will examine diverse personal circumstances, such as age, number of children and education that affected the women's participation in the initiative. I will also explore why these women in particular were able to participate in the Las Hamelias group, while others in the community were not.

6.2.1 Time and gender division of work

A factor determining participation by the women in the micro-enterprise was the availability of time, which was directly related to the women's domestic responsibilities. Time as a factor influencing participation was connected to the gender division of work, in which traditionally the man is the economic provider and the women is responsible for taking care of the children and the household. For most women living in rural areas in Mexico, engaging in a productive activity involves surpassing the obstacle of the limited time left after home and child upbringing tasks (Urquieta et al. 2009).

A study of rural women in Mexico and based on data from the National Census of 2000 showed that the gender division of work still strongly predominates in the Mexican society (INEGI 2002: 51). Of 8.7 million women age 12 and over, 95.5% do house work and child caring activities. For every 100 married women, 74 are dedicated to domestic duties and of those women who are involved in economic activities, 94% combine their economic and domestic work. This confirms the idea that the incorporation of women to the economic sphere has not exempted them from household and child upbringing responsibilities which have been traditionally and socially assigned to women. Many scholars who analyze women's integration to economic

activities have emphasized that the family workload has not changed with the integration of women to the economic sphere, but has resulted in more work and the exploitation of women's labour (Arriagada 2005; Jackson 1999; Molyneux 2002).

Nevertheless, micro-enterprises have been identified by policy makers as a possible solution to women's time constraints, giving them flexibility to manage both home and economic activities. These small scale ventures tend to be set up at home, offering women a chance to juggle responsibilities for both activities. Rodriguez-Garcia et al. (2004) suggested that economic activities can be initiated with the knowledge and skills that women have acquired through their household duties and can be operated on a part time basis. However, micro-enterprise activities can be very time consuming and complex. Problems and conflicts need to be resolved and the work often does not finish when the shift ends, as in conventional employment. Micro-enterprise work may be more flexible, but nonetheless require time and dedication. The assumption that micro-enterprises might be a middle range option for women to divide and administer their economic and domestic responsibilities is questionable. The evidence from the Las Hamelias case study suggests these initiatives do rely on important commitments of time and energy.

The women of Las Hamelias worked on the elaboration of the medicinal plant products one or two days a week from 9am to 3pm all year round. This schedule changed when they had an event to go to or an order to finish, in which case they dedicated more hours during the week. A typical day among the ones I spent with them in the workshop consisted of meeting around 9 to have some coffee and bread, during which time we would all chat casually and then decide upon the day's activities. Someone would check which particular products were running out and for which products they had all the ingredients. The elaboration of the cough syrup was the product that required the most time and the largest amount of plants, but it was also the one that sold best and had to be produced most often.

If the women were going to make a batch of the cough syrup they would go outside to the garden in the front of the workshop where most of the plants were cultivated, or alternatively they would harvest them from their home gardens. One of the women would usually stay in the workshop, fetching the water from the well, washing plates and getting the utensils prepared. Most days they would prepare more than one product at a time. While the 'tea' with the medicinal plants for the syrup was being cooked, the women could be busy preparing another product that required less time. The product that took the longest to manufacture

were the medicinal soaps as these required the harvesting of the plants, the preparing of the 'tea', the mixing of the ingredients and the hand moulding of the soaps. (See images 6.1-6.6 of the women in the workshop harvesting and elaborating the medicinal products).

As the women learned how to make new products, mostly cosmetic and toiletry articles, which used essential oils and other pharmaceutical inputs, they were able to increase the amount of products they were able to manufacture as these required less time to make. However, manufacturing the products was only a fraction of the things they needed to do. They also had to organize, clean, store and keep track of inputs and tools. With a greater number of products, a larger range of bottles and inputs were required. Activities, such as contacting input providers, making orders, taking care of purchases and delivery were all endeavours that needed to be done in the office of the local development agency *Tssoka Teyoo de la Sierra* (TTS) in the neighbouring town of *Chinameca*, which took an hour and half to get to. This required sending emails and faxes which could not be done from the community, which only had two public telephones available and from which calls were expensive to make. The women had to sort out the accounts, go to the bank and contact clients, activities for which they received help from the technical team of the TTS.

The activity that required the most time and effort for the women of *Las Hamelias* was the commercialization of their products, which relied mostly on direct sale to the public. In order to have as many opportunities to sell as possible, the women attended a great number of events, such as town fairs, cultural festivals, conferences and educational activities organized by government, NGO's or universities. In any given month they could attend one or two events, which intensified at certain times of the year. In mid March 2008, in the space of a week, the women were preparing to go to two separate events; a regional cultural festival taking place in the ancient ruins of *Tajin* organized by the government of the state of Veracruz and another event to celebrate the National Week of Conservation, organized by the Tuxtlas Biosphere Reserve office.

Because travelling is expensive and time consuming, the women would rotate among themselves and attend the events in groups of two. Often these events required that the women stay overnight in the towns where the events took place. For the *Tajin* festival, Sonia went alone and was away from home for three nights in a row. The travel to and from the ruins took her about 7 hours each way. For the National Week of Conservation in the town of *Catemeco*, I travelled with two of the women for about 5 hours each way and stayed one

night. The women often stayed overnight because, although most were held in regional towns and cities, access to the community of Pescador was complicated and slow. The main route to the community required about one hour and a half travelling by bus on a dirt road that offered service three times a day. The last bus to leave for the community from the town of *Jaltipan* left at 6:15pm, after which there was no further transportation. In the rainy season (from May to September) the buses were often cancelled, as the two rivers that flanked the community regularly overflowed. Two alternative routes out of the community were inconvenient and took much longer. One implied going further away from the main highway and required various bus changes. The other route to the city of Coatzacoalcos, involved two 'rural taxis' and one boat transfer. The easiest and fastest routes were chosen, since the women were usually carrying one or two heavy boxes full of products.

The women of Las Hamelias were involved in the entire commercial chain of their products dedicating considerable time and effort not only to manufacture the products, which implied the cultivation of the plants, the making of the products and bottling and labelling these, but also the sale of their merchandise. They had to travel to fairs and events to find opportunities to sell their products. Additional time was dedicated to attending capacity building workshops and meetings, which also often took place outside the community and required travel. The travelling requirements presented the women with difficulties. The amount of time this took from their domestic responsibilities and the opposition this created from husbands and family were significant, issues which will be the subject of the next section.

6.2.2 Social norms limiting women's mobility

Women's limited capacity to travel can be found in a number of empirical studies related to women's participation in employment and in micro-enterprises or credit groups. In a study of income generating and micro-enterprise projects for rural women in Mexico, Zapata el al (2005: 271) found that among all the women participating in these initiatives, less than 30% saw an increase in their possibility of travelling freely to attend their reunions or similar activities. The majority of women still saw their mobility limited by husband or other family member's permission. In México the idea that a women's place is in the home' is still a very important part of the idiosyncrasy, as it demonstrates the husband's economic power and reflects well on the women, who enjoy greater respectability (Townsend 1999). Likewise, travelling to attend capacity building courses, reunions or events to sell their products

presented a considerable obstacle for some of the women participating in the *Las Hamelias* micro-enterprise.

One reason women are expected to remain at home is related to their domestic and caring responsibilities. For example, Viviana struggled with her husband who was not keen that she travel and wouldn't easily give her permission. Her husband argued that she really didn't need to earn the extra money and that she needed to take care of the family. He would try to convince her that he could provide everything she needed. On the other hand, the women from the group pressured Viviana to 'go out' because they all had to do it and she wasn't the only one who had difficulties with their husbands. Her husband finally succeeded in his arguments and three years after joining the group Viviana quit giving the argument that she had to give priority to her husband and children. The incompatibility between domestic responsibilities and the time and travel required for the work of the micro-enterprise was a factor that discouraged participation for various women.

Another problematic element about travelling was the suspicion and gossip that this generated. Josefina had to confront this aspect because one of the main reasons her husband vehemently opposed her 'going out' was because of the alleged probability of infidelity and the gossip this created. The husband gave his permission, but only after much negotiating and only when accompanied by *doña* Flor, the leader of the group who was an older and respected woman in the community. Josefina's husband also disapproved emphatically, because often the women of La Hamelias had to go to events or attend reunions with other groups which many times included men.

> Before going out she (*doña* Flor) would go talk to him and after we came back as well. We went and we came back, but still he wouldn't speak to me for 4 or 5 days after, he would just stop talking to me even though it was him who needed to talk so that I gave him food or wash his clothes, and even so, he did not say a word... When I go out he tells me 'you go out and I don't know who you are around with, who you sleep with'. In that tone, and I say no, you are thinking incorrectly, of course there are other men, but always in the hotels we sleep a part. He says that I don't say the truth that maybe everyone sleeps together, and I say to him that even the hotels don't permit that. The other day he got angry and he said 'Leave!' I don't know with which men you go out with (laughs) and I said why do you say that? And he says, because you go out too much.

For Sonia, the gossip about what she was up to when she left the community was something she knew happened behind her back. Since her husband was working in the USA, there was nobody who could 'control' her, but she said she didn't care about what others thought or said

and in fact she wasn't worried about what men might 'do to her' as she was too old to arouse any feelings that could be risky. This aspect revealed the problem of travelling not only related to the stigma attached to the women who travel without their husbands and the alleged 'temptations' they might have, but the issue of personal safety. Although Sonia was not worried about herself, she said she would not let her daughter be in her same situation, having to travel so much and sometimes on her own.

This real or perceived risk about leaving the safety of home was also found in a study of women's micro-enterprises in the neighbouring state of Tabasco. Vazquez(2002) found that women who participated in productive projects as part of a government programme were also encouraged to attend to meetings to interchange experiences with other groups and to attend other forums and events in the state and outside of the state. The author found that the main obstacle for women to leave their communities and participate in all these events was the load of their domestic responsibilities and a fear for their personal safety.

The complications and incompatibility with time and especially the problem of having to travel influenced other women in the community to decline participation in the micro-enterprise. I conducted a survey of 23 households in the community (of a total of 32 households) and interviewed 20 women[41] about the reasons they hadn't participated in Las Hamelias or other similar productive projects. The following replies were given (including those that gave more than one reason): because they had to take care of their children (11), because they didn't like going out (7), their husband disapproved (4), they were not invited (3), not interested (3) and old age (4).

The two main reasons given to explain a lack of interest in participating in the micro-enterprise were related to child care responsibilities and not wanting to travel. Some women from the community considered, even with their child care responsibilities and other household duties, to participate in a project outside the normal domestic duties, but in the end rejected this due to the travel considerations. When I asked the women of Las Hamelias if other women from the community had shown interest to join the group, Blanca explained that some were interested in working, but they did not want the commitment of travel:

> Some do want to participate, but then they say 'no, you go out too much' and yes, if we are invited to a workshop or a meeting we have to go. Wherever we are invited

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[41] See Table 4.3 for the format of the community interview.

> we always go and we are there, and that is what they don't like. They say 'we could
> go and work, but go out, no'

The reluctance of women from the community to join Las Hamelias because they 'go out too much' is an indication of how women's social role in the household conflicted with the activities that were required to participate in a commercial enterprise such as Las Hamelias. Staying home to take care of the children, cook meals for the family, wash clothes, feed domestic animals, among other chores, made travelling to meetings, workshops and selling events problematic. Jacinta, who had joined the group from the beginning, explained that she quit because she didn't like the idea of leaving the community to go out to sell or to attend workshops.

> My discouragement started when we had to go out for capacity building workshops. I don't know why, but I don't like to go out, I don't have the interest. I do like the projects and the workshops, and being there, but hidden. I don't like to go out and have to speak. It's not that I'm insecure, when someone comes to speak to me (like you) I'm not timid, but I just don't like to go out. That's just who I am, I don't know why, but that's who I am.

Jacinta's resistance to participate, even though she agreed that she liked the projects and going to the workshops, signals the deeply ingrained attitude of Mexican women against 'going out'. In our conversation about her dislike of leaving the house she explained to me a bit more of her life history: how she was the youngest of 10 children and all her life she had been at the side of her mother and would only go out with her; she didn't even leave her side to go out to study. Her story was reminiscent of Isabel Allende's novel 'Like water for chocolate' which narrates the story of the youngest child in the family destined to care and look out for her mother. Similar to the social norm that dictated the youngest female child should remain at home to take care of her parents in their old age, the social norms that demand women remain at home taking care of their domestic duties are still prevalent.

Often times the roles women play in society and in families have been deeply ingrained in their subconscious and the women themselves can't imagine other options. According to Guzman (2004:28) in Mexico there is a cultural conditioning that makes women think that her place in society is to be at home, serving her husband and children and not 'out in the streets'. Asking a husbands' permission to go out is a commonly accepted restriction. This resonates with what Gaventa (2006: 29) illustrated as the: 'invisible power which shapes the psychological and ideological boundaries of participation by influencing how individuals think about their place in the world, shaping people's beliefs, sense of self and acceptance of *status quo'*.

The social norms that conditioned a woman's place in the household and limited her mobility did not apply to all the women. Pescador is a community constituted by a mix of families from all over the state and even parts of the country. Cultural and social norms varied within each family and were not prevalent throughout, although, the norm concerning women's responsibility in childcare seemed to affect all women across the board.   The following section will deal with the maternal role, as well as the influence of the women´s educational attainments as a factor influencing their ability to participate.

6.2.3 Age and education as factors for participation

Personal circumstances, such as the women's age and that of their children also determined the women's opportunity to participate in the micro-enterprise. The eight women who made up the Hamelias group were between the ages of twenty eight and fifty two. The majority- six of them- were in their early forties and had children over the age of eighteen. The women who were able to become more involved in the micro-enterprise had older or married children and therefore less pressing domestic responsibilities.   The women with smaller children struggled to balance their child caring responsibilities with travelling and the other duties involved in the micro-enterprise.   In the following three cases, each woman's personal and family circumstances were different, as well as each woman's devises for coping with the situation.

Table 6.1: General characteristics and educational levels of women participants of *Las Hamelias*

Names	Age	Education level completed[42]	Number of Children
Flor	52	*Secundaria*	3
Jenni	30	*Bachillerato*	2
Lupe	45	Primary/ unfinished	2
Josefina	28	Illiterate	4
Sonia	39	*Secundaria*	3
Blanca	46	Primary /unfinished	3
Chavela	42	*Secundaria*	2
Viviana	40	Primary	3
Irma (joined in 2007)	15	Primary	0
Isabel (joined in 2007)	21	Primary	1

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[42] Formal education in Mexico is divided into 6 years of *primaria* (6 to 11 years of age), 3 years of *secundaria* (12 to 15 years of age) and 3 years of *bachillerato* or *preparatoria* (16 to 18 years of age). In 2002, a law was passed making 3 years of preschool obligatory (3 to 5 years of age).

Josefina was the youngest woman of the group and had four children, one of whom was seven years old and born after she joined the micro-enterprise group nine years ago. Josefina was able to cope with caring for him and all the rest of the domestic responsibilities because she could rely on her two older teenage daughters to help out with domestic work. This situation allowed Josefina to be able to work outside the home and bring in extra income. However, this caused discord with her daughters, who did not always understand and were not always in agreement about having to help so much with household work. The younger daughter, Irma, confessed with regret that she had often gotten angry at her mother and had only recently understood why her mother was working so much:

> Before when my mom would arrive at 9:00 or even 12 at night I would sometimes get angry and would say to myself: why does my mom come so late! She likes that we stay alone, and I would say that if she didn't come early it was because she didn't want to see us, and I would think that my mom was out of the house because she wanted to, and I would get angry thinking why doesn't my mom come back, why doesn't she arrive, and I would have to start making the tortillas and would get angry thinking 'why does she leave all the work to me?! Most of the time I would keep my anger to myself, but one day it came out and I started telling her things like this.

The conflict between Josefina and her daughter signals the problems women may face at home in terms of the approval by the rest of the family and the consequences extra domestic activities have on them. Isla and Thompson (2003: 178) studied the case of a women's medicinal plant project in Costa Rica and observed that 'the increased workload for women often resulted in transferring household duties to the daughters, which in turn decreased the chances that these young women would receive an education, thus resulting in an intergenerational transference of poverty'. As it is often expected in rural Mexico, women are the ones to take care of household responsibilities, regardless of their age, or if they study or work. Josefina's daughters had to take on household responsibilities and cook and wash for their father and brothers, when Josefina couldn't do it herself. Josefina however, remained adamant that her daughters continue studying so that they could have better opportunities than she had. It was partly thanks to the income she made in the enterprise that she was able to pay for her children's school expenses.[43] However, it is also possible that the load of

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[43] The income Josefina made with Las Hamelias helped her pay for various expenses among which were her daughters' school expenses (transportation, books and school utilities) but she also received money from the government programme, Oportunidades, a subsidy that gives a monthly stipend to poor households for each child in school and which is given directly to the women.

domestic responsibilities on the young girls might have had a negative impact on the time they could dedicate to study.

Isabel was another woman who struggled balancing her child caring responsibilities with the duties of the micro-enterprise and who had only recently joined the group. She found out very soon the difficulties of having a small child and also having to travel and keep her commitments with the group. As they were getting ready to go to a three day event in the town of *Catemaco*, her child came down with the flu and she had to cancel her trip. However because she had already said she would go, she got in trouble and had to negotiate with the event's authorities in order to deal with the situation.

> I had two options: one that I stay here in Pescador with the boy or that the boy came with me. And Mr. Oscar came and told me that he was going to get in trouble because all my expenses were already paid and I was already on the list. So I told them that I would take the child, and he said that it was prohibited that children go, but that they would make the exception with my son this time. And it's not that he misbehaves, he was in the hotel room all day and my mom would go up and see him and check that he was ok, and in the meantime Irma and I were selling.

Isabel had wanted to become a member of the group for about a year before she finally decided to join. She had found it difficult to convince her husband and against his will she eventually joined the micro-enterprise with the support of her mother who was also in the group and her godmother, who was the leader of the group. With all her family backing her up, her husband in the end had to give in and support her. This situation made it easier for her to join the group as she had the approval from the rest of her family.

> L. Why did you not get the courage to join before?
> M. Because Saúl did not want to
> L. Why? What did he say?
> M. He says that sometimes the women are there (in the workshop) all day and sometimes they don't work one day, but many and he said I will neglect the boy, the house and the animals; but lately I joined the group without his permission (laughs). I just told them yes and when he found it out, I was already in and he did get angry, but then he didn't say anything, and as my godmother said, now he has two jobs (i.e getting angry and letting it go)...But now he does support me because I go with the women and I leave him his food, I thought it was going to be different when I went in without his permission but finally he did give in and only this time that we went to Catemaco three days he didn't want me to go, (because their son had a flu) but at the end he did let me go if I took him with me.

Jenni was the other woman in the group who also had young children ages 5 and 9. She was able to participate in the initiative because she also had support from her extended family. Jenni lived in the same property as her mother and father in law. Her mother in law was *doña* Flor, the leader of the group and whenever she needed to go work or travel, she left her children in the care of their grandfather and aunts. Her husband also supported her with the time and travel she needed for the micro-enterprise activities. However Jenni's husband told me that although he supported her because he was interested that she grow personally he found that sometimes it was not worth it and she was neglecting the children. For both Isabel and Jenni, the acceptance within their kin networks of the work in the micro-enterprise meant that they were able to more successfully manage their child caring responsibilities.

Another factor that influenced Jenni's capacity to participate in Las Hamelias was that she had a significantly higher formal education compared to other women of the group. She had finished studies of *bachillerato*. In addition to the work in the micro-enterprise, she also took temporary jobs in the nearby city. For example, during the national elections, Jenni was hired by the electoral institute for three months to train and accredit the people who were going to be counting votes. With the money she earned, she was able to afford to pay one of the young girls from the community to take care of her children while she worked away from home.

The level of education attained influenced women's ability to participate in Las Hamelias. When the project began and the idea was to get together, learn about useful medicinal plants and prepare home remedies, *doña* Martina participated. When the group became involved in commercial activities, she decided to quit. Martina told me she decided to leave the group because she did not know how to read or write, so she did not feel confident she could participate. The very fact that the group had taken a commercial shift implied that the women who participated needed a certain amount of education and skills and a degree of self confidence in these abilities.

The women of the Las Hamelias group had varied educational backgrounds. Jenni was the only woman with a *bachillerato* education, a level which is an exception in rural communities, such as Pescador, although she was originally from the larger town of San Andres Tuxtla. Two of the women had studied *secundaria*, four attended some years of *primaria* (elementary school) and one had never been to school. The norm was elementary school studies, which meant that the women had basic skills in reading, writing and mathematics. The level of education needed to engage in commercial activities can be significant.

One obstacle for the successful implementation of productive projects with rural women has been precisely the low levels of formal education. A recent evaluation of a project aimed at strengthening rural women's economic productivity in Mexico called, "Opportunities for Women of Low Income in Rural Areas" and implemented by the National Institute for Social Development found that among the beneficiaries of the project a high proportion of women were illiterate or with little schooling. The data showed that this factor drastically reduced the possibility that those women would benefit from the capacity building programmes. The results confirmed that education is a key element which limits the potential impact of a project and demonstrated that the training efforts for productive activities cannot correct the major education lag and low levels of education of poor rural women (Urquieta et al. 2009)

Women's attitudes about participating in a productive initiative are often circumscribed by socially dictated expectations, such as that of women having to take care of the children. Most of the women who participated in the Las Hamelias initiative were able to circumvent these expectations because their children were old enough to take care of themselves, which also considerably decreased their workload. The women who had young children had more trouble participating in the micro-enterprise and had to rely on family to help out. Likewise, support from the husband played an important part in enabling the women to work and travel freely. Thus, women's age, domestic and child caring responsibilities, family support and the educational attainment levels of the women, elements directly related to traditional gender roles and responsibilities, were the main factors I identified which influenced and allowed the participation of the women in the micro-enterprise initiative.

6.3 The impact of participation on women's empowerment

The previous section dealt with the constraints women face in order to engage in a micro-enterprise initiative. This section explores the social impact of the women's participation in the micro-enterprise, taking into account the empowerment framework as proposed by Rowland (1997) and described in Chapter 3. The framework proposes the analysis of empowerment taking into account: a) transformations in *power from within* that permit increased awareness of choices, confidence and self-esteem (personal empowerment); b) the ability to have *power over* their decisions and increasing bargaining power within the household (relational empowerment); and c) *power with* that looks at changes in the capacity to achieve with others what one could not achieve alone (collective empowerment).

6.3.1 The impact on women's personal development and *power from within*

According to the literature, extra domestic activities have enabled Mexican *campesinas* to overcome obstacles and perceive themselves capable of doing things that before they wouldn't have thought they could achieve (Zapata el al. 2005). Townsend (1999: 71) found that a fundamental expression of empowerment for women in Mexico has been the act of getting out of the house: 'the house, the home, has become a place where a woman is enclosed, hemmed in, useless, and to get out of the house is the crucial action.' Similarly, Tuñón (2007: 217) argued that: 'a prerequisite for the process of empowerment is to get out of the house and participate in some form of collective enterprise...as this tends to develop a sense of independence, competence and agency among women'.

Participation in the micro-enterprise of Las Hamelias gave the women the opportunity to get out of the house, and access resources, and knowledge. It enabled them to earn an income, learn new skills, make personal investments and purchases, meet new people, aspects that would not have been possible had they decided to stay at home. However as Kabeer (1999: 443) argues, 'access to resources are a measure of potential, rather than actual choice'. Therefore it is important to grasp how access to these 'resources' (understood in the broad sense as income and financing but also skills and knowledge) actually translates into choice, personal growth and action for the women of Las Hamelias. In other words, how their participation transformed their perceptions of themselves giving them more self-confidence while also giving them means to take more decisive control over their lives. Rowlands (1997: 111) explained: 'The core of the empowerment process involves fundamental psychological and psycho-social processes and changes...central to these are the development of self-confidence and self-esteem, and a sense of agency, of being an individual who can interact with her surroundings and cause things to happen.'

Josefina was aware that her participation in the micro-enterprise of Las Hamelias had caused her to understand the world around her more deeply. Josefina's words indicated a change in consciousness and signalled an internal transformation process, a feature of '*power from within*'. Expressed in the context of a conversation about her experience participating in the micro-enterprise she said:

> I tell my kids that before it was like if I was asleep, I don't know, like my mind hadn't woken up, or I don't know!

A consequence of getting out of the house and earning an income has been identified by various empirical studies to also fundamentally contribute to women's self confidence as women and to feel capable of bringing something of value to their households (Kabeer 2001). Aspects of transformation brought about by the extra-domestic activities in the micro-enterprise were observed among some of the women of the Las Hamelias group.   For Lupe getting out of the routine of the house and earning an income were both significant.

> You get out of the routine of the house, you get distracted, you socialize and it's an income that is needed and it's money that one doesn't earn even if one is all day working, washing, ironing, cooking; for me the motivation to participate with the group was always to earn a little bit of money, it's a stimulus and it makes one feel self-sufficient.'

With one of her first earnings from the micro-enterprise, Lupe was able to install glass windows in her house. Previously, the windows were of laminated metal, which if they were closed would block out the light, but when they were open during the day let in the wind and dust. She had always wanted to put in glass windows, but this was not a priority for her husband. There was always something else the money needed to be spent on. Being able to contribute to her home with the money she earned through the micro-enterprise was important, not only for her contribution to the household, but also because she was able to give priority to her needs.

Contributing economically to the household is significant, but also being able to choose and decide what the money is spent on is crucial. Often women's ability to control income is limited by hierarchical relations within households (Mayoux 2001). In the case of Las Hamelias, the women were able to take decisions on how the money they earned was spent. Sonia would say that the money she earned with Las Hamelias 'tasted better' [*me sabe major*] i.e., it gave her greater satisfaction because she liked being able to spend the money however she pleased and didn't have to disclose or justify her expenses to her husband or anyone else. Josefina was also able to control her earnings, although she would often give money to her husband to pay for fertilizers and for an extra labourer to help him in the field. On other occasions she put her interests first, such as when she gave the down payment to buy a gas cooker which her husband didn't want because he argued *tortillas* tasted much better cooked over a wood fire.   She bought it anyway, giving priority to her needs, as she was tired of having to prepare the fire and cook outside. What was most significant about the income she earned was that it made her capable of controlling and deciding what to spend it on, thus giving priority to her own needs and interests.

Another fundamental aspect in the personal empowerment process of women participating in an income generating project is the acquisition of knowledge: 'providing women with authority and independence to develop more fully other aspects of their lives' (Vazquez 2002). The acquisition of knowledge and experiences gave the women from Las Hamelias opportunities to develop certain skills and greater confidence of their abilities. Each woman realized she was good at something in particular; for Sonia and Jenni it was their ability at sales. Lupe, on the other hand, did not enjoy selling but realized she was very good at giving massages and elaborating the products. Josefina also enjoyed giving massages and was good at preparing the soaps. Participation in the micro-enterprise gave the women the opportunity to develop personally within their own interests and abilities, strengthening their self-esteem and empowering them at a personal level.

Having the opportunity to learn new things was something that all the women mentioned in one way or another as a prime motivation to be part of the group. Jenni valued the experience of learning how to sell and travelling to new places. For her getting out of the house was also a significant motivation for being in the group. She discovered through her participation in Las Hamelias that she liked thinking of ways to convince people to buy the products, acquiring firsthand experience of what it is like to be in a business and inspiring her to further her education.

> I liked being in the group because it's better than only being in the house all day and you learn...I have liked selling a lot because when I would go to sell I would come back with money. In addition from selling comes the part of convincing, I remember that the women would say why when we go out to sell we don't sell and when you go, you do! And the thing is that you don't have to wait and let the buyer come and go...when you see the client come you say hello and explain we come from such and such a place, and the plant has a process of elaboration, I don't know, you chat...I really like sales and that's what I want to study.

Irma, Josefina's younger daughter, who was 15, had recently joined the group and was in a test phase to see if she could stay. She was motivated to join the group because of the opportunity to learn how to make products and how to sell them to the public, but most importantly she liked thinking she could help someone with a problem. For her, having this knowledge gave her a certain authority with respect to other girls her age.

> I think it's nice to be in a group where you learn lots of things, how to make things and learn what they are used for, because for example one day you are with someone else and you listen that someone is ill, you can say what you know can help... It has happened to me that the other girls talk about their family and I

have told them that where I live there are some women that make a syrup for gastritis. It's as if I was promoting the products, but not only to sell them but to help. Or later they would say 'ohh I have so many spots and I don't know what to do' and I recommend that that they buy the soap with balletilla'.

According to Gonzalez (2002), another significant consequence of learning and developing new capacities through extra domestic activities is that women become capable of speaking out and expressing their demands in front of actors from both public and private institutions. I was able to witness this situation first hand when the Las Hamelias group received a visit from three important government officials: the director of community action of the IMSS, the director of the 'Oportunidades' programme from the Ministry of Social Development and the Municipal President of Pajapan. Sonia demonstrated great ability presenting the enterprise in favourable terms to the officials. As she showed the visitors the premises of the workshop, she explained the sanitary norms they followed and mentioned that they wore uniforms when manufacturing the products (stretching the truth)[44]. She was astute in negotiating their needs, as she explained that the previous municipal president had promised them financing to finish the floor tiling but had never come through with the money. This comment forced the Municipal President to commit that he would find out what had happened to that money and sort out the problem. Josefina talked to the government authorities, explaining in what areas the micro-enterprise had made progress, such as in the building of the *temazcal*. She also mentioned the aspects for which they still needed funds. After the long conversations, the women served lunch while they and the authorities discussed and agreed on further commitments. The women would finish the outside latrine and attend a government event in April, while the officials committed to getting funds to finish the well and to help them acquire more inputs. After the visitors had departed, I was left with the impression that the women had learned how to 'play the institutional game'. The women had negotiated a situation with people in positions of authority and had been able to manage the relationships, as well as obtaining verbal commitments from the authorities. This experience most probably contributed to the women's sense of power.

In sum, the ability to leave their homes and engage in an extra-domestic activity gave the women not only the opportunity to depart from the routine of family obligations and earn a

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[44] The insistence on wearing uniforms demonstrates the women's understanding of sanitary norms and their importance for authorities; still they chose not to wear them. This type of discrepancy between visions will be dealt with in Chapter 8 when engaging with knowledge encounters between the Las Hamelias and external actors.

complementary income, but also to learn and in some cases increase their capacity to make choices with the money they earned, giving priority to their own needs. The process of learning new skills gave them more confidence and increased their self-esteem to manage relationships with people in positions of authority while also widening their aspirations, such as the case of Jenni who realized that as soon as her children were a few years older she would go back to school to study something related to business. These examples signalled a process of personal empowerment, which although different for each of the women, considering their diverse personal situations, interests and abilities, nevertheless, pointed to signs of internal transformation and personal empowerment.

6.3.2 *Power over* decisions and increasing bargaining power within the household

One of the main obstacles for women participating in extra-domestic activities in Mexico is the lack of capacity to alter or transform their domestic obligations (Vázquez et al. 2002). In the case of some of the women from Las Hamelias, participating in the micro-enterprise gave them more devises, arguments and self confidence to negotiate their needs and interests with their husbands and family. On the other hand, for some of the women, this was not an issue. They had support from their husbands and although they still did most of the house work, they could also rely on their partners to help out if needed.

Before Lupe joined the group, a normal working day at home meant waking up at four in the morning to start washing clothes, prepare the dough for the *tortillas* and cook breakfast and lunch. During the day she would accompany her husband and son to the field where she would help out. When they came back from the field, her husband and son would each rest in a hammock while she got busy making the fire and preparing dinner. Later, while the rest of the family were arranging to go to sleep, she still had to wash dishes and clean the house, going to bed very late at night. Lupe's experience with Las Hamelias changed her perception of how things should be and gave her the courage to say that she wouldn't be going to the field anymore and that she would work in the field only if they also helped her around the house. This consciousness of her excessive workload and the confidence to negotiate her responsibilities revealed a level of empowerment within close relationships that is crucial for the transformation of gender inequity that prevails in many rural households.

For Josefina, participation in the group also drastically changed the routine of work at home and the obedience she had with her husband's requests.

> Before I would obey him more, everything he said I would do. I tell the girls that when I first came here (to the community) he was very demanding, he wanted me to take the tortillas to the field, he wanted me to be at eight a.m. in the field and if I didn't arrive on time, he didn't eat, he would get angry...so I would go to the field, would come back to make lunch and again I would have go, leave him his lunch and after I took his lunch I would start working, but my children were small and there was a lot of mud and under the sun or however, I would have to go, if not he would get angry.

In Josefina's case, the opposition from her husband to her participation in Las Hamelias had been strong from the beginning. Josefina's husband would constantly insist that she quit the group. He would not give her permission to travel, would accuse her of infidelity and would pressure her with household responsibilities. With the experience in Las Hamelias she was slowly able to renegotiate her normal domestic work, to travel, to take positions of leadership and assert her right to do all of this without feeling bad about his accusations of infidelity.

> He would always say 'only if Flor goes will I give you permission to go out'...But that was before, now: tough luck! (laughs). Before I would ask for permission eight or ten days before, and every day I would ask him to let me go. I would tell him to give me permission and he would say no and no, and I would say yes and he would get angry. Now, I only inform him when I'm going out. The other day I woke up at 5 in the morning and I had to go out for 3 or 4 days and he had forgotten I had told him. Again he began saying no, and asking where I was going. And I said to Catemco, and he argued I hadn't told him but I said I had and he insisted and said 'look how you are leaving me' and I said 'I'm leaving you at home' and said to him 'why is it that when you get angry with me you make your own *tortilla* and now that I have to go you can't make it?' If you can make your tortillas then, you can also make them now. He didn't say anything after that. Now, and in the last four years that I have been representative of the group, they call me on the phone and I have to go to meetings and sometimes they are far away and I have to go. I leave early and come back late at night. And not because of him I will stop going out, because now I know that I'm not doing anything wrong, my conscience is clear. I go out when I need to and the people we go out with always respect us and we respect them and that's it.

Sonia also became empowered to be able to negotiate her needs and to make her position clear with her husband. In contrast to the other women who depended on their husband's permission to work and travel, Sonia was the head of her household since her husband had migrated to the United States. He would send money to cover the living and education costs for their children, but the possibility existed that one day he would stop sending money. In the five years he had been gone, he had never come back not even for a short period. She expressed to me her concern that her children were getting older and the possibility that he find another woman and start a new family 'on the other side' existed. Sonia understood that she had to be prepared for that but the experience of being alone, of earning an income

working in Las Hamelias and in the local clinic as a doctor's assistant, gave her the confidence and determination that she could manage if her husband were to stop sending money.

> He hasn't come back in five years and sometimes he says that he wants to come back and I tell him 'if you come back (to Mexico) I'm not going to let you go back (to the USA). If you leave again the one who is going to leave this time will be me, so that you know what it feels to be responsible of your children, of my work and your work together, so that you see that I do all of that! And I tell him, I'm very determined! So many women that are around, they aren't less than me! So I said, if I leave I will keep my word, because you are not here and there is the land, and there is a need to give signatures, go to the assemblies and see about the animals.

For Josefina, Sonia and Lupe, participation in the micro enterprise significantly modified their will and their capacity to demand changes to their obligations at home and gave them greater strength to negotiate important aspects of their relationships with their husbands. In Sonia's case, the confidence of realizing her capabilities to earn an income influenced her attitude with her husband. In Lupe's case, the socialization with other women that came with the participation in the micro-enterprise helped her realize she should negotiate her duties and obligations at home. This meant demanding help from other members of the family with housework and negotiating the time she spent helping out in the field. For Josefina, the experience and support she received from the other women in the micro enterprise gave her the confidence to confront her husband about what she was allowed to do or not. With time she gained the confidence to stand up to him, to demand her right to work, travel, and most importantly, to be trusted and respected at home as she did when she went out to work. In the next section I will go into more detail about how the support from other group members, specifically Flor, gave Josefina the confidence to transform her situation at home.

For three of the women in the group, Flor, Blanca and Jenni, I did not detect transformations in their relational empowerment or evidence to suggest that their participation had changed their decision making or bargaining power in the household. These three women did not express any conflict with their husbands or other family members about their responsibilities in the micro-enterprise. They had a household environment and family who encouraged them. Their extra-domestic activities were tolerated if not openly supported. It is significant to note that the three women who had this positive environment at home were also related. Blanca was *doña* Flor's sister in law and Jenni was Flor's daughter in law. The men in this family demonstrated an open perspective with respect to gender roles and supported their partner's initiative. Blanca would say that she would always share with her husband the

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troubles she had with the other women of the group and seek his advice. Jeni's husband, for example, became happy when she quit the group, not because he didn't want her to work, but because he could see how she was getting frustrated and wasn't progressing enough. In fact, he felt it was in his wife's interest to quit the micro-enterprise and go back to school or look for a better paying job elsewhere.

The differences in the experiences of the women from Las Hamelias as to support at home highlight the asymmetries that exist in many rural communities in Mexico. The fact that Pescador is a newly formed community may also strongly influence these dissimilarities in culture, beliefs and social values that I found within the families in an apparently small homogenous rural community. Just as it may be important to create opportunities and environments that are conducive of transformations in women's relational empowerment, i.e. building opportunities to learn and engage in extra domestic activities, it is also necessary to pay attention to the differences within women's groups, to issues of power and influence among women and to understand the characteristics of group formation, cooperation and dynamics, an aspect of empowerment that will be analysed using social capital concepts in chapter 7.

6.3.3 *Power with or* group support

'*Power with*' is experienced and demonstrated in group cooperation. Rowlands (1997: 116) identified as the core values of this collective empowerment a sense of collective agency, of group identity and self-organisation and management. Various scholars who have analyzed women's productive groups in Mexico have found that groups play a vital role in fostering the empowerment processes. Martinez Corona (2005) argued that groups help counter women's isolation at home giving them a place of reunion where they can share experiences, emotions and aspirations. The group allows women to find a space where they can share and collectively find solutions to their problems and needs, while also developing attitudes of solidarity (Tuñon 2007). Mercado (1999) argued that for women in Mexico, simply to belong to an organization is essential for their empowerment. 'Every story emphasizes the importance of belonging to an organisation, because this is what has helped each rural women transform herself...they say: now that we belong to the organisation, we are learning so much, we are waking up' (1999: 111)

For the women of Las Hamelias, departing from the routine of the house and socializing was a motivation for participating in the micro-enterprise. Belonging to a group created a space where the women could get out of the house and socialize. However, contrary to the literature of women's groups in Mexico, mentioned above, this dimension of empowerment was one which I encountered the most problems and setbacks. The issues of internal organization, cooperation and collective action in the group were a significant concern of this research that I found and are analysed in greater detail using a social framework in Chapter 7. However I will describe the case of Josefina, one which gave proof to the argument for collective empowerment, not because I found the 'core values' that Rowland (1997) identified with this dimension of empowerment, such as collective agency and self-management, but because I found a compelling argument to how 'power with' might actually have the potential to change women's lives.

The support Josefina found within the group went beyond the mere sociability and distraction from household chores that most of the other women from Las Hamelias talked about. For her belonging to the group became particularly important because it opened the opportunity for her to learn how to read and write and transformed how she dealt with a difficult situation at home. Before joining the group Josefina did not know how to read or write and as she said herself, had never set foot in a school and could not even write her name. With the help of other women from the group who in turn got their daughters to help, Josefina started receiving literacy lessons. Flor's daughter got hold of books specialized in adult education and began showing her how to read. Blanca's daughter, who was at the time studying a degree in agronomy, also gave Josefina lessons for about three months when she went back to the community in the summer. Participating in the Las Hamelias group gave Josefina a good reason and incentive to learn how to read and do basic math, and perhaps more importantly it gave her the means to achieve this with the help of the other women in the group. Through her participation in Las Hamelias and the relationship she formed with the other women she expanded her opportunities of personal development.

Before participating in the group Josefina had kept quiet about verbal and physical abuse from her husband, thinking that it was part of her reality and what she deserved.

> When I came with him here, she (my mother) would say to me 'even if he hits you or scolds you, or does whatever, you should not defend yourself' and me, as always so daft, I would let him and would endure everything and the more he saw I would not complain or defend myself, the more he did hit me. Sometimes when

he got drunk at 11 or 12 at night he wanted me to get up and make food and if I didn't he would get angry, and I had to obey. *Doña* Flor, would tell me don't let yourself be mistreated... and she would always find that I was always purple and crying and she would say 'defend yourself woman!'...I would always give *doña* Flor my complaints and she would talk to him, but he would say to her, 'What can you do to me? You can't do anything!' and *doña* Flor would say 'Don't be like this don Francisco, because we can denounce you' (with the authorities). But she never said anything because she would always ask me, 'do you want to denounce him?' And I would say no, but because I was afraid. But after that day I got the courage and I defended myself, and from then on he never hit me again. After that day that I got the courage to throw him hot water, never again and the thing is that when he saw that I didn't do anything he would go after me, but after that no, because he doesn't dare anymore.

Josefina changed her ideas about what she should endure at home after joining Las Hamelias. Having the opportunity to talk to other women about her problems, and perhaps most importantly, having the support from the leader of Las Hamelias who confronted her husband about his abuse, transformed Josefina's situation by giving her the courage to stand up to him. I argue that the elements which allowed Josefina take the important step to change and not accept abuse was the experience of having other women (aside from close kin) 'knowing' about her abuse, having the chance to share the experience with others, and having continued access to a different perspective about what is deemed right and wrong and acceptable or not. Thapar and Reverter (2001) argued that the 'victim status' is suppression of the agency of subjects and dis-empowers women, but agency is something that needs to be actively supported.

Josefina shared that what helped her to understand that she didn't actually deserve to be mistreated by her husband were the talks on gender issues that were given to the group. Viviana, a member of the technical team of the local development organization Tssoka Teyo de la Sierra (TTS), gave the women of Las Hamelias talks on self-esteem. The group also attended events with a group of women from the city of Minatitlán to share problems, find support and strengthen collaboration and solidarity among women. Cristina, an NGO worker and consultant for Las Hamelias, narrated the significance of these events with the women of Minatitlán for Las Hamelias women.

> Those talks where we participated were very useful encounters, it was a bunch of women chatting and sharing. They were lovely times and with these women from Mina, the whole point was about supporting and taking care of each other. When I heard the difficulties that some of the women would share, I would say: Wow, there really is a need for mutual support! All of this work was very important and the one who participated most was Flor, but the other women

started to get involved as well, so at the same time we were working with the medicinal plant products we worked these issues of self-esteem (interview with Cristina, November 2006).

Doña Flor wanted other women from the community to become involved in the events where women's issues and problems were discussed. However, unlike Josefina and the women inside the Las Hamelias group, women in Pescador seemed to accept the status quo, a situation that *doña* Flor found difficult to understand.

> What is worse is that one tells them look, there are workshops on gender and I tell them to go and they say: 'no I don't want to have trouble, if he hits me, let him hit me, how I'm I going to oppose my husband?'. I tell them who are they so that they can beat you, they are not even your parents, but they say that's how it is, and I say no, why if we feel the same thing and we are equal? We can do things! How is it possible that the women here in Pescador are the ones that have to carry the firewood and they go work in the field with their husbands; but their husbands can't come home and wash a plate or help them sweep the patio or order the house because she is supposed to do it, only she.

Josefina's testimony demonstrated how the group played an important supporting role and within it the role of Flor was crucial for guiding her process of empowerment. *Doña* Flor was a persona capable of encouraging, supporting and mobilizing others towards change. In Chapter 7, I will analyze *Doña* Flor´s influence on other aspects of the micro-enterprise, specifically, the issues of self-organization, management and cooperation which are close to the notion of collective empowerment, but which I found useful to analyze using social capital concepts and insights.

6.4 Conclusion

The chapter initiated with an exploration of the obstacles the women from Las Hamelias faced when they engaged in the extra-domestic work of the micro-enterprise. The women's narratives suggested that one of the fundamental constraints for many of them was related to the need to travel. Attending meetings and workshops, as well as constantly going out to events in order to sell their products, created problems in terms of available time, and for some, serious conflicts with their husbands. Having to travel also discouraged other women from the community to consider participating. Factors, such as education, age of their children, domestic workload and family support were identified as fundamental aspects to understand why some women were better able to participate in the productive initiative of Las Hamelias.

The common assumption that micro-enterprises are a suitable option for balancing women's household and economic responsibilities should be taken with caution. Micro-enterprise activities require considerable commitment of time and energy, are demanding on women's literacy and numeracy skills and capacities and often require the ability to be able to travel. These factors were found to limit the number of women who may have wanted and been able to participate and benefit from such initiatives. Social norms and a gender division of labour that limit women's mobility and availability of time still predominate. The findings of this research are similar to those found in the literature of women's micro-enterprise groups in Mexico that caution the effectiveness of rural micro-enterprises to foster economic growth and highlights the excessive burden of work these initiatives can place on already busy women.

On the other hand, there is considerable proof that the income earned by the women, together with the opportunities for reflecting on gender issues and roles can have positive effects on women's empowerment. The opportunity to attend workshops on self-esteem and the women's participation in a women's network proved important to transform their attitudes. The ability to earn an income, the opportunity to access other points of view, and an expansion of social networks contributed to an improvement of the women's skill and self-esteem, which aided in their being able to confront abuse and improve individual situations. No less important than the processes of personal growth and empowerment was the strengthening of women's decision making power within the household that comes with participation in extra domestic activities which was key for some of the women in Las Hamelias. Additionally the learning that occurred through group organization and experience, is vital to guarantee the long-term continuity and the strengthening of the empowerment process for the women involved.

6.1 View of the workshop from the entrance gate

6.2 Harvesting plants from the garden of the workshop

6.3 Washing, cutting and weighing plants for the elaboration of the cough syrup
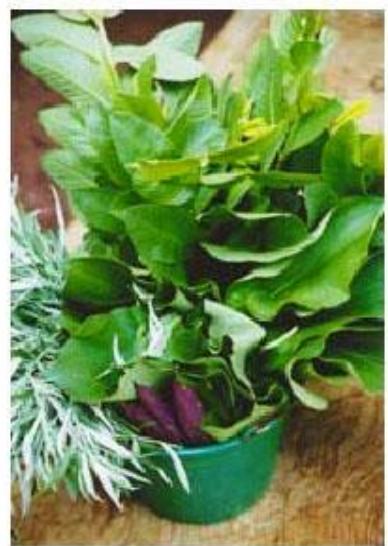
6.4 Bucket with medicinal plants

6.5 Medicinal plant 'tea'

6.6 Finished product

7. BONDING AND BRIDGING SOCIAL CAPITAL

7.1 Introduction

The concept of social capital has been defined and understood in multiple ways. I use the social capital typology proposed by Woolcock and Narayan (2000), which separates issues into bonding social capital and bridging social capital. The first section of this chapter addresses *bonding social capital*, which has been identified as 'the strong ties between immediate family members, neighbours, and close friends who share similar demographic characteristics' (Woolcock 1998: 26). My research analyses the relationships within the Las Hamelias micro-enterprise group, integrated by women from a small rural community in Mexico, as to their family and friendship bonds, which enable their capacity for cooperative and collective action. The perspective of social capital that best fits this type of inquiry is that it 'represents a propensity for mutually beneficial collective action, and it derives from the quality of relationships among people within a particular group or community' (Krishna 2002: xi).

Bonding social capital is a concept which is often used to look at how relationships with others can be beneficial in daily life and in order to achieve personal aims. Individuals can access bonding social capital through close family ties or social networks where close cultural identity plays a role in making cooperation and collective action more likely. Research on ethnic entrepreneurship, for example, has found evidence of how a common national identity enables migrant communities to survive and prosper in host nations through the creation of strong bonds of cooperation and reciprocity (Woolcock 1998). In development studies, research has found that close social ties in small communities provide valuable resources and livelihood strategies for poor families (Cox and Fafchamps 2006; Fox and Gershman 2000; Graser et al. 2003; Narayan and Pritchett 1999). The idea is that families or groups with limited financial resources or excluded social groups such as migrants can achieve different forms of cooperation and collective action using social resources in the form of strong interpersonal bonds and relationships.

The second section of the chapter deals with *bridging social capital* which involves the relationships between the Las Hamelias women and the government and civil society actors with whom the group interacted. The aim was to understand how these relationships were established, some central characteristics of these interactions and whether they enabled the group to access resources, knowledge and opportunities. The definition that best fits this

inquiry of social capital is Bourdieu's (1987): 'Social capital is the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition'. This perspective of social capital involves an awareness of power and an understanding of the individual's position in social space.

Bonding social capital allows individuals to draw on the benefits of close ties with family and neighbours and has been found to be vital to participation in more extensive networks that transcend the community. Granovetter (1973) proposes the analysis of how 'interaction in small groups aggregate to form large-scale patterns' by focusing primarily on the diffusion of influence, information, and opportunities with the hypothesis that 'whatever is to be diffused can reach a larger number of people and traverse greater social distance, when passed through weak ties' (ibid 1973: 1366). Bridging social capital, therefore, focuses on how groups and localities link with wider arenas and institutions. In development studies the view has been on interactions between local communities and actors from civil society, business and government.

There is increasing consensus by social capital theorists that the different combinations of bonding and bridging social capital might allow people to confront poverty, to cooperate, resolve disputes, access knowledge and take advantage of new opportunities (Woolcock 2000, Woolcock and Narayan 2000; Adager 2003: 292). The aim of this chapter is to engage with the ways in which the Las Hamelias micro-enterprise might have achieved one or more of these aspects. As Woolcock (2001: 194) observes: 'Micro enterprise programmes are a fruitful arena for the study of social capital, precisely because they provide a setting in which to analyze both community-level and institutional dimensions [of social relationships]'. The analysis of leadership as a strong component influencing both bonding and bridging capital in the present chapter was based on a combination of what I observed in the field before *doña* Flor passed away, conversations with her about this situation and retrospective information from interviews conducted with the women after she died, an issue that was discussed in the methodological chapter and may have had consequences in light of the moment of mourning.

7.2 Bonding social capital: The fragile balance between cooperation and collective action

The empowerment framework used in the previous chapter enabled us to look for the impacts of micro-enterprise formation on the women's capacity to achieve personal growth and empowerment. Use of the concept of social capital aids in analysing how (and whether) organizational strength was created and what factors enabled or otherwise limited the group's capacity for collective action. This section engages with this issue through the concept of bonding social capital, which has been used to analyze collective action by focusing attention on factors such as trust, reciprocity and cooperation in groups. Molyneux (2002:68) observes: '[Social capital] has brought to the attention of development studies the quality of local social fabric and the importance of forms of solidarity and co-operation'. The aim is to answer the following questions: What were the organizational characteristics of the Las Hamelias micro-enterprise group? How did these characteristics impact on their capacity for cooperation and collective action? To answer these questions I have used Ramos-Pinto's (2007) suggestion of analyzing issues of social identity, power, norms and strength of ties. Social identity and power refer to the characteristics of group members and whom the networks connect with. The quality of the relationships among them addresses the strength of the ties and the rules that direct the relationship (ibid 2007).

7.2.1   The element of leadership

The management of conflict, negotiation of interests, division of responsibilities and leadership are all factors that affect group organization. To begin, one of the central characteristics of the Las Hamelias group was the type of leadership. Rowlands (1997; 99) argues: 'A factor that plays an important role, both in developing a sense of collective agency and the general effectiveness of groups, is the approach to leadership'.

Doña Flor was behind the Las Hamelias micro-enterprise and it was her leadership that led the organization forward. The women of Las Hamelias gladly accepted the leadership of *Doña* Flor, who took on many of the necessary tasks, yet this organizational arrangement became a hindrance when she passed away. A number of scholars conducting research on women's micro-enterprise groups in Mexico have found evidence of members' dependency on their leader (Vazquez 2001; Martinez-Corona 2005; Mercado 1999). In the case of Las Hamelias, overreliance on the leader of the group was pronounced. *Doña* Flor had a vital role in the functioning of the micro-enterprise and took on the heaviest weight of the activities and

commitments. Yet her leadership style was on the one hand, control of activities and responsibilities and on the other hand, caring, listening and supporting others.

Martinez-Corona (2009) suggests that the caring disposition of women leaders in rural Mexico is a common consequence of an identity that is linked to 'being for others' and often translates into a style of leadership constructed on caring and supporting attitudes. As seen in the previous chapter, Flor supported Josefina with her troubles at home and gave her vital encouragement in learning how to read and write. In conversations with the group, the women all said that Flor was always there to listen and help. Her caring disposition may also be the reason that she undertook the major workload of the micro-enterprise's activities. Cristina, an external consultant to the group, characterized Flor's leadership as one of generosity as she was always giving her time and effort but never expected people to thank her for this or reattribute in any way. The downside of this caring type of leadership became a dependency and unequal distribution of responsibilities, which prevented the other women from learning about the management and fully committing to the enterprise. In the case of Las Hamelias, excessive reliance on the leader curtailed the group's capacity for collective action and women's empowerment.

My awareness of the extent of Flor's organizational command and coordination of the group was manifested early in the field work. A few weeks before my initial arrival I called the women to ask if there was anything I could bring them from Mexico City. They told me they had run out of plastic bottles for their cough syrup and also needed a couple of medicinal plants and pharmaceutical inputs. Over the next weeks I struggled to find the things they had asked for because I had no detailed information about what they needed; i.e. the type of bottle, size and top, or contact information for the people with whom they usually did their commercial transactions. The women did not have invoice details and were not sure there was enough money to pay for the items.

The women told me on the phone that they could not give me the appropriate information because Flor was away and they could not find the notebook where most information about their business contacts was concentrated. Flor was the one who knew. Fortunately the pharmacy where they sourced some of their basic inputs had the invoice details, the list of the products the group usually bought and a sales woman who looked after their account. The relationship with this company had been established because Flor had personally been to Mexico City and had taken a few short courses with this pharmacy. When I arrived in the

community a few weeks later carrying the plastic bottles for the cough syrup and a couple of bags of dried plants I was finally able to meet *doña* Flor. She had been ill and had been away for a few months for treatment. We talked about the women's lack of information and the trouble I had finding some of the things they had asked me to bring from Mexico City. She acknowledged the problem and said that the reliance of the other women on her presence had been probably her own fault:

> That's why I say that maybe it was my fault, because all these things of 'No, I'm not going or 'No, if it was her turn, why should I do it?', I would say ok, I will go and would get things done; and this is the reason there are lots of things the other women didn't know how to do, such as make an order or send a package. They don't even want to charge. In February I left them a note with the date and the amount of products, the price for each one and the total amount to charge that month and I told them (because before I started to feel ill I started to delegate things like this): 'you have to go and charge this to the Hotel Terranova in Coatzacoalcos, and ask or give them a call to see if the product has been sold and if they want more products, but they never did it...I had a notebook where I had all the information about the orders and where all the addresses and telephones to the shops were. They have it there, or they should have it, because when they were going to move to the new workshop they called me and I told them please don't throw away a single paper, put all the papers in a box and then when I go we are going to organize them, or all of you go reviewing page by page so that you see what you need and what you don't, but don't throw anything away now!

Flor acknowledged her fault in taking on too many of the responsibilities. What can be inferred from this quote and conversations with the other women was that it was a comfortable arrangement for the others to rely on Flor. This demonstrated a certain complacency in the other women, but it also pointed to the difficulties some of them found in participating in the micro-enterprise, such as lack of time, conflict with partners and lack of literacy skills. Flor's leadership lacked the strength to demand the same effort and time she was putting into the micro-enterprise from the other women, and this created an internal disparity that affected the group in the long run.

As the person who had the initial idea and who had invited the others to participate, Flor probably felt greater responsibility for the outcome of the enterprise and was more committed to making it work. Other factors which enabled her to dedicate more time and resources to the activities that the enterprise required such as placing orders, sending packages and keeping up with clients related to her own situation at home and the support she received from family members (aspects of which are addressed in section 7.3). Below I illustrate the

impact of *doña* Flor's type of leadership on the internal organisation of the group and how her absence made a profound impact on the group.

Flor died a few months after my first stay in Pescador.[45] When I returned to the community I noticed that the women were devastated and were having trouble reorganizing themselves. Two had dropped out of the group and the three who were left felt lost without Flor, often mentioning how they wished they had paid more attention while she was around and saying they were finding it difficult to cope. Flor was the one who had organized and achieved most of the activities the micro-enterprise required, but by taking care of most aspects without delegating or demanding equal commitment and work from the others she had made the group dependent on her presence. The following is the testimony of Josefina, one of the women who remained in the group after Flor's death, describing the group's dependence on her:

> [Flor] would give her time, she would wash dishes or mop the floor and would notice if we had run out of creams and she would make them, she would look over the rules of the group and would go to the workshop to review what things we needed. Then when we got together she would say: 'Women, we lack this, I came to see what we are missing' and yes, she would make the list and would tell us: 'You only come to work and don't even notice what we're missing', and it was she who would go to buy, or if not she would go with the accountant and would make the order for what we needed, she would do it and we didn't even know what ingredients the products had...but in fact, she would always say to us: 'Learn!'

Blanca also acknowledged that the dynamics of the group had depended on Flor's initiative and her ability to manage the group, but from her point of view this arrangement made everyone work more and better. She admitted that Flor had a special ability to convince others about her point of view.

> When Flor was here we all worked more, because she would say: 'Let's do this or let's do that'. Yes, it was nicer then, when she was here. She was the head of the group and one would only go work, but we were accustomed to her taking the initiative. And she had the gift of convincing you and she would talk to you and tell you the truth, or what one had to do (crying)...Maybe it was bad that we got accustomed to that, but if one is happy like that?

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[45] My first visit to the field was in June 2006. In September 2006 while I was conducting field studies elsewhere, Flor died after battling cancer for more than a year.

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Cristina, an external consultant to the group from the beginning of the initiative, had a clear perspective on the loss of Flor's leadership of the group. She had spent a few days in the community visiting Flor's family and paying her respects. She observed:

> I think they are in 'stand by'; the death of *doña* Flor has definitely affected them a lot in the sense that there hasn't been someone who can retake the leadership, most of all the vision that *doña* Flor had, the patience she had...She would maintain the equilibrium because she had a lot of experience in group organization; she knew that the moment was going to pass and that they would still be together. So it was maintaining them and having the patience and painting the future because she would say: 'Look, right now we fight but this will pass and we will be ok'. I think right now they are getting restless and are saying 'I'm going to quit, because I don't like it', or because they don't work the same or I don't know, but I feel it's a critical moment, they have to be conscious that *doña* Flor is not going to be there and that someone else needs to create that equilibrium or they will break and disintegrate. I think that it would help if someone took on the leadership in a conscious way.

Cristina's testimony demonstrates that while *doña* Flor was head of the group her experience working with groups and her overall attitude helped to maintain the group's cohesion and helped the others to move on after internal disputes. The women of Las Hamelias identified Flor´s capacity to listen and to give of herself in a disinterested way:

> It was very easy to share your troubles with her because she was a good listener, but *doña* Flor is still with us and she is an inspiration to keep working, she is still watching over us. (Sonia)

> The other day we had a problem here in the group...and I didn't know if I had done right or wrong, and I wanted to talk to someone, but the one I always talked to was *doña* Flor when she was here. (Josefina)

David Day (2000) emphasizes that leadership development seen from a social capital perspective should include the development of attitudes of service to others, empathy and the capacity to develop others. These were characteristics that Flor possessed, yet we cannot forget that this type of leadership also created great reliance on her presence. The group did not have a process for collective learning in place, an egalitarian division of internal responsibilities or a mechanism whereby leadership skills and positions were shared. Ramos-Pinto (2007) argues that the unequal distribution of effort and reward has negative consequences for collective action. The following section deals with the internal rules and regulations of the Las Hamelias group and misunderstandings related to enforcement and noncompliance.

7.2.2 Group organization and norm enforcement

The leadership experience of the Las Hamelias group offers insights into the organizational characteristics and dynamics of the group's relationships, which in turn enable us to understand the importance of leadership for cooperation and collective action. Ramos-Pinto (2007) argues that another issue crucial to understanding collective action is the attention to formal norms.[46] The formal norms analyzed in this section are those that pertain to the rules of Las Hamelias which were accepted by its members on January 18, 2002. I look at the issues related to norm adherence and enforcement.

Rules are usually written down and agreed upon to create joint understanding about how collaboration in a group should function and to prescribe penalties for not following them. However, formal rules do not always have the same strength or weight as the unwritten social norms of behaviour and are often subject to questioning in particular cases and circumstances. For instance, in the rules of Las Hamelias (*Reglamento de Trabajo del Grupo Herbolaria Hamelia*), the women agreed that a day's pay would be discounted for each day of absence from work, and that paid absences would only be permitted if the person could compensate by doing the equivalent work at home (see chapter 5). The rule seems straightforward, but in one circumstance this precept became questionable.

When Chavela's husband had a serious accident that left him paralyzed from the waist down she was forced to stop working in the group to take care of him, first for various weeks in the hospital and later on at home. She did not participate in the group for about a year while her husband was at his worst. Although she remained a member of the group and continued signing documents whenever needed, she was not able to work, even from home. When her husband's health finally improved and he was able to use a wheelchair that gave him greater independence and mobility at home, she was able to go back to work with the group. She started noticing that she was not being taken into consideration in many decisions and when it came time to distribute the profits she was not given the same amount as the others because she had not been working for the entire time. Chavela expressed that it was precisely at this point that she was in dire need of extra money. The fact that some of the other women from the group did not show solidarity with her in this situation hurt her very much. After this

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[46] He distinguishes social norms from legal norms, 'seeing the former as more likely to be spontaneous, unwritten and informally enforced, as opposed to the latter, which tend to be designed, formalized through writing and enforced by a specialized bureaucracy' (H. and O. 2004 cited in Ramos Pinto 2007:62).

incident she never went back to work with the group and it affected her personal friendships with the women. When I interviewed her years after this had happened, she told me she still felt hurt and sad and could not understand how the others had not been more sympathetic about the difficult and painful situation she had gone through. For Chavela, the rules and regulations that had been set out for the group should not have taken precedence over the unwritten social norms that establish relationships of solidarity and reciprocity within a group and community.

Another, similar conflict occurred over rules of the micro-enterprise that stipulated the conditions of participation in Las Hamelias. In Viviana's case, pressure from her family finally led her to quit. However, she understood that because she had worked with Las Hamelias for three to four years she deserved compensation, and she had assumed that she would receive money for her percentage of the enterprise and/or her years of work. The rules established in the Constitutive Act of the enterprise do not stipulate compensation when a member leaves, but for Viviana this was not relevant. Her understanding of what was fair included this right. An external advisor to the group who had helped to write up the official regulations of the enterprise went to the community and personally explained to Viviana that compensation was not part of the agreement when the enterprise was established; if she quit she was only entitled to appoint someone else to occupy her place; but angry with the situation, Viviana refused this alternative. She had demanded a compensation that was not agreed or officially stipulated, confusing the rights awarded to an employee with those of collective ownership of an enterprise.

Misunderstanding official norms can create irreversible situations of conflict. In the case of Viviana, enforcement of the formal norm and the contention of conflict were possible only through the intervention of an external actor who explained the conditions she had agreed upon when she decided to participate in the group and convinced her that this was the best arrangement for all the members. Viviana told me that her participation and experience with Las Hamelias had left her feeling hurt and resentful. In both cases the women came into conflict because of their different understandings of the social norms and values that should underpin the group regardless of the official rules and regulations that had been set up. According to the external adviser who helped to resolve the conflict with Viviana, it is common among rural enterprises and cooperatives for members to have difficulty applying formal regulations and sanctions and understanding the horizontal management of an enterprise (interview with Luisa Paré, July 2006).

One of the reasons that the official rules of the enterprise were not deemed important by Chavela and Viviana may be the disparity with which these were followed in the first place. For example, in Las Hamelias the establishment of a revolving fund that would only be used for the purchase of inputs and other needs of the enterprise was actually used as a small credit scheme for the individual needs of the women. The obligatory assistance of all members to group reunions, sanctions for being late for work and the distribution of responsibilities were likewise not always followed. The document listing the group's rules mentions the distribution of activities and the election of representatives, but this did not prevent the concentration of tasks on one person.

Asymmetrical enforcement of formal norms weakened the group and allowed contestation and conflict. When the rules to be followed become arbitrary, it seems obvious that conflict will arise and individual understandings will take precedence. As Ramos Pinto (2005: 62-63) argues, 'The strength of the norm relates to how deeply the prescription of behaviour is ingrained in individuals' mentality, how strong the 'oughtness' drive is in ruling their behaviour; it also is related to how likely it is that other group members will sanction defection and how much effort they are willing to expend in doing so.' The cases above demonstrate how when sanctions were enforced the result was the loss of two group members and the friendships that had been established. For a micro-enterprise made up of a small group of women in a small community, the conflict and loss of group members was, I argue, a significant cost. In both the cases the issues were related to money. The following section deals precisely with this aspect of group management.

7.2.3 Trust and cooperation

A central issue of micro-enterprise organisation which has a direct relationship with the capacity for cooperation and collective actions is the management of money. Clear, concise and shared understandings about how money is managed and distributed are likely to prevent conflict and increase capacity for cooperation. On the other hand, if there is inconsistent and irresponsible management of money misunderstandings, conflicts, loss of trust and feelings of injustice may occur. Zapata and Mercado (1996: 115) observe that one of the central obstacles to women's micro-enterprise initiatives in rural Mexico is the management of money. The authors argue that rural women often lack experience in commercial enterprises: 'Tasks are not clearly separated, there is lending of money without clear rules or controls and what is spent and how much money comes in is only roughly calculated'. In market-centred projects

such as a micro-enterprise these management problems can lead to tension and conflict, as occurred in the Las Hamelias group, especially after *doña* Flor died.

Problems with money, internal disputes and lack of trust among the women threatened the stability of the enterprise after *doña* Flor's death. Two members quit and the three remaining talked constantly about abandoning the enterprise all together. Jenni was the first to drop out, explaining: 'There were too many problems between the women about the distribution of work and money'. Lupe revealed that she quit because she was having health problems, but then also acknowledged that she was tired of the internal conflicts.

While *doña* Flor was leading the group the management of the money was transparent. She had a notebook where she kept all the records of what they had spent, how much money was received from government projects and how much money from their fund was lent among themselves. Until 2005 the notebook with their accounts was clear and organised. I observed that the entries were all written in the same handwriting and with the same format: on one side the earnings, on the other the spending and at the bottom the balance for each month. From 2006 on, Flor became ill and the notebook began to present omissions. Not all the months were recorded and not all the information was written down. The disorganisation was such that the women were not even sure how much money was in the bank.

The women in the group had entrusted Flor with responsibility for the accounts, but since her illness lack of clarity about money and lack of trust among the women began to surface.[47] Sonia complained most about the money issues. From her point of view the finances of the enterprise were being managed arbitrarily. She argued that the other women in the group were lending themselves money and then never paying it back, and that they were going out to sell but then never delivering accounts of what was sold and what was spent. She said the others wanted more flexible control of the money. In her words, the women wanted 'the money to be free'. Sonia was becoming increasingly frustrated. Whenever she confronted them about this idea or the debts that they might have the other women either ignored her or got upset. She openly admitted she did not trust them anymore and thought that the only solution was for someone from outside the group to come and put the accounts into order:

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[47] In some groups the lack of numeracy skills could be an important reason for why only one person deals with the money. In the case of Las Hamelias at least three other women had sufficient numeracy skills to deal with the accounts, but they did not have the same authority as Flor.

I do not trust anymore, right now I have some money left over from the building of the *temascal*, and I have kept it because they are capable of spending the money and not showing how it was spent. I'm going to put all our spending on a big piece of paper and going to calculate the accounts of what was spent and in what it was invested and what was left over! And that's what I'm going to say...but even if you tell them, they don't do it. As Blanca says, she 'pours oil and everything slips'. Right now what we need is a person that says: 'Let's see, women, let's go over the accounts'. Someone that says: 'Let's go over our finances to see if we are working well or not'. What if we are spending more than what we are earning?

Sonia tried to enforce some of her ideas about organising the money, but her efforts to take over the administration of the accounts were not accepted and at one point she was even accused of mismanagement. She told me that after this incident she swore that she would never have anything to do with the accounts again, but was constantly frustrated and complaining about how the money was being handled in the group. She insisted, for example, that one of the women had borrowed money from the micro-enterprise fund a long time ago and had still not repaid it. When she brought up the issue the other women would argue that because she had money and did not suffer hardship it was easy for her to complain:

In December I told her [that she had to pay back the money she had borrowed] and she said she would pay it, but they say that it's because I have money, and that people change when they have money, but it's not like that. I say this because it's been a long time since she took that money and its money that belongs to all of us, that's what I say to Josefina.

Blanca perceived that the problem was that Sonia had lost trust in them and was constantly accusing everyone of everything from failing to repay loans in time to hiding the key to the workshop on purpose or taking one of the truckle beds used for giving massages. From Blanca's perspective Sonia's personality and the way she said things to people were behind the internal conflict. She assured me that Lupe had finally left the group because of a rude comment Sonia had made to her. Jenni, who had also left the group, said that Sonia caused conflict among the women but no one had been able to put a stop to her rudeness and bad attitude. It was also apparent from Blanca's testimony, below, that because Sonia had more money than the others this played a part in how she and how her complaints about money were perceived by others.

Sonia is the one who has lost trust in us, but we say that's just the way she is...Because she has money she feels more than us, because she doesn't go through hardship she thinks she is so perfect. Then the other day the truckle bed we use [to give massages] went missing and who knows where it is, but the thing

is she immediately said it had been me or Josefina, and that's why I say this is the house of intrigues, because it's always our fault.

Sonia's efforts to take on aspects of management of the money were rejected by the others, possibly based on personal characteristics, i.e. her economic situation and her personality. In this reasoning, the ability of the group to trust each other and cooperate may have been closely related to the characteristics of Flor's leadership. Flor's presence was vital precisely because she was respected and trusted by the other women. It could also be argued that the women were probably able to cooperate and trust each other before because of the mediation by someone who they did trust, Flor.

Harris (2001) poses the question: How does interpersonal trust become generalized trust? From the evidence of this particular case study, I argue that a leader may be a mechanism whereby interpersonal trust can be extended to a group. However, trust is fragile and subject to change. The moment a leader ceases to have legitimacy or disappears, as occurred in the case of Las Hamelias, so does the trust, commitment and obligation which upheld the relationship. This finding resonates with Fafchamps' (2006) argument that leaders are vital in raising levels of trust and play an important part in resolving conflicts and reducing fears of freeloading, but that strong leaders are rare and leadership is not easily replicable.

The interrelationship between trust and collective action has been a major topic in the social capital literature. Social capital has been defined as 'enduring social relationships of trust and reciprocity that enhance a group's capacity to co-ordinate action and work toward a collective good' (Montgomery and Inkeles, 2000, paraphrasing World Bank). There is controversy about whether trusting relationships produce social capital or not. The problem is that trust in itself is difficult to bring about, and as Harris (2001) argues, 'trust is specific and contextual...one trusts particular people in particular contexts'. A basic understanding of the idea of trust is that 'to trust is to believe despite uncertainty concerning another's actions' (Harris 2001). Or, as Gambetta (2000) explains: 'When we say we trust someone or that someone is trustworthy, we implicitly mean that the probability that he will perform an action that is beneficial or at least not detrimental to us is high enough for us to consider engaging in some form of cooperation with him'. This definition has prompted discussion on how trust (i.e. believing and cooperating despite uncertainty) comes about. According to the literature, the social bases of trust often rest on one of three elements (Zucker 1986 cited by Harris 2003 and Möllering 2006).

a) The social characteristics of others/Expected exchanges first hand or by reputation

b) Experience arising from repeated interactions/Produced through social similarity between actors

c) The existence of rules, norms and conventions that regulate the behaviour of others/Sets of shared expectations derived from formal social structures.

In the Las Hamelias case, I argue that trust was based on point a, above; the social characteristics of the leader, supported by the analysis in section 7.2.1 which illustrates the type of leadership Flor used and her personal characteristics as identified by the other women in the group. In section 7.2.2 I presented the cases of Chavela and Viviana which illustrated that the element of trust was not strengthened by the existence of formal rules and was not enough to regulate behaviour, as expressed in point c.

The present case study did not produce sufficient information to support point b, that trust may be the outcome of repeated interactions and social similarity. These elements should have been a powerful incentive to trust one another and facilitate cooperation and collective action among the women of the micro-enterprise. The social capital literature tends to stress that relationships among people who know one another in multiple and repeating roles such as family members, neighbours and close friends prompt attitudes of trust, reciprocity and cooperation within these groups. Women's groups in particular have been singled out as those more likely to be based on notions of solidarity and cooperation, achieving the most 'bonding social capital' (Westermann et al. 2005; Lin 2000). The Las Hamelias case suggests that familiarity and repeated interaction among the women was not enough to develop trust. Gambetta (2000) notes that: 'Trust, although a potential spin off of familiarity, friendship and moral values, must not be confused with them, for it has quite different properties'. As the Las Hamelias case shows, the trust between the women changed once the leader disappeared, showing that trust is dynamic and constantly changing.

Repeated interactions and social similarity among actors involved in relationships is stated by Zucker (1986) as an element of the building of trust. Ramos Pinto (2006) argues that social identity, or how close members of a group see each other, may influence the level of trust and affect their capacity for collective action. The lack of social similarity among the women of Las Hamelias may have played a part in hampering the trust in each other. From the point of view of a casual visitor to Pescador, the differences among the families are not apparent. As I described in Chapter 5, the community was established less than 30 years ago by families from

different areas of the country and with different cultural backgrounds.[48] Possibly the economic differential between Sonia and the other women, although relatively small, was enough to create suspicion as to her motives.

These economic and social differences may be significant factors affecting trust. The most evident example of social disparity among the women of Las Hamelias was Jenni, a young woman who grew up in the larger town of San Andres and who had twice the years of schooling as most of the other women. This seemed to affect her participation in the group, an acceptance of her ideas and the use of her capacities and skills. She told me she would often propose ideas for marketing the products and projected that she could dedicate all her time to doing this while the others, who found it more difficult to travel, could focus on producing the products. However, her ideas were not well received.

> I would tell the women I can learn how to drive and go the pharmacies. I said: 'Let's make a catalogue of the products and a handout. I can go to the shops and offer the products, but I don't arrive with a cardboard box, I arrive with a suitcase with wheels and separators for each product and say I come from a natural products enterprise, leave samples of each product and then I go back in a month to see how well they sold...but they told me: 'No, because you want to make more money than us', and I would try to convince them that it would benefit all of us, but they told me I was too ambitious and that I wanted to keep the biggest share of the money and after those comments I told my husband: 'I'm only getting enthusiastic and I can't see clearly', that's why I tell my husband 'Why should I be mortified? I'm wasting my time'...It was Sonia who said we are not in a position to give away products, people already know us, but I told her even the big companies need to make promotions, there is always a need to increase sales, why not us? And they told me that I was wrong and that I wanted to oppress them. That's how I felt.

The other women from the group did not accept Jenni's proposal for fear that she would take advantage of them, therefore she was not trusted with the responsibility of marketing the products even though it might have been beneficial to them all. Her level of education and her capacities were seen as a threat rather than a resource. The examples of mistrust among the women, especially after the loss of Flor´s leadership, demonstrated important difficulties concerning their capacity to trust each other and engage in cooperative behaviour. Jenni eventually left the group after *doña* Flor died.

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[48] Arguably it is not difficult to find differences even among rural communities with a long history and a more homogenous background.

7.3 Bridging social capital: NGO's and brokers

The previous section on bonding social capital was concerned with understanding the relationships within the closed group of the Las Hamelias micro-enterprise and the characteristics and dynamics of these relationships and their consequences for enabling collective action. Bridging social capital emerges from a different sphere of social capital, precisely those relationships that are external to the group and are links with people from different geographical and socio-economic positions of society. The focus here is on analysing and understanding how relationships between the women and actors from government institutions and civil society organisations were established and the role these *bridging* relationships had on the group's access to resources and knowledge.

The bridging approach to social capital is seen as an element which offers access to resources in networks or groups of which an individual is a member (Lin 2000). The emphasis, from a development perspective has been on how actors, organisations and networks might help people to gain resources, opportunities and knowledge. Bebbington's (1997) research focused on the impact of civil society actors on environmental and socio-economic change in poor localities of the Andes of Ecuador. The author found that: 'in all cases of success… outside intervention and key individuals played critical roles...these individuals not only brought ideas, but more importantly they brought networks of contacts that helped bridge gaps between the locality and non-local institutions and resources' (ibid 1997: 193). In the case of the Las Hamelias micro-enterprise, various civil society organisations played an important role in securing government funding, offering training opportunities and to a lesser extent finding markets for their products.

7.3.1 Access to resources, opportunities and knowledge

When I first arrived in Pescador at the beginning of 2006, Las Hamelias was marketing about 21 different products: 3 different types of soaps, a cough syrup, shampoos and creams, among other products (see Table 5.4 Las Hamelias Products 2006). Through the sale of these products the group was receiving enough income to distribute profits every four months; the first in May, a second in September and a third in December. The amount they allocated each time depended on the profits generated for the periods mentioned and could vary, but according to the women it constituted on average between 2,000 and 3,000 Mexican pesos (£90-130) for

each of them, not including costs for the elaboration of the products that would be taken from their revolving fund. Taking into account the 3,000 pesos quarterly income they stated in 2006, each woman was earning about $187 Mexican pesos a week (£9.4); they worked, on average, twice a week in their workshop, so they were earning 93.5 pesos a day (£4.7). However, as seen in Chapter 6, the women worked more than twice a week as they often went off on weekends to town fairs and events to sell their herbal products. Nevertheless 93 pesos a day is still more than the minimum wage in the state of Veracruz, which in 2006 was 47.16 pesos a day (5.8 pesos an hour)[49]. For the women of Las Hamelias, this amount of money was better than nothing at all. On the other hand the women were actually receiving additional benefits by borrowing money from the cash they received through the government endowments.

The group had a revolving fund of money from external financing which was intended to cover the micro-enterprise's investment needs (i.e. pay for plastic bottles, transport costs for going out to sell their products, etc). However, the women would often borrow from this fund to pay for things they needed personally or to make a small investment, thus it served as a micro credit scheme. The women agreed that they could borrow up to 3,000 pesos (£130), the earnings they each received every four months. The fund was originally created with money from a government endowment and was to be sustained by the reinvestment of half the total profits the group made every four months, as was stipulated in the operative rules of the group; however the fund was actually mostly maintained from government endowments. By 2008, the women said they did not have any money left in the fund as this had been subject to fraud by their accountant, and it was not clear how much profit they were making each month with their sales, or indeed what were the costs of the elaboration of the products.

The bulk of the investment in the Las Hamelias micro-enterprise originated from government funds, which through the years endowed the women with resources to buy materials (bottles, labels, tools, etc), to facilitate the payment of external consultants and to attend capacity-building workshops. Most importantly, the funds paid for land and the construction of the workshop where they manufactured their products. In the space of six years the group received 258,944 Mexican pesos (about £12,000) from different ministries of the Mexican government (see Table 5.3 Government funding for Las Hamelias micro-enterprise: 2000-2006). Each year, the government invested around $43,166 Mexican pesos (£2,000), in Las

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[49] Taken from: Servicio de Administración Tributatia (SAT) 'Cuadro histórico de salarios mínimos 1982-2009' http://www.sat.gob.mx

Hamelias micro-enterprise, not a significant investment for any business and compared to another group in the Pescador community involved in an ecotourism project which received 1 million pesos (46,300 GBP pounds) to finance the building of eco lodgings, the amount received by Las Hamelias was small. However, the hard work of the women and the government endowments enabled them to make a steady, albeit small, profit from the sale of their herbal and cosmetic products.

Access to government funds occurred through the groups' engagement with external actors from NGOs. As seen in Chapter 5, in 2001 a coalition of NGOs that promoted productive projects in the region was given a grant by the Ministry of Social Development to work on a regional development strategy. To implement this strategy, distribute the resources and enable the participation and involvement of the local population, the Tssoka Teyoo de la Sierra (TTS) organisation was created. The organisation became the structure through which financial resources were channelled to groups and cooperatives, among which was the Las Hamelias micro-enterprise.

In addition to receiving government financial resources the women were able to request a number of capacity-building courses and workshops through TTS (see Table 5.2 Las Hamelias capacity building experiences: 1999-2006). In this manner they expanded their knowledge of the therapeutic uses of medicinal plants, methods of preparation of herbal and cosmetic products and techniques of massage and *temazcal* baths. These courses addressed topics specific to the group's needs and were complemented by more general courses given by the technical team of TTS, including subjects such as environmental education, gender and savings.

For the first year and half, Las Hamelias was assisted by two external advisors who helped the women in the first stages of the establishment of the micro-enterprise. They were members of the coalition of NGOs working on promoting sustainable development alternatives in the region. Cristina was the person who helped Las Hamelias with initial product creation, promotion and marketing and made the first contacts with providers and clients. She became involved with the packaging, presentation and promotion of the products and established links with businesses such as graphic designers, professional printers and input providers. Cristina lived in the nearby town of Chinamca and went as often as once a week to Pescador to support and work closely with the women. The other adviser, a biologist living in Xalapa, the capital city of the state of Veracruz, helped with marketing the products, contacting big retailers in

commercial fairs and visiting small shops. She did not have such a continuous relationship with the women but she served as a link to clients and markets in larger cities of the state.

At the beginning Las Hamelias put pressure on the two women to join the micro-enterprise and wanted them to participate in the group not only as advisors, but as part of the group itself:

> I remember they put as condition [of creating a micro-enterprise] that Susana and I become part of the group, that we would not only have the role of external consultants but that we become part of the group. It was very strange, and for me it was like 'hey no! We're only advising you, we're external, we don't live in the community and we won't be able to go and elaborate the products. And they would say that if we didn't form part of the group with all the responsibilities and obligations they would not feel assured that the group was going to work. For me it sounded like: 'If you don't commit fully with us, you'll get us into this thing and then just leave us here'. (Interview Cristina, November 2006)

By demanding full commitment from the external consultants to starting an initiative such as a micro-enterprise, Flor and the other women from the group were acknowledging the importance of having these two young women, who lived outside the community and had different occupational and socio-economic backgrounds, to support them. As external consultants their job would terminate eventually and the women knew they needed long-term support to engage in the competitive, mostly urban market of herbal and medicinal products. Just as the women of Las Hamelias predicted, after a year and a half the money to pay for their services ran out, and Cristina and Susana got jobs elsewhere. The group was left without the support and advice of these two young women whom they had initially beckoned to join the micro-enterprise as members. While recollecting the history of the micro-enterprise, all the women agreed that Cristina's leaving was the first big blow to their group as they considered her a vital part of the enterprise. As an external consultant Cristina had taken a very active role in supporting them and because she lived in a nearby town she was also able to visit them often, establishing a relationship of friendship.

Even without Cristina the group was still able to rely on the support of the technical team of the local grassroots organization. The help from advisors was not as frequent or as personalized as that given by Cristina, but the existence of this organisation helped considerably. The people from the TTS technical team help the group by writing up proposals for further financial assistance from government and private funds while also helping with the accounting and legal issues. The technical team often communicated information about

commercial fairs and events where Las Hamelias could sell their products and organized capacity-building workshops that the group requested. The physical presence of an office with access to telephone and internet was crucial to Las Hamelias for maintaining links with their clients and input providers.[50] The creation of this local grassroots organisation provided an important institutional framework for Las Hamelias and gave support in accessing financial assistance, offering learning opportunities and providing markets for their products.

Actors working within civil society organisations have been identified in the literature as key elements in the successful implementation of development projects. In research on a women's beekeeping project in rural Mexico, Villarreal (1994) found that new associations formed through development projects required the action of brokers to sustain them. The author defines a broker as a person who functions as an intermediary between project superiors and the local population. Bebbington (1997) found that brokers such as a university professor, priests, and European volunteers were fundamental to rural projects in Ecuador. The brokers secured technical assistance, financial resources, donors and alternative trading networks that rural localities would otherwise not have had access to. Similarly, Healy's (2002: 206) research on the successful establishment of community museums in Oaxaca, Mexico found that the process relied on 'the talent and commitment of two anthropologists who put together the support structure (including the creation of an NGO) for getting the community museums planned, designed, financed and renovated'.

The individual behind the process for obtaining the government grant and establishing the TTS organisation was Luisa Paré, an academic at the National Autonomous University with more than ten years' experience working in the region in development projects; in the case of Las Hamelias, in addition to Cristina and Susana, Luisa could be considered a key broker, because she constituted a bridge between the rural cooperative groups such as Las Hamelias and actors from public and private organizations, institutions and businesses. Individually she became involved in helping the groups and constantly fed critical information to the technical team of the TTS and the members of the groups. She connected the Las Hamelias women to actors who gave them access to new knowledge and alternative marketing organizations such as a network organization called *Bioplaneta*.[51] She used her personal contacts and networks to help

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[50] In Pescador there were only two phones for the entire community.

[51] Bioplaneta is a civil society organization (Red Bioplaneta A.C.) that provides capacity-building and advisory on management and fosters strategic alliances for rural cooperatives. Their commercial strategies include three interlinked processes: the establishment of alliances with entrepreneurial groups, the creation of a 'business centre' in Mexico City where products are distributed and services are offered to the public, and a system of cooperative

with diverse aspects of the micro-enterprise as needed, and when conflict arose among the women she intervened to help resolve the issue.

The TTS grassroots organisation she created provided an arena in which the member groups could find support. However, in 2006 the organisation began having financial problems. By 2008, it could not afford to keep the office running. The endowments from government and private funds were too small or were running out. The technical team was working from home and concentrated its efforts on only a few projects, of which Las Hamelias was not one since the group was considered to be already consolidated and needing little help (interview with Lida from the technical team of TTS, June 2006). The lack of financial resources for TTS influenced the amount of resources the local groups were able to receive, impacting on the amount of participation in the organisations and projects. According to Luisa Paré, the problem with some of the member groups of TTS was that there was still not full appropriation of the projects (interview Luisa, July 2006). Many of the groups worked only while there were financial resources available, and when these disappeared so did they.

That groups "disappeared" meant that the economic sustainability of their productive projects had not been reached. Even Las Hamelias, which had been able to generate a significant flow of profits, was still in need of resources to improve its workshop, buy materials and to pay the bills. The economic situation of the women and their families meant that profits from the micro-enterprise were not reinvested. The money that was earned went directly to cover the various needs of the group members and their households. As financial resources from the TTS dwindled the women were forced to look for government funds elsewhere. The institution that supported them was the Mexican Institute of Social Security (IMSS).

Productive and market-oriented projects such as Las Hamelias need a great deal of financial and technical support to be able to maintain the enterprise. In addition to the lack of experience and know-how of women's micro-enterprise groups in Mexico, it is important to consider that within a hard-hit economy such as the *campesina* a steady influx of financial resources may also be an important factor influencing their long term success. The women themselves considered the initial advice and support from Cristina of great importance, while the TTS grassroots organisation provided a structure on which they could rely. Both individual actors and an NGO framework helped Las Hamelias access government funding, commercial

shops in some of the localities where the associates are based. It was through the web page of the organisation that I came to know of the existence of the Las Hamelias group.

opportunities and new knowledge. However, the capacity to take advantage of the contacts of extended social networks depended heavily on the abilities and social networks of Flor, the leader of the group.

7.3.2 Leader's social networks

In order to analyse Flor's leadership in more depth the next section illustrates her individual context and her place in a larger network of kin relationships and institutional organisations working in the area. Balkundi and Kilduff (2006: 435) suggest that: '[t]o understand leadership from a social network perspective is to study the individual's position in the larger network within which the individual is located'.

The first factor that sheds light on Flor's standing within a larger network of relationships is the position she and her husband held within the community. Their leadership was openly acknowledged by community members and development workers alike. Over the years Flor and her husband Alfonso established contacts with actors from NGOs and government agencies. As I described in Chapter 5, the recent history of land struggle in Pescador community created the need for alliances with external actors from government and civil society organisations. The complicated and at times risky political struggle that involved approving the communities' land titles had as a consequence the formation of experienced and strong leaders.

As a community leader Flor had been involved in social development projects designated for women, such as a sewing group, an oven for baking bread and the installation of the maize mill. Flor's husband became involved with actors from civil society organizations and participated in the Rural Capacity Building Centre (CCC), an initiative which began working mainly with alternative technologies for soil improvement, but later on sparked the creation of a cooperative group that focused attention not only on soil improvement but also on the establishment of productive and commercial projects. Flor and Alfonso became involved with this group and befriended some of the actors, who belonged to a coalition of non-government organizations called CODESUVER (see Chapter 5). Significantly for Las Hamelias, Flor befriended Cristina, an agronomist who had been working with an NGO on soil fertility and who later on became a consultant to Las Hamelias. Cristina explained how this situation came about:

At the beginning I was working more with farmers and the promoters on the issue of experimenting with the fertility of crops, but eventually you come into contact with all the community and with everyone and we started to have contact with the wives of the promoters, but more as a friendship. My husband got on very well with *doña* Flor's husband and we started staying at their house and I started to develop a friendship with *doña* Flor and that was it; from then on we started to work and have a friendship. (Interview Cristina, November 2006)

The friendships and links to these actors from environmental and education civil society organisations enabled the creation of the Las Hamelias commercial enterprise. Before external actors had become involved Flor's original aim had been to form a group that would recuperate the community's traditional medicinal plant knowledge and manufacture simple herbal medicines for their families. She was following the aims of a health group in which she had participated previously. The initiative did not originally include a commercial focus but only family health aims. Flor and Alfonso's links to actors from NGOs meant that Flor's initiative received the attention and then the support and financing needed to create a commercial enterprise. Flor narrated how the first funding for the micro-enterprise occurred, and emphasized that this opportunity had never been sought after, but had literally knocked on their door:

A woman who we had known for a long time was in need of a group of women that was already organized because there was some money left over from a project, and she arrived at the house because she was good friends with my husband, and he told her about us and she said it was much better we were a group of women, because the government was giving more support to women than to men, and that's when I arrived and she started to ask what sort of things we needed and what it was that we did; and so I told her, and at that time they gave us I think about 20,000 pesos so we bought cloth, shovels, picks, and other tools to start cultivating some of the plants we were using.

As seen in the previous section, the NGOs that had been working in the area supporting farmers with productive projects received funding to set up a local grassroots organisation called TTS that would be the prime support for these groups in the long term. Flor became involved with TTS, an organisation based on local management and decision making, because of her initiative to establish Las Hamelias. She participated in the coordinating committee and was involved in the general assembly meeting where decisions were taken regarding the needs of the groups. Flor was not the only person in her family involved in TTS. Her daughter, who had a degree in pedagogy, also started working in the organization supporting the TTS technical team, and Flor's niece, an accountant, also worked in the organization. Flor and Alfonso's younger son had a professional degree in agronomy and got involved with another

NGO working in the region. The entire family was linked to development workers and organisations.

The involvement of Flor's children and other family members with TTS and other NGOs naturally gave Flor stronger links to these external development actors. For her it was easy to go the office of TTS, place an order for packages or make telephone calls to clients as she had her own daughter and niece to help her with dealing with people on the telephone or learning how to send e-mails. Flor's closeness to Cristina, an advisor to the group, was joked about by the women, who said that Cristina was like Flor's long-lost daughter. Flor's strong relationship to the network of actors from NGOs was an important asset.

When Flor stopped working with Las Hamelias due to her illness the other women in the group were not able to take advantage of these relationships in the same way. They lost virtually all their previous contacts and had to start all over again. Josefina described how, more than a year after Flor's death, the group was just starting to build these networks again.

> J. The truth is that now we are doing a bit better because there is more contact, because since *doña* Flor died we did not have any contacts, because the contacts that we had previously were with her directly and only she knew the people and none of us knew anyone.
> L. What people are you referring to?
> J. For example sometimes she would go to the workshops and she would do the promotion of the products and she would go to Mexico to get the plastic bottles and she knew people. And she would do everything everything everything and she would say: 'Women, you have to learn because I won't be here all the time'. It seemed like she knew she was going to go, and well nobody would say: 'I'm going to learn something', and always when there was something missing, it was because *doña* Flor has not bought it or *doña* Flor had not been out, always *doña* Flor, and after she left we all were left like in the air, I don't know, without anyone, without knowing anyone. Later people started calling and would ask for Flor, we would say she wasn't here anymore and they would tell us who they were and where they were calling from and we would send the package, and even these got lost because we didn't know how to send them and then the contacts, we didn't know how to look for them or how to charge them and some got away with not paying us.

Flor and Alfonso's leadership and previous social networks opened up the opportunity for the creation of the micro-enterprise, and their links within the local NGOs gave Flor greater capacity to organize the daily managerial activities of the micro-enterprise, such as following up on business contacts and managing information related to clients, traders and providers. Flor's participation in the decision-making structure of the local grassroots organisation provided the group with access to financial support, learning opportunities and contacts to

other extended networks. In the six years that the micro-enterprise existed before Flor's death she held the bridging social capital of the Las Hamelias group together.

The higher level of education of Flor's children and close kin gave her greater resources to achieve goals related to the micro-enterprise. Her own capacity and that of her husband's to form relationships with people external to the community and to receive them at their home established close relationships and cemented the bridging social networks. Bridging social capital is, as Bourdieu (1986) argues, intricately linked to other forms of capital. Flor's family's human capital was essential to building up her bridging social capital.

The relationship between leadership and the establishment of social capital is identified by various authors who have observed the role these key brokers provide in communities by their links to social actors from government agencies and civil society organisations (Boding and Crona 2008; Krishna 2002; Fafchamps 2006). Research on the social networks of leaders highlights factors that influence their ability to be leaders in the first place, but as the Las Hamelias case demonstrates, the network connections are not so easily passed on to a second generation of leaders. If what makes a leader is heavily influenced by that individual's social characteristics, by the individual's access to other forms of capital and even by access to social networks that only that individual can benefit from, then it would seem that leadership is irreplaceable.

7.3.3 Exclusion in social networks

Research on social capital by Bebbington (2007: 160) highlights how to understand social capital it is fundamental to see it 'in conjunction with the mechanisms that are used to reinforce boundaries of particular status groups [and]...visualize the distribution of resources and power within relationships'. The debate and controversy surrounding the concept of social capital over the last decades placed attention on aspects of social exclusion present in social relationships. Various authors insist that hierarchy and power in social relationships can constrain and exclude as often as they enable social and economic development (Harris 2001, Cleaver 2005). The examination of Las Hamelias leader's social networks and her access to different forms of capital help us to visualize how access to social capital (including human and economic) was influenced by the leader's privileged position. The following section illustrates how the social exclusion of outsiders in the community occurred with the case study group and how this affected the micro-enterprise in the long run.

The organization of productive projects in Pescador had always been handled communally and people were informed at the monthly community assemblies. All the women were encouraged to participate. However, the initiative for the recovery of medicinal plant knowledge which later became the Las Hamelias micro enterprise was never announced at the general assembly. *Doña* Flor invited friends and family members and other women from the community whom she believed would be interested in joining her in the project. The subsequent creation of the micro-enterprise was a move away from the conventional way of working together where everyone was invited to participate in a project. This upset some people in the community. Cristina noted the following:

> In Pescador everything was done communally, so they would make groups where everyone would participate; they did a group for sewing, for laundry, for the maize mill and all of the women would have to participate. I think that what was novel about this group is that they recognized that they could not all work together, because there were different capacities and interests. I think that was new and at the beginning they were viewed with suspicion in the community because they were seen as separating themselves, but eventually I think the community understood that that was the only way the group could last. (Interview Cristina, November 2006)

In addition to being a group of women that were seen as separating themselves, the implications of the women organizing to create extra income made some of the people from the community uncomfortable. Cristina commented that they were heavily criticized, and people would say in a condescending manner: 'Ohh, it's these business women that only want to make money'.

By not opening participation in the group at the community's main assembly, *doña* Flor excluded certain women, possibly those who did not belong to her network of friends and family or whom she perceived as not hardworking or difficult to work with. Sonia was one of those not invited. She was the sister of Chavela, who was involved from the start, but in contrast to her sister, Sonia was perceived as a problematic person. In informal conversations that I had with other women they clearly stated that her difficult character was the reason that she had not been invited. Sonia later did join the group, but often reminded the others that she had not been invited to join and that if it had not been for her own initiative and persistence she would not be there.

Doña Flor explained why the group project had not been advertised through the ejido assembly and opened to other members of the community:

We had done the invitation to join the group not once but many times, but since the beginning it was not about receiving and more about giving. We were asking, for example, for a contribution to buy material to make the products...and it was more about giving back to the community. But then as we moved around and started to make money, there was more interest in joining and that's when we all said: 'Well, the effort has to stay with us or with someone we want'.

Doña Flor also explained that participating in the micro-enterprise had cost much effort and had come at a price to all the women who worked in the initiative. The Las Hamelias women decided that they would not open the group to others because they realized that the work was not easy and that if another person joined and then could not tolerate the work and quit this would be detrimental to all of them. Blanca explained how some women had shown interest in joining but that they wanted to participate on their own terms. One young woman from the community arrived at the workshop to ask if she could work, but when she found out that they did not receive a steady salary she lost interest.

Doña Flor stated that an invitation to join their group in the beginning had been done repeatedly. Contrary to this view, one woman, Esmeralda, expressed her feeling of being excluded from the start. Esmeralda asserted that the project was never announced at an assembly and that she had never heard about the group. Her complaint was that one day, as the women from Las Hamelias were walking around the community looking at plants, she asked one of them what they were doing and the answer was: 'We're flattening the road' *(aquí nada más, aplanando la calle),* which is a rude way of saying that it was none of her business. She told me that she had previously been invited to join the other projects, like the sewing group, but that she had not participated because her son was very young at the time and her legs would swell up easily. 'They say because I'm lazy and I do not go to the meetings or to events outside the community, but I do not go because I suffer from headaches.'

Esmeralda's testimony about why she did not participate in community projects points to a possible link between ill health and exclusion. Mayoux (2001) argues that attention must be paid to how particular groups of women might exclude outsiders, particularly the poorest and most disadvantaged women. Esmeralda explained her health problems to me at length; she had persistent headaches and the bad circulation in her legs, so that after standing or sitting down for too long they would swell up and become painful. As she had not participated in communal activities before and had a reputation for complaining, she was not perceived by the women of Las Hamelias as hardworking or someone who would contribute to the project. This

case resounds with Cleaver's (2005) argument about the understated impact of ill health on the livelihoods of families and on the ability of these individuals to build social capital:

> Socially, the impact of ill health on a household is also notable. It results in increased dependency and burdens of care within the household and decreased ability to participate in wider village life, social, and reciprocal activities. As we will see later, the maintenance of poor people's social position depends on being perceived by others as ''hard-working,'' ''trustworthy'' and ''good citizens'' at the village level; such reputation is secured and reinforced by willing participation in village events. Ill health and the physical inability to participate may have the effect of eroding such reputation and contributing to a downward spiral. (Cleaver 2005: 897)

Esmeralda's perception of the Las Hamelias women was that they were privileged and favoured because they received all the benefits of the government programs. She spoke of a recent project where some women had been given money to improve their home gardens and materials to confine their chickens. She argued that this would have benefited her, but again she had not been invited: 'They are almost the same women; the women from Las Hamelias are the women who get invited to other projects'.

Of the women in the community whom I interviewed (20 households) about their participation in projects and their view of Las Hamelias, only Esmeralda, her mother and sister-in-law said that they had never been invited to join Las Hamelias, implying that they might have been interested. My limited interaction with other community members apart from the women of Las Hamelias and their families did not allow me to establish the extent to which other women might also have felt excluded but did not feel confident enough to express this to me because they identified me with the group.[52] I could not be sure why Esmeralda and her family members were excluded. It might have been not only that Esmeralda had health issues and was perceived as lazy but also that there was an underlying dispute between certain individuals or families that influenced the exclusion of the women in this particular family.

Esmeralda's perception was that the women of Las Hamelias were privileged and always benefited from projects. Through their participation in the micro-enterprise and their membership in TTS the women of Las Hamelias had better access than most to information about government programmes. They were the first to know if there was a new project or money available from a social development fund. Furthermore, because they had become

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[52] My research design focused on Las Hamelias, the women and their families and their outside networks, which limited my inquiry into understanding community relationships of exclusion.

well-known to local government officials they received more attention. This was noticeable when three local government officials visited Las Hamelias. Among them was the representative of the government *Oportunidades* programme.[53] When the official left, Josefina commented that it was rare for the community to receive a visit from such a high-ranking official from the programme and that he had not even stayed to talk with the women who were the official representatives of the programme in the community. She seemed concerned and said that this sort of happening gave the Las Hamelias women a bad reputation among other women in the community.

From the example above and various conversations with the women of Las Hamelias, I sensed that they perceived many community members did not support their work and even envied them. When I asked whether people from the community tended to support and encourage the group, Blanca said:

> People from the community do come and buy the products, but the only one that is always congratulating us is Don Alejo. He later says to others: 'You should see the Hamelias group, that's how it should be, working instead of just gossiping'; but he is the only one, even the authority does not support us. If we take some document to sign he is always difficult, that's why we tell Sonia to go. He does sign papers for her, but even so he is always putting obstacles in the way, and if he comes to buy the syrup or a cream he always comes with that envy.

Community members perceived the women of Las Hamelias as "rich". Sonia told of a recent community assembly at which they were discussing preparations for the celebration of the community's anniversary. Various members proposed that aside from each family's contribution, the Las Hamelias group pay extra to cover the costs of the musicians. The assembly was attended mostly by household heads, who were mainly men. However, Sonia, who attends to her husband's affairs while he is away in the US, was one of the few women there. Her presence allowed her to negotiate the group's contribution to the annual celebration and lower the amount solicited. This incident demonstrates the demands put on the Las Hamelias group by the community and the perception by many that the members of the group were in a more advantageous position than other community members.

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[53] Oportunidades is the principal anti-poverty programme of the Mexican government, which provides conditional cash transfers to households linked to regular school attendance and health clinic visits.: http://info.worldbank.org/etools/docs/reducingpoverty/case/119/summary/Mexico-Oportunidades%20Summary.pdf

The topic of envy cropped up during my fieldwork and interviews with development actors in the region as a major deterrent to the success of productive and micro-enterprise groups. I discovered that the conception exists among development workers that in many poor rural communities in Mexico when an initiative benefits only one person or group it attracts opposition from others. The logic seemed to be that either everyone gets out of poverty or everyone stays miserable. Some have been puzzled that many groups that otherwise had good financing and conditions to succeed ultimately failed due to envy and conflict. There seemed to be consensus among development workers to whom I spoke that there is a link between feelings of exclusion and envy.

A DFID study on social capital in urban communities found envy to be a key negative factor preventing the development of social capital.

> Competition for limited resources (especially in the context of inequality of distribution) can create painful feelings of deprivation, resentment and envy. Envy plays a role in preventing the development of horizontal bonds and bridges, keeping people in poverty rather than working together to get out of it (Fraser, Thirkell et al. 2003: 14).

The issue of social exclusion and envy in groups and in rural communities in general is one that merits further research and attention as it seems to have implications for the successful establishment of micro-enterprise initiatives in rural communities. Envy seemed to affect both Las Hamelias' internal capacity to cooperate and act collectively as well as the establishment of a beneficial supporting environment in the community in which these initiatives could prosper.

7.4 Conclusion

The organisational characteristics of the Las Hamelias group, among which were an excessive reliance on the leader and conflicts arising, in many instances, from a lack of trust, have seriously hampered the group's capacity for collective action. The internal problems of the Las Hamelias group demonstrate that strong bonds of familiarity developed through the formation of groups such as micro-enterprises do not necessarily build strong relationships of trust and reciprocity or create bonding social capital. Differences in power or status, interests and values were present in the group. Even though Pescador is a rural village with around 200 inhabitants, significant economic, educational and cultural differences influenced the women's relationships. The relatively recent establishment of the community and the varied composition of the families that settled there may partly explain the differences that the group

exhibited and which affected the forms of cooperation. The Las Hamelias group was made up mostly of women who shared family ties. Two of the women were the sister-in-law and daughter-in-law of Flor, the leader, and two more participants were sisters. Even these close ties did not engender trust and cooperation. Assumptions about the existence of social capital, understood as strong bonds within families, neighbours and friends based on trust and reciprocity that enable collective action and empowerment are not confirmed by the current case study.

The Las Hamelias case demonstrates that formal norms do not create a framework for the building of trust and the ability to cooperate. The only factor which I found to influence the capacity for collective action was reliance on the group's leader. The personal characteristics of that individual, her style of leadership based on taking on the bulk of the work while also exhibiting caring attitudes, her reputation and experience as a leader all seemed to influence the capacity of the group to work together. It was through her leadership that both bonding and bridging types of social capital emerged in the group. This finding coincides with those of authors who are sceptical about the capacity of micro-enterprise groups, micro-finance or other development interventions to create social capital (Harris 2001; Cleaver 2005, Portes and Mooney 2003). Portes and Mooney (2003: 326) argue:

> The research literature has not found successful attempts at 'social engineering' that seem to build solidarity networks when few or none exist... bureaucratic top-down formulas that posit social capital as a magic wand for local ills will consistently fail.

Social capital, which refers to 'the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition' (Bourdieu 1986: 248) seemed to present a different outcome. The Las Hamelias case study demonstrates that external actors from civil society organisations were important in offering opportunities for the development of skills, acquiring funding and extending networks and connections for the group of women. The creation of a local grassroots organisation served as an important framework that helped to support Las Hamelias while the women struggled to make the enterprise profitable. In the long run the organisation lacked continuity and the technical team from the NGO could not keep the economic resources flowing, which impacted on the financial help given to the various groups and cooperative projects that had embarked on a commercial project.

An important caveat to access to bridging social capital by the group of women of Las Hamelias is that this rested on the one leader and her personal networks, which were influenced by her leadership position in the community and her access to other forms of capital such as human and economic capital. While there is a great need to pay attention to the formation of leaders in communities, leadership experiences are not replicable and different individuals will create different types of outcomes and benefits. I agree with Portes and Mooney (2002: 326) that there is:

> ...no generalised formula to put social ties to use in development. Instead, future successful experiences of community development will be achieved one at a time by combining existing community networks with careful nurturing of local skills and the provision of strategic external support.

The social ties and the resources gained through these, either in the form of collective action or as access to resources through external or bridging ties are contingent and dynamic. The coincidence that my fieldwork took place in the middle of a process of change and transformation in the Las Hamelias micro-enterprise group due to the illness and death of the leader made the contingent and changing aspects of the social relationships evident.

8. KNOWLEDGE FOR THE PRODUCTION AND COMMERCIALIZATON OF HERBAL PRODUCTS

8.1 Introduction

In the present chapter I focus on the origins of the knowledge that the women of Las Hamelias used to produce and commercialise their herbal products and the interactions, struggles and negotiations present in the 'development intervention'. Understanding knowledge involved engaging with a complex intermix of people's understandings and interests, therefore based on the work of Appadurai (1986), I focused the inquiry on two specific issues: a) the knowledge required for the production of the herbal products, including the therapeutic properties of medicinal plants and the methods for preparing the products; and b) knowledge that enabled commodity circulation and exchange.

The first section of the chapter deals with the origins of the knowledge on the therapeutic properties of medicinal plants and the manufacture of herbal products used by Las Hamelias. The inquiry on this issue led to the analysis of the health promotion process in southern Veracruz. As was seen in Chapter 5, the knowledge used by the Las Hamelias group to produce their herbal products originally derived from the leader's training as a health promoter and her 12 year participation in a health group in the neighbouring town of Chinameca. The analysis of the topics and issues addressed in the capacity building materials for health promoters enabled an understanding of the source of Las Hamelias' knowledge on the therapeutic properties of medicinal plants and herbal product preparations, and allowed engagement with the questions of how medicinal plant knowledge was re-valued, transformed and disseminated through the capacity building efforts of a local NGO working on rural health.

The analysis of the health promotion process in Veracruz in the first section of the chapter illustrates some of the struggles, conflicts and negotiations at the 'knowledge interface' between actors and their claims to knowledge and validity, which ultimately accorded an appreciation of the power relations that underpin the health system in Mexico. The main source of information for this section were in-depth interviews with the leader of Las Hamelias and the people involved with The Regional Centre for Education and Organisation (CREO), an NGO that worked on health promotion in Southern Veracruz. Interviews with other actors who either trained as health promoters or participated in this process as 'experts' in other parts of the country and participated in the National Health Promotion Network, (PRODUSSEP)

likewise helped understand this process. The analysis was supported by teaching materials and documents from both organizations (CREO and PRODUSSEP).

The second section of the chapter deals with the knowledge required for commodity circulation and exchange such as product development, marketing strategies and general logistics for the commercialization of the Las Hamelias herbal and cosmetic products. The analysis involved understanding the 'knowledge interface' between the women participating in the micro-enterprise, advisors and educators from various NGOs and government officials. Based on Long (2001), the 'knowledge interface' focuses on the different perceptions, values, objectives and interests of the actors involved in order to identify both the points of agreement and the struggles over meanings and actions. Understanding these aspects aimed specifically to determine how value and meanings were attached to the herbal products and to assess the discursive production of these (Bryan and Goodman 2003). Similarly Long (2001: 114) argues the 'knowledge interface' aids in understanding how: 'commodity values are mediated, appropriated and contested' through an analysis of 'the interweaving of social values, power and agency'. The analysis of this chapter section focuses on how issues of social value were appropriated and contested by the women who translated them into their own livelihood actions.

8.2 Promoting health: Medicinal plants and herbal preparations

"The herbal medicines and cosmetics we produce are made following ancient methods and knowledge transmitted from mother to daughter for generations."

Written in the promotional material used by Las Hamelias they asserted the above claim, which constituted a marketing strategy intended to make their products appealing to a certain niche of consumers. However one of the first findings of this research was that the knowledge on medicinal plant use and the methods for preparing the herbal products originated from the repertoire of knowledge *doña* Flor gained through her training as a health promoter in the 1980's with a local grassroots organisation: The Regional Centre for Education and Organization (CREO). Health development workers aimed to 'revive' people's herbal knowledge and surveyed methods for preparing herbal medicines. Although the knowledge re-valued by CREO originated from people's traditional and domestic herbal knowledge, the products elaborated by Las Hamelias were done with this knowledge that was already mediated by institutional structures. In the particular case of Las Hamelias, the women

admitted that before joining the group they had little knowledge of the curing properties of medicinal plants.

Throughout the 1980s and 1990s CREO organized workshops on health issues, published a number of topical booklets and formed a network of health promoter groups around the south of Veracruz that became forums where health experiences were discussed and knowledge shared. The individuals working in CREO focused their health training on basic allopathic preventive medical principles but also on the therapeutic uses of medicinal plants, the development of basic herbal preparations and later on the recuperation of traditional indigenous therapies and diagnoses. Understanding the health promotion process enabled us to examine 'the mechanisms used to disseminate world views or ideological positions (i.e. on health and herbal knowledge), while also putting in evidence broader struggles over knowledge that occur among actors with different values and interests' (Long 2001: 70). By visualizing this regional health promotion experience I was able to answer the following research questions: 1) What was the source of the woman's knowledge of medicinal plants and herbal product preparation? 2) How was the knowledge of medicinal plants and herbal products used for Las Hamelias products disseminated and transformed? The following section illustrates the recent history of health promotion, specifically the experience of CREO, as this effort led us directly to the origins of the knowledge applied in the products made by Las Hamelias.

8.2.1 The 'revival' of medicinal plant use: The experience of CREO in Veracruz

As was seen in Chapter 5, the Regional Centre for Education and Organization (CREO) had close links with the Basic Ecclesial Communities (BECs) and were influenced by the Liberation Theology Movement as well as by popular education methods popularized at the time by Paulo Freire. One of the foundations of these two currents of thought was the importance of grassroots participatory methods and a focus on people's own interpretation of reality. One of the consequences of this vision in the health promotion process became the revival of people's traditional medical knowledge. Jesus Morales, co founder with his wife Guadalupe Abdó of CREO, acknowledged that a fundamental aspect of the health promotion process they supported was the emergence of medicinal plants as a shared and regularly used therapy. At first, the topics covered in the workshops on health promotion were allopathic medical

principles, but soon Guadalupe and Jesus realized that medicinal plants were an important instrument that needed to be incorporated into the health promotion programme:

> The work that we were doing was inscribed in the logic of organizing the community to solve heath problems. We hadn't considered the issue of medicinal plants before, but it came up as an element that, in a way, gave colour and strength to the work that we were doing.... While we were talking about diarrhoea or this or that other illness, and how it manifests in this or that or the other way, people started to say 'for that we use this plant and for curing a temperature we use this and that plant'. So that's when we started to understand that there is an important tool that could help with health, so what we did was we started to allow more room for people to express their knowledge, because we were learning too. In each workshop we left a space where each health promoter would bring their plants or a mix of plants and share how and when to use them. (Interview with Jesus Morales, August 2006)

According to actors working on health promotion at the time, incorporating medicinal plant knowledge became a way to create confidence about the worth of people's knowledge, while at the same time generating greater appropriation of the health promotion process. In the past, health promotion organized through government programmes had been characterized by vertical relationships where the doctor was the one who knew and the others learned. There had not been an inclusive dialogue where the knowledge that people held was valued in the same terms. Hernán García, an allopathic doctor working in health promotion in the south of Veracruz in the 1980s with a Jesuit civil association, explained that the medical system had always criticized and even mocked the use of medicinal plants by the population.

Health promotion work, such as the one done by CREO and other civil society organizations across Mexico in the 1970's and 1980's, initiated and opened up a 'dialogue of knowledge' between allopathic medicine and popular and traditional medical knowledge. The workshops organized by CREO included not only knowledge about illnesses and symptoms but also most importantly the medicinal plants used to cure these health problems.

> At each workshop we would specifically include something about medicinal plants, so if we were talking about sickness due to lack of good water and talked about diarrhoea, well we would talk about guava (*Psidium gujaba*) leaves, or if we were talking about parasitosis, we would talk about the use of *epazote* (*Teloxys ambrosioides*)'. (Interview with Jesus, August 2006)

The health promoters trained with CREO created a basic table of the 25 most common ailments, including diarrhoea, parasites, cold, anaemia and gastritis, among others, and a list of

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the medicinal plants used for each specific problem, the method(s) used for preparing the plants and the dosage. 'The idea was to select the most common plants, the ones that were easily available to people, but also those considered most effective'. (Interview Guadalupe, August 2006)

Indigenous traditional healers and lay people training as health promoters and participating in these workshops shared their knowledge of the therapeutic uses of medicinal plants, methods of administration and ways to harvest plants. Meanwhile, biologists involved in the creation of the National Herbarium identified botanically many medicinal uses and red-flagged those found to have toxic properties. In the beginning of the 1980's, the team from CREO solicited help from Abigail Aguilar, an ethno botanist with a long career in the study of medicinal and toxic plants in Mexico and the person in charge of the National Herbarium of the Social Security Hospital in Mexico City who together with her husband Miguel Angel Martínez Alfaro, another renowned biologist from the National University (UNAM), introduced the techniques of botanical walks *(caminatas botánicas)* and mini-herbariums *(mini-herbarios)* in community health promotion. Abigail further developed and expanded on these techniques in Veracruz at the beginning of the 1980s with the BEC networks formed by CREO. She explained what the botanical walks and mini herbarium consisted of:

> The traditional healers, the health promoters, the young people that wished to learn, and the researcher as well, we would all go along the paths and we would collect medicinal plants and each of us would say what we knew of the plant we saw in front of us. The ethno botanists would say what we knew from other traditional healers from other parts of the country ...if a plant had the same name but was used for something else in another part of the country we would share that, and we would say which plants we knew were toxic, because we have had cases were people get intoxicated, for example with the seeds of the *higuerilla*. So on these walks we would combine the scientific knowledge and ethno botanical experience of the researcher and the local knowledge of the traditional doctors (*curanderos*), and we would collect the sample and the young people would write everything down (because many of the older people in rural communities are illiterate) and that's how we started creating mini-herbariums, writing down the knowledge and in this way leaving a material memory of that knowledge so that they would take it home and keep enriching it. (Interview with Abigail Aguilar, February 2007)

The main objective of these walks was to retain the oral tradition of medicinal plants by collecting samples and develop a written record of the knowledge for future generations. For Abigail this process was an important way of giving back something to the people who shared their knowledge with her, and it gave these walks a concrete outcome. The botanic walks and

the development of mini-herbariums became an important method for both sharing and systematizing knowledge about medicinal plant use. This same method would be used by Las Hamelias to learn about useful medicinal plants in their community.

For CREO, the collaboration with Abigail gave scientific and an institutional validation to the use of plant knowledge and the publication of health promotion materials that included this knowledge. Abigail accompanied the work of Jesus and Guadalupe by working with the health promoters to produce a manual called: *The Medicinal Plants of the Tuxtlas* (*Las Plantas Medicinales de los Tuxtlas*), which included a list of 95 plants found and used in the area. A monograph of each plant contained a drawing, popular and scientific names, botanical family, the therapeutic uses of the plant, scientific information on the main substances found in the plant, and in some cases information on further chemical and clinical studies. For example, scientific information on the avocado tree (*Persea Americana*) included information such as that the seed *in vitro* has antibacterial properties effective against the bacteria *Staphylococcus aureus*. Some monographs include a section on precautions if the plant was toxic. In the case of the *floripondio* flower (*Burgumansia cándida*), the medicinal uses include pressing the leaf with oil on inflamed anginas and ganglions, but precautions for its use are indicated as it contains a toxic substance.

These methods for becoming familiarized with local medicinal plants were shared in the National Health Meetings organized by the Movement for Popular Health (MSP). As seen in Chapter 5, the MSP emerged in Mexico in 1981 as a result of the First National Health Meeting; a forum organized annually that provided an arena where people working in health promotion from all over Mexico could get together to share experiences and knowledge, often of the diverse uses of medicinal plants. Another one of the outcomes of these Health Meetings was the dissemination of methods for developing herbal products and microdosis. People involved in the Movement (MSP), doctors and chemists who were interested in reviving traditional herbal knowledge gave their expertise on the best methods for preparing herbal products. Guadalupe remembered how a chemist in one of the National Health Meetings taught them how to process medicinal plants:

> In Morelos at the National Health Meetings (*Encuentros Nacionales de Salud*), a chemist taught us how to process plants, but in a very complicated way: we had to use precision weights and we had to buy a very expensive set of scales. There were many things that meant this process was not in the hands of people

that maybe don't even know how to read and write, so we adapted it and used common measurements instead. The processing into microdosis we learned with a doctor from the University of Zacatecas and he shared how to make microdosis based on medicinal plants and how to get the concentrate. He was from the Faculty of Medicine, (or Dentistry?) and he gave us some workshops and would explain how the tinctures were made... we learned which plants are done in one way and which ones in another way, as microdosis or tinctures... there were meetings to share medicinal plant knowledge, and we learned how to make the soaps and creams, too, with the people from Morelos. (Interview Gudalupe Abdó, August 2006)

According to Carlos Gomez, a biologist who participated in the National Health Meetings in Morelos, Raquel Magdaleno was the chemist who, together with Vicenta Villalba, a traditional healer or *curandera*, were able to amalgamate the two types of knowledge and were the initiators of what became known as 'popular herbal preparations' (*preparados herbolarios populares*), while it was Eugenio Martinez from the University of Zacatecas who introduced the idea of the microdosis.

CREO published the topical booklet titled: *Processing Methods for Medicinal Plants* (*Procesamiento de plantas medicinales*) which is used to teach methods for collecting plants, such as the place, the time of year and part of the plant – flower, fruit, leaves, the root, or bark – used and even the time of day most suitable for harvesting the plants. The booklet briefly explains ways to harvest with the least possible harm to the plant, also proposing a few ways to dry and store them. It describes ways to prepare the plants used in traditional and domestic medicine – as an infusion or tea, as a poultice, juice, pulp, a maceration or as a 'wine' – and then other forms of preparation are described that need a longer manufacturing process but that also have a longer shelf life such as tinctures, microdosis, syrups, soaps, oils, and creams. General information on the doses, the measurements, and the management of instruments are given.

This cross feedback or 'dialogue of knowledge' from doctors and chemists with technical scientific knowledge with the medicinal plant knowledge of traditional healers and the experience of those working on health promotion created a process whereby medicinal plant knowledge and use was re-valued by many civil society organizations working in health promotion. These meetings were significant because they brought together people from different backgrounds and experiences. Grassroots organizations, such as CREO, took the technical knowledge shared at these meetings and adapted it to circumstances in the field by publishing manuals such as the one on the processing methods for medicinal plants mentioned

above. Significantly for Guadalupe, this simplification of the elaboration of herbal products did not create dependence on them as educators, but gave people the necessary tools to care for their own health needs.

8.2.2 Health promoters, doctors and '*curanderos'*

As illustrated in Chapter 3, the analysis of knowledge dissemination should be framed within an understanding of the power relations embedded within relationships (Pottier 2003, Leff 2002), the elucidation of complex knowledge dynamics and negotiations (Mosse 1996) and the institutional and cultural context within which knowledge interactions take place (Martin 2003). The process of health promotion advanced by actors and grassroots organizations involved in the Movement of Popular Health brought about a conscious and active process of revival and dissemination of medicinal plant knowledge and the emergence and popularization of what became known as 'popular herbal preparations'. However, important discrepancies in interests, values and power within the health promotion process advanced by civil society organizations, ultimately affected the outcome of the interaction producing a 'knowledge interface'. One of the main areas of contention between actors from allopathic medicine embodied mainly by the doctors in the health promotion process and actors from traditional indigenous medicine, were related to the scope of traditional indigenous therapies that were accepted and valued.

While the work on health promotion opened up a space where there was a dialogue of knowledge between allopathic doctors working in community health and the medical knowledge of local communities, often shared by traditional doctors, the interaction of the two knowledge systems, grounded in unequal power relations and framed in dramatically opposed world views, eventually demonstrated clear limitations. As seen in Chapter 2, traditional indigenous medicine in Mexico has been entirely subordinated to the official biomedical health system, only tolerated as a practice found in poor and marginalized areas of the country and mostly functioning outside legal structures (Duarte et al. 2004; Lozoya 2003; Nigenda et al 2001b). The struggles and negotiations that took place within the health promotion process demonstrate the limitations of the knowledge dialogue between allopathic and traditional indigenous medicine to enable a revival of people's traditional herbal knowledge.

Controversy over the incorporation of a broad range of traditional indigenous medical concepts and therapies in health promotion was one of the first conflicts. While for many people working in community health there was a generalized acceptance of the importance of medicinal plants, this did not easily translate for all the actors into engagement with the wider concepts and uses of traditional medicine. For many allopathic doctors, aspects of traditional indigenous medicine were seen as inferior and grounded in superstition. Similarly, members of the Catholic Church rejected the wider, spiritual element of traditional indigenous medicine. Long explains that the knowledge interface entails 'the interplay or confrontation of "expert" versus "lay" forms of knowledge, beliefs and values, and struggles over their legitimation' (2001: 71). This aspect became evident in the experience of health promotion in Mexico, with the struggles between actors on the validity of certain health concepts and approaches.

The Mexican Institute of Traditional Medicines, Tlahuilli, was one of the groups involved in health promotion and the MSP that embraced traditional indigenous medicine and considered it a central aspect of health promotion. Tlahuilli was formally registered in 1984 as an NGO with the aim of promoting 'the revival, research, systematization, promotion and development of traditional medical systems with the objective of benefiting the most unprotected population, both urban and rural, by implementing health services using the same human and material resources of underprivileged communities'. Mario Rojas, an allopathic doctor and founder of the organization, explained the uneasy relationship between the people involved in health promotion at the time and traditional indigenous medicine:

> The people in PRODUSSEP and the MSP were people with a strong Marxist influence. They were people from the left and from the progressive church, but the point of discussion in relation to the education of health promoters was always whether to include traditional medicine or not. Their concept of the health promoter was framed in a very scientific background; it focused on issues such as access to vaccines, proper nutrition and development of infrastructure. They viewed our work on traditional medicine with suspicion, – although I don't know if they would have the honesty to admit it today, because some later changed – but at that moment they were suspicious of everything related to traditional medicine and the magic religious concepts of traditional medicine. They wanted more concrete things, more replicable, more scientific, shall we say. This movement had a very materialist and Marxist attitude to popular medicine and we had another view, we included anthropological concepts that were trying to eliminate ideological egocentrism from the study of traditional medicine. We had a comprehensive application of herbalism, massage and the use of concept such as 'loss of shadow' (*pérdida de sombra*) or 'evil eye' (*mal de ojo*), etc. So we studied this in an anthropological way, grounding it in clinical and therapeutic action. So in this sense we were

very misunderstood, but for a while we were interacting well and learning from them too. Many of the health promoters would participate in our Medicinal Plant Fair and so they introduced this knowledge in their programs, and the progressive wing of the church was very open to medicinal plant use and massage but not to its ideological basis because the Catholic Church came to destroy this, all the indigenous ideological world vision. (Interview Mario Rojas, January 2007)

The people involved in Tlahuilli understood the importance of fully engaging with traditional medicine and saw their role as an organization as reviving the experience of traditional indigenous knowledge, giving it greater value and acceptance among a wider audience. Their adoption of concepts and practices was framed in an acceptance of the entire world view of indigenous traditional medicine including its spiritual and supernatural elements. However, not all organizations or allopathic doctors embraced traditional indigenous medicine. Hernán García, an allopathic doctor member of the MSP and PRODUSSEP, acknowledged the difficulty some actors in the movement had with respect to traditional medicine and saw this as a fundamental flaw in the health promotion effort:

> The work on popular health still limps on one foot with respect to concepts of health derived from indigenous traditions that a great amount of people manage and know, especially in rural areas. We have advanced a lot in social medicine, but the world of indigenous medicine is mainly ignored when not repressed, and as a consequence many of the results [of the health promotion process] are incomplete or contradictory. (Interview with Hernán Garcia, January 2008).

While some actors or groups within the health promotion process did not sympathize with or embrace all aspects of traditional indigenous medicine, CREO and the network of BECs working in Veracruz did. In 2001 they created a topical booklet titled *Hands working for health: Traditional therapies in Veracruz* (*Manos trabajando por la salud. Terapias tradicionales en Veracruz)*. The introduction describes traditional medicine as much more than just herbalism, defining it as medical system based on a defined philosophical and mystical knowledge grounded in the profound relationship of human life with the cosmos and nature. The authors divide traditional illnesses into two groups, natural and supernatural, the first caused by living beings (humans, animals or plants) and the latter provoked by supernatural beings by way of *vientos* (winds). These 'winds' were described as an important vehicle that carried with them sickness and imbalance and it was recognized that for *curanderos* the natural and supernatural causes of illness were intimately related and not easily separated in practice.

Even though this booklet demonstrates the open attitude of the people working in CREO towards traditional indigenous medical concepts and practices, the health promotion experience showed that there were still limitations to a dialogue and interaction of knowledge with actors from traditional medicine. Guadalupe explained that within the context of the Basic Ecclesial Communities (BECs) people had a vision of working for the collective good and were therefore more open to sharing. Traditional doctors had shared a lot of their knowledge within the BECs; however this eventually stopped. 'Unfortunately *curanderos* are not sharing their knowledge anymore and have become very closed' (interview with Guadalupe Abdó, August 2006). The health promotion process, although concerned with promoting people's participation in their own wellbeing, could not entirely surpass the ideological differences and power asymmetries between traditional and allopathic medicine and therefore ended up mirroring a fundamental arena of subordination found in the Mexican health system.

8.2.3 Between traditional herbal knowledge and health promotion

My first insight into why cooperation between traditional doctors and health promoters ceased, occurred during an interview with a traditional doctor who had participated in the Veracruz health promotion networks organized by CREO. I asked him whether there was a relationship or interchange of knowledge between Las Hamelias and the traditional doctor organizations he said he represented. He answered that there was not and explained that traditional indigenous doctors have a greater capacity to cure and that their knowledge is more profound than that of health promoters and groups such as Las Hamelias. He gave an example about the knowledge of the 'heart' of the plant, which involves understanding more deeply how and why plants cure. He went on to say that groups such as Las Hamelias 'are occupying a space that they shouldn't be occupying, because they are not traditional doctors, even though they've learned in the last years, taking courses, and now they are even doing *temazcal* baths, but they actually don't know or understand it deeply together with all the rituals it entails' (interview Arturo Guerrero, September 2006). This testimony revealed the struggle between the specialized knowledge of the traditional doctor with respect to popular/ domestic medicine and the knowledge that health promotion embraced.

This difference between the higher specialization, greater perceived knowledge and value of traditional indigenous knowledge with respect to health promoters or groups such as Las Hamelias was shared by Alejandro Negrete, an educator involved with the environmental

education organization SENDAS who gave courses to the Las Hamelias women on massage and *temazcal*.

> It's still confusing even for us to think what is popular medicine, what is alternative medicine, what is traditional medicine, is it all the same? No! My work as an educator and adviser for Hamelias and other groups I work with in the region is to make visible this understanding that commercial herbology, although it promotes the revival of certain plants, is still in an allopathic paradigm in an illness/treatment scheme, and that here in Mexico we have a wealth of medical tradition that is much more complete, a lot wider in terms of valuing the human being and his relationships with others. For example, envy is understood as a problem that can affect health, and this part I think is very important to keep alive and to rescue this memory in people. (Alejandro Negrete, interview July 2006)

The above testimonies enabled a visualization of the underlying struggles over social value and power that the health promotion process uncovered. The therapeutic space health promoters were wrongfully occupying, according to the traditional doctor Arturo Guerrero, may refer to a therapeutic space that was originally the domain of traditional doctors. Health promoters became knowledgeable in medicinal plant use and traditional indigenous therapies but also had medical knowledge of allopathic medicines and treatments. Health promoter groups established clinics and arguably offered an economical alternative to healthcare that included both an openness to herbal therapies and popular traditional concepts while also extending allopathic services such as cervical screening. The figure of the health promoter became a hybrid of the two opposing medical systems that ultimately represented a new therapeutic option for people.

As Mario Rojas explained:

> All those people that were trained as health promoters ended up as new professionals, not really traditional doctors but rather someone who has both knowledge from modern medicine and ancestral medicine. In some places these people established their private practice, where they give *temazcal* baths and massage; others manufacture products and sell them. This is their livelihood. (Interview with Mario Rojas, January 2007)

In the case of Las Hamelias, only *doña* Flor was trained as a health promoter. The women nevertheless had a livelihood based on herbal knowledge gained indirectly through the health promotion process. However in their case, the space they occupied was more than a therapeutic one; it was an institutional space. Las Hamelias received institutional support from the government through the Mexican Social Security Institute (IMSS) and their Community

Action Programme (CAP). Leonardo Porras, head of CAP, explained that their aims were to work with preventive medicine and supported organizations of traditional doctors by giving them resources to buy medical inputs for the establishment of traditional indigenous clinics and organizational capacity-building courses. He explained that although Las Hamelias was not an organization of traditional doctors in a strict sense, the group had advanced knowledge of the preparation of herbal and medicinal products, an activity that IMSS supported as a preventive medicine strategy. To traditional doctors such as Arturo Guerrero, the Las Hamelias group were occupying an institutional space that in theory should be reserved for traditional doctors. The resources given to Las Hamelias to produce their herbal products and establish their workshop were therefore 'taken away' from organizations of traditional doctors.

On the other hand, some of the people working on health promotion did not see Las Hamelias with positive eyes either. The commercial proposal of Las Hamelias was rejected by both traditional doctors and health promoters, by traditional doctors for their lack of profound medicinal herbal knowledge and encroachment on government funds intended for traditional indigenous medicine, and by health promoter groups for seeking economic gain where there should be none. Community health promotion was conceptualized as a voluntary service not intended to create profit. Health promoter groups rely on voluntary work and charged a modest consultation price. From their vision the sale of the herbal products and preparations should not be used to gain economic profit but to sustain the manufacture of the products only. The Marxist and religious ideological background of the health promotion process meant that the economic aims of Las Hamelias were seen with suspicion. In their conceptualization, the health promoter was a voluntary community worker and the economic dimension of medicinal plants was only considered within the logic of reducing a family's expenditure on pharmaceuticals and never as economic gain from the plants or the products.

Guadalupe explained that her work and that of her husband, Jesus, in health promotion had the objective of helping communities to rediscover their own plants, take care of them, improve them and share this knowledge with others. To create a productive enterprise was never an aim because what they considered important was that everyone had access to the knowledge. She explained that they taught people how to prepare the soaps, syrups and tinctures in order that they could create their own medical kit with an assortment of such products and as a way to access the medicinal properties of plants that were not found year-round or not growing in the region by preparing them and having the remedy readily available.

Her main concerns with proposals centring on forming a business were that people would start to keep the knowledge to themselves in order to keep selling their products.

> This is what we struggle against and we know that the economy is important, but not this economic model that we are presented with. We are against this neoliberal model that the only thing it does is create dependence in one way or another. To be able to process the plants and sell them you have to register, have the permit from who knows who and the thing you come back to is…who are you going to sell that to? To people that have money… (Guadalupe Abdó, August 2006)

The Las Hamelias group, therefore, lies at the centre of various competing medical paradigms and ideologies. On the one hand its products incorporate the marriage of two health systems by using popular and traditional herbal knowledge and 'modern' scientific methods to create herbal preparations. On the other hand, by commercializing the herbal products they are engaging with the allopathic medical system that views herbal products as commodities that can be standardized and separated from immediate medical practice.

The Las Hamelias leader's experience and original aim was centred on the health promotion conceptualization of reviving the community's traditional knowledge. In *doña* Flor's words:

> The group started in order to offer a service to the community, to rescue the tradition of plants because it was being lost, and here when the clinic arrived everybody would go there. If someone had a little temperature, to the clinic; a stomach ache, to the clinic as well. So I said to friend 'Why don't we get together with other people and see about the plants, because there are basic things that can be cured with plants, and there are people here that already know about using plants, and they cure people'. For example, *doña* Margarita cures children; she massages them and gives them a tea to cure them. So I said, 'Why don't we ask older people how they use the plants and what they call them (because even though we are from the region we might use different names for the same plant)?' And at that moment we were not thinking of asking anybody for money, we only wanted to know the plants, grow them in our home garden and use them if somebody got ill…I already knew how to make syrups, tinctures and other things.

The women's engagement with development actors promoting income-generating projects set them on a dramatically different journey to that of the health promotion experience *doña* Flor envisioned and was familiar with. The following sections address the 'knowledge encounter' between the women in Las Hamelias and development actors and organisations promoting the income-generating micro-enterprises. By focusing on the different perceptions, values,

objectives and interests of the actors involved in this knowledge encounter, I uncover some of the main obstacles and contradictions of the herbal product market and identify how Las Hamelias negotiated and accommodated to the commercialization process in their day to day activities, delineating the power differentials and struggles in the intersection of health paradigms reviewed above.

8.3 Herbal product commercialization: Plant conservation, quality and regulation

8.3.1 Local knowledge and environmental conservation

"In the elaboration of our products we take charge of everything, we cultivate the plants in our home gardens without the use of agro-chemicals, this way helping to preserve the health of our families, the environment and plants in danger of disappearing."

This statement found in the promotional material of Las Hamelias is eloquent of the environmental agenda of NGO's and institutions that supported the creation of the micro-enterprise. According to Luisa Paré, the CODESUVER (Coalition of Organizations for Sustainable Development of the South of Veracruz) supported the idea of the herbal product micro-enterprise in order to rescue the use of local plants. Initially, she explained, much work was done fencing and transplanting medicinal species from the fields to the women's home gardens. The organization supported the group with resources in order to buy tools such as picks and shovels so they could cultivate the plants and advised on growing them without the use of agro chemicals.

Rescuing medicinal plant use in home gardens, the organic management of these and the establishment of an income generating activity based on these practices, is linked to the activities that the 'Los Tuxtlas' Biosphere Reserve (TBR) office promoted. As was seen in Chapter 5, for the director of the TBR, José Antonio González Azuara, the main objective of the Reserve is to conserve the natural heritage of the region by actively including the population in alternative productive activities. He explained the type of projects they have supported are those that provide the population with a livelihood, while at the same time contribute to conserve the area's culture and remaining biodiversity. One of the strategies to achieve these objectives has been the promotion of what he calls the 'integrated management of the home garden', i.e. the intensive cultivation of plant species within this space which is conducive to the enhancement of the area's agro-biodiversity.

> The management of biodiversity is linked with the agro-biodiversity of home gardens, a cultural practice that is important to promote and support. What we do is elaborate contracts with NGO's who design, develop and transmit strategies for the integrated management of the home garden where the management of medicinal plants is always considered because it provides families with alternatives to medicines, creates unity and rescues people's beliefs and culture. (Antonio González Azuara)

Supporting the creation of an herbal product micro-enterprise involved the revival of the cultural practice of medicinal plant management in women's home gardens, while also establishing a livelihood for the families of the women involved. One of the main premises supporting Las Hamelias micro-enterprise was therefore based on the assumption that the added value of manufacturing herbal products and selling these would enhance the conservation of medicinal species and the area's biodiversity by enhancing people's livelihoods. However, as was seen in Chapter 5, with time Las Hamelias started to manufacture many products with purchased plant extracts and other cosmetic inputs, leaving the agricultural and home garden enhancement aspect to the side. Luisa Paré argued this transformation of the group's activities was not leading to a real conservation strategy:

> 'These herbal products supposedly contribute to the conservation of biodiversity, from an economic point of view, but do they really?....Las Hamelias activity has turned into one where they buy industrial inputs, they store plastic bottles, and add a few natural ingredients…I have insisted on the cultivation of medicinal plants in order to sell the medicinal plants in paper bags or as teas, many times I have taken examples of tea mixtures, because it's a lie that people (in the communities) have plants such as peppermint or chamomile in their home gardens because nobody confines their chickens. People don't have the basic plants to cure a stomach or tooth ache and these could be sold in the local shops if you were really to rescue and spread medicinal plant use…'(Luisa Paré, interview June 2006)

Las Hamelias learned to manufacture a wide array of products, diversifying their commercial options by producing cosmetics and toiletry products in addition to the herbal medicines. The group's incursion in the line of cosmetic products took off when *doña* Flor began to take courses given by the pharmacy in Mexico City where they bought some of their plastic bottles. The Droguería Cosmopolita is one of a few establishments that commercialize a large range of essential oils, emulsifiers, extracts, together with a large range of chemical inputs and pharmaceutical products. *Doña* Flor travelled to Mexico City in order to attend courses on the manufacturing of cosmetics and started teaching the other women how to make new

products, such as anti-wrinkle and anti-cellulite creams and even household cleaning products. Las Hamelias also asked actors from the local NGO's to give them capacity building courses on new products in order to further diversify their product range. Alejandro Negrete, a member of SENDAS, gave them workshops on the elaboration of such products as natural toothpaste, talcum powder, as well as other natural remedies such as creams for bruises, and decongestants.

The diversification of the products offered by Las Hamelias simplified their manufacturing job and gave a greater perceived livelihood security, but the plant conservation and community health aspects of the enterprise, to a certain extent, got lost on the way. The micro-enterprise's activity became involved more in the production of cosmetic products and began to manufacture these with plant extracts, essences and oils, rather than harvesting or cultivating local medicinal plants. Only a couple of their products, such as their cough syrup and their medicinal soaps, were manufactured with plants they cultivated in their home-gardens. When I asked why this had happened the women agreed they did not cultivate as many plants because it was too time consuming and they had trouble with pests and chickens. Jacinta explained how initially they had been given money to establish a greenhouse in the back of her home in order to grow medicinal species and vegetables, but they had trouble with the *tzba* (*Geomys bursarius*), a rodent that lives underground and eats the tubers and roots of many plants. The bare steel structure of what was going to be the greenhouse lies in ruins at the side of her kitchen. She explained she didn't have many plants around her home because the chickens and other domestic animals were not confined in the community and would eat the seedlings. Only the home of doña Flor and Jenni (who shared the same plot of land) had their home completely fenced and had a place to keep the chickens. In 2006, when I first arrived to Pescador, in the women's' home gardens I found medicinal species like the *sabila* (aloe vera), *maguey morado* (Rhoeo discolour), *bugambillia*, and the *valletilla* (Hamelia patens Jaccq.) which were scattered in homes and streets all over the community. There were however other plants with ornamental, nutritional as well as medicinal uses; such as roses, the Mexican marigold and trees such as orange, mango, guava and grapefruit.

When their workshop was fenced (they only lacked the main gate) the women cultivated the medicinal plants mentioned above and started growing other species such as peppermint (*mentha vivirdis*), rosemery (*Rosamanirus officianlis*), arnica (*Thitonia diversifolia*), malva (*sida rhombifolia*), estafiate (*artemisa ludovicia*), and oregano (*origanium vulgare*), most of which

they used to produce their cough syrup (which required the use of 21 different plants) as well as the soaps they sold to treat skin infections. There were, however, some plants they still had to buy at public markets because a few of the plants they needed to manufacture their cough syrup did not grow in the climatic conditions of southern Veracruz. The species they sourced externally were: calendula (*Calendula officinalis*); cinnamon (*cinnamomon zeylanicum*); eucalyptus (*Eucalyptus patens*); cuachalalate (*Amphiptherygium adstringens*); gordolobo (*Gnaphalium spp.*) and tepezcohuite (*Mimosa Tenuiflora*). Table 8.1 describes all the medicinal species the women used to make their products, including those they had to buy in the market and table 8.2 lists the medicinal plant extracts, oils and essences they used to elaborate their products.

Table 8.1: Medicinal plants used in Las Hamelias products

Some common names in Spanish/ English	Species	Uses in Las Hamelias products	Product
Árnica/ Arnica	*Thitonia diversifolia*	Bruises, scathes, scabies	Cream to treat bruises
Avena/ Oats	*Avena satvia*	Smooth skin	Soap
Vayetilla/ Firebush	*Hamelia patens*	Skin infections and fungal infections	Soap to treat infections
Berenjena/ Trukey Berry	*Solanum torvum*	Skin rashes and pustules	Soap to treat spots and rashes
Bugambilia	*Bougainvillea spectabilits*	Cough and throat	For cough syrup
Canela/ Cinammon	*Cinnamomum zeylanicum*	Cough and throat	For cough syrup
Capulín / not available	*Eugenia capuli*	Skin infections	Soap to treat infections
Cuachalalate/ na	*Amphiterygium adstringens*	Gastritis and skin wounds	For syrup for gastritis
Cundeamor/ Bitter melon	*Momordica charantia*	Rashes and fungal infections	Soap to treat infections
Estafiate/ white sage brush	*Artemisa ludovicia*	Cough and throat	For cough syrup
Eucalipto/ Eucalyptus	*Eucaliptus glabolus*	Cough and throat	For cough syrup
Grodolobo/ na	*Gnaphalium attenuatuum*	Cough and throat	For cough syrup
Guayaba/ Guava	*Psidum guajava*	Fever, parasites, cold and skin pustules	Tincture to treat parasites
Hierba de zorrillo/ guinea henweed	*Petiveria alliacea*	Mosquito repellent	For mosquito repellent

Laurel/ Bay Tree	*Laurus nobilis*	To treat drandruff	For shampoo
Maguey morado/ Rhoeo	*Rhoeo discolour*	Cough, bruises, skin wounds	For cough syrup and soap
Malva/ Paddy's lucerne	*Sida rhombifolia*	To strengthen hair	For shampoo
Mango	*Magnifera indecal*	Cough and throat	For cough syrup
Nanche/ Nance	*Byrsonima crassifolia*	Diahorrea	Tincture for diahorrea
Naranja/ Orange Tree	*Citrus aurantifolim/ Citrus sinensis*	For colds and cough	Leaves used in cough syrup
Orégano	*Origanum vulgare*	Cough and throat	For cough syrup
Romero/ Rosemary	*Rosamanirus officinalis*	Hair loss and cough	Shampoo to treat hair loss and cought syrup
Sabila/ Aloe	*Aloe vera*	Gastritis, wounds and burns	Gastritis syrup
Tepezcohuite/ na	*Mimus tenuiflore*	Wounds, spots and hair strengthener	Shampoo to strengthen hair

Table 8.2: Essential essences and oils used in Las Hamelias products

Oils	Essences	Extracts
Avocado oil	Jasmin essence	Coconut extract
Bergamot oil	Lemon essence	'Ruda' *Portulaca Oleracea*
Grape seed oil	Thyme essence	Calendula extract
Sweet almond oil	Citronella essence	Chamomile extract
Eucalyptus essential oil	Rose floral essence	Extract of 'espinilla'
Calendula essential oil		Extract of *Menta piperita*
Cinnamon essential oil		Extract of *Fucus Vesciculosus*
Olive oil		Extract of centella asiatica
Geranium essential oil		Rosemary extract

In addition to recuperating the use and management of local plant species and promoting the cultivation of the plants without the use of agrochemicals or pesticides, NGO advisors of Las Hamelias also contributed with information relating to issues of quality. With herbal products quality takes great significance because these are inextricably linked with matters of safety and efficacy; aspects such as the way plants are cultivated, harvested, managed and transformed are deemed important as they influence how these will ultimately work on the body. They advised the group on aspects of plant management and post-harvesting techniques in order to avoid the loss of the medicinal properties. *Doña* Flor expressed the following:

'*Doña* Luisa told me this last time she came that we have to improve the quality of the products we make and that if the plants are not dried in the same way they will not have the same properties and the same effects, so we have to follow some strict rules in managing the plant'. (Interview *Doña* Flor, July 2006)

The women of Las Hamelias explained that post-harvesting techniques such as drying the plants was not needed, as most of the plants were harvested the day they were used. In their workshop I saw a wire frame intended to dry the plants but was un-used. Blanca said it was not necessary as the only plants they used dried were those they had to buy, thus post management issues were not as relevant as finding a way to protect the growing plants from pests and other animals and to have sufficient supply all year round to make the products they needed. On the other hand, development advisors were likewise concerned with the quality of the plants they had to buy:

'What I see is that when they (Las Hamelias) buy a plant – like the calendula they use – and when I see these informal stalls with plants I wonder where and when that plant has been harvested, if it might be contaminated and if it still has any properties...in the end it's probably better to buy an extract'. (Interview Luisa Paré, June 2006)

Luisa's scepticism about the curative properties of plants sold at informal markets points to an area of policy that has been neglected in Mexican policy efforts up to now and is related to plant sourcing and post-harvesting management. According to the World Health Organization, the safety and quality of raw medicinal plant materials and finished products depends on factors that may be classified as intrinsic (genetic) or extrinsic (environment, collection methods, cultivation, harvest, post-harvest processing, transport, and storage practices) (WHO 2004). Hersch-Martinez (1996) has documented how the medicinal plant commercial chain in Mexico, including gathering, processing, and transportation, are not regulated, a situation which contributes to the vision held by external advisors (as well as many consumers) who are sceptical about the quality of the plant materials that can be bought in informal markets and shops.

The Las Hamelias incursion to cosmetic products as well as their increasing reliance on purchased extracts and essences, rather than on plant and home garden management, demonstrates their capacity to absorb new information while also contesting and negotiating the knowledge received in terms of their vision and needs. The group adapted to the advice

development actors gave them and responded within the space of their own circumstances, abilities and interests. This process is identified by Long (2001) as 'knowledge transformation', whereby individuals or groups continuously change and adapt knowledge in response to changing intentions, opportunities and circumstances. For advisors from local NGOs and the Tuxtlas Biosphere Reserve, the environmental and health objectives were most important, for the women of Las Hamelias, the criteria seemed to centre on factors such as the amount of time and effort needed to put into the cultivation of the plants and the manufacturing the products. A similar situation, where there are discrepancy in vision and interests, occurred with issues on the quality and safety of their products. The following section deals with these aspects and the relationship with the commercial strategy Las Hamelias implemented.

8.3.2 Herbal product market: Obstacles for small scale producers

Long (2001:177) stated that social interface: '...is a point of intersection between the life worlds, social fields or levels of social organization where social discontinuities, based upon discrepancies in values, interests, knowledge and power are most likely to be located'; in this case, the life worlds of the women of Las Hamelias and development actors who advised and supported the Las Hamelias micro-enterprise effort, illustrate some of these discrepancies. In this chapter section, the social and knowledge interface becomes evident over issues of quality and proven capacity of herbal products to heal, aspects which are then linked to the norms and standards required to officially register and commercialize these products. The problems concerning access to markets, regulated by health and safety norms, demonstrate one of the fundamental arenas of inequality that small scale producers are faced. This section engages with one of the original aims of the research: to identify factors facilitating and/or constraining the commercial potential of a small scale rural based herbal enterprise such as Las Hamelias.

As an advisor for the SENDAS team, Susana Cruz was given the task of helping La Hamelias in their commercial strategy as she lived in Xalapa, the state capital, and had easier access to contacts and commercial establishments. Her initial approach to marketing the herbal products was to place them in small shops in the city, however these businesses worked by consignment and someone would always have to personally charge and restock shop by shop. This was an impractical strategy for Las Hamelias in the long run as their community was at least a 7 hour bus ride to the state capital city. Next, Susana attended the big commercial fairs organised by the government of the state of Veracruz to promote local initiatives. She

explored the possibility of placing their products in larger established shops and with the bigger commercial chains but soon realized that this strategy presented important complications due to the volumes most commercial chains demanded as well as the need for legal product registration and sanitary certification. She found both these requirements were complicated and costly.

Among other NGO consultants I interviewed, a number of doubts and difficulties regarding the market for Las Hamelias products were expressed. The first obstacle identified by Luisa Pare, was that there was a great deal of competition from industrial brands, especially with regard to the cosmetics and medicinal soaps Las Hamelias manufactured. Additionally she judged that marketing herbal products was difficult due to uncertainties about the efficacy of the products themselves and lack of formal registration with health and sanitary officials: 'There has to be a guarantee that what you are producing has the properties you say it does. When you go into one of those "natural health" shops it's full of products, but nothing is certified. You do not have the assurance that what you are buying works for what they say it does. There is a lot of fraud'. (Interview Luisa Paré, July 2006)

Antonio Gonzalez, the director of the Tuxtlas Biosphere Reserve, also expressed doubt about the long-term potential for promoting the marketing of herbal products made in the region by micro-enterprises.

> How do you make that market operate? And you can see in the natural health stores – they are an example of a boom, but only to a certain point. I don't know how much people really use the medicinal aspect. I don't know how consistently people use them [herbal medicinal products] and how effective these might be in the long run and therefore the market for these products. There is an issue here with the speed of response of allopathic medicine that takes away the pain immediately, and people are accustomed to that. I think in [rural] communities they still use medicinal plants, but people from urban areas are the ones being targeted as a market and they are the ones who buy the products and have the capacity to pay the premium for a herbal product; but there is a need to work with society in understanding the differences. (Interview Antonio Gonzalez, March 2008)

Luisa Paré and Antonio González, advisors and actors involved in various regional development projects, perceived problems with the credibility of the products and the nature of the herbal product commodity market. For most of the development workers I spoke with, the only way to overcome the credibility problems and open up the market was to go through the entire

registration process. However, this required an investment that was outside the means of the Las Hamelias group. As seen previously in chapter 3 (see Figure 2.1 Health systems, medicinal plant use and markets in Mexico) commercial herbal products lie between two medical systems, that of traditional medicine and that of allopathic medicine; thus the establishment of their credibility and regulation is complicated. On the one hand, herbal medicines as commodities openly available in the market need to follow safety procedures similar to those for allopathic medicines. On the other hand, they use plant parts and mixtures rather than specific synthesized plant components, but they are assessed with similar safety and efficacy criteria as pharmaceuticals.

Mexican legislation accepts the commercialization of herbal preparations and makes a distinction between two different types of plant-based medicines – herbal medicines and herbal remedies – and differentiates these depending on the type and amount of scientific information available on the product. To register an herbal medicine there must be information on the identity and purity of the plant components, and these need to be scientifically and technically established based on information in national and/or international pharmacopoeias. Herbal remedies, on the other hand, need to give evidence regarding the plants' attributions in popular or traditional medicine and require certification of safety (rather than validity criteria) to be registered. The differentiation between these two categories and the acceptance of a classification of herbal remedies which is based on knowledge attributions from popular or traditional medicine has been permitted since the publication of the Herbal Pharmacopeia in 2001, which includes plant monographs and the common uses in herbal preparations that have been availed by traditional and empirical use in Mexico. The differences between the legal definitions of 'herbal remedy' and 'herbal medicine' acknowledges that medical knowledge in Mexico cannot be limited to the scientific information available in the national pharmacopeia (based on the allopathic paradigm) and thus recognizes the different knowledge domains that exist regarding herbal knowledge and preparation methods. These legal stipulations that differentiate between the term 'medicine' and 'remedy' nevertheless give greater credibility to the former, as they are able to follow the strict scientific validity criteria and can be marketed as 'medicine'.

Table 8.3: Regulatory framework for commercial medicines in Mexico

Categories of Herbal Products	Definition and regulatory frame
Herbal remedies	Article 88 of the internal regulations of the Ministry of Health, defines herbal remedies as preparations made of medicinal plants or their parts, individual and/or combined as well as the derived forms presented in pharmaceutical form and for which there is a popular o traditional knowledge about the alleviation of one or more symptoms of an illness.
Herbal medicines	In the General Law of Health (*Ley General de Salud)* in article 224, herbal medicines are defined as: products elaborated with plant material including any part of the areal plant or root as well as any derivative of these. It includes plant extracts, tinctures, juices, resins, essential oils, or any other pharmaceutical form and of which the therapeutic efficacy and security has been confirmed scientifically in the national or international literature.
Nutritional supplements	In article 215 of the General Health Law, nutritional supplements are products made from herbs, plant material or traditional foods, dehydrated or fruit concentrated, with added vitamins and minerals (or not) that can be presented in pharmaceutical form and where the objective of use is to increase the total dietetic ingestion, complement it or supplement some of its components.

Source: Secretaría de Salud (2005)

The women of Las Hamelias were advised to follow the process to register their products as herbal remedies, however Susana, who was going to help them through the bureaucratic process came to the end of her time advising the group before this objective could be accomplished. The initiative was never followed up and the women eventually found there was no need for them to go through the long and costly registration of their products and the health and safety certification of their workshop. The Las Hamelias group never registered their products, partly because the bureaucratic process was complicated and costly for them, but also because after some time the women deemed it unnecessary. They argued that they had noticed that many natural health stores had unregistered products, so why should they go through all the trouble and cost of doing it? The women also told me that a chemist had been to see them and had given them a long list of things they needed to change in order to achieve the required safety standard of their workshop. In order to do all these things that were legally required to produce an 'herbal remedy' they would have needed to invest a considerable amount of money, which their limited finances could not cover.

When I commented the difficulty of the sanitary requirements for the workshop of Las Hamelias with the head of the Communitarian Action of IMSS (Regional Delegation of Social Security of the south of Veracruz), he told me that the standards set up in the legislation were out of the reach of all the small workshops of traditional doctors he knew (and helped finance) in the area, and were even so strict that many of the IMSS rural clinics could not comply with them (Interview Ing. Porras, October 2006). With time the women realized that complying with health and safety regulations for their workshop and products was not needed. In the first place, the health authorities of the Communitarian Action of the IMSS avowed their products' safety by giving them financing to keep improving their workshop and developing their products. They also gave them permission to sell their products not only at town fairs and events but were also allowed to set up shop right outside the doors of the IMSS Rural Hospital in the town of Jaltipan once a week to sell their products. It seemed obvious that there was no further need for acquiescence from regulating authorities. All that was really needed was to convince the authorities from the Communitarian Action programme that they were following the safety criteria that they had deemed crucial. I was present when the authorities visited their workshop in 2007 and witnessed how Sonia was very efficient at convincing them they wore uniforms, gloves and masks when they were elaborating the products, something I never saw during the time I was with them.

The women of Las Hamelias also explained they felt that they did not need to register their products because they were already well known around the area and people who bought their products knew them to be good. They told me how in the beginning, selling their products was very difficult because nobody had confidence in them and potential customers did not trust what they said about the medicinal properties of their products. However, with time, the women perceived that their products now sold well because they already had a good reputation and people knew that their products were effective. Registration of the products and certification of the safety measures in their clinic was not relevant as their final consumers were familiar with the people who made them.   The direct contact between producers and consumers made it easier to build the trust and confidence in the safety and quality of a product. Las Hamelias ended up marketing the great majority of their products directly to their customers; the regularity of their presence at the places where they sold was their most effective commercial strategy. Nevertheless, as we have seen in Chapter 6, this commercial strategy weighed heavily on the women, since travelling and selling directly involved time and

effort that ultimately had an impact on their families and household relations. However this small-scale producer-to-consumer marketing strategy was more viable than going through the official registration process.

The critical view from the NGO advisors on the path Las Hamelias micro-enterprise was taking concluded with a shift in the capacity building efforts geared to the women as they started offering them workshops on massage techniques and on the *temazcal* bath ritual. This new capacity building strategy had the objective of giving the women more skills and knowledge to diversify their livelihood options and move away from the emphasis on commercialization. It was posed by the consultants of SENDAS and those working in *Tssoka-Teyoo* as an alternative and as a means to help take the pressure off the time required for the commercialization of their products and in order to combine their efforts with the ecotourism group set up in Pescador. The idea was to create a synergy between the two groups' activities to attract tourists to the community; while the ecotourism group would offer accommodation and boat tours through the mangrove and the lagoon, the Hamelias group could offer *temazcal* baths, massages and the opportunity to buy their herbal products. The idea was to promote the village of Pescador as a health tourism option where the area's natural beauty and the community's hospitality and therapeutic offerings could attract people from the big cities. (Interview Lida, July 2006)

For Las Hamelias this new line of activities meant an emphasis on health-related issues, which was where they had started nine years previously when the original idea had been to learn about medicinal plants to benefit their families and the community – but the focus on health was again as a means to create an income. The women of Las Hamelias told me they enjoyed learning to give massages and the *temazcal* bath and said it would be nice if they could receive tourists in their community, but revealed that they were not going to abandon the commercialization of the herbal and cosmetic products because at that moment they still had not made any income from the new health tourism service. Additionally the new strategy relied on the cooperation of the two groups – Las Hamelias and 'Manglar Rojo' ecotourism group – an issue which had already proved difficult as they had quarrelled over a number or issues revealing power struggles. In the end the women from Las Hamelias not only accommodated their own interests, priorities and circumstances but also navigated multiple and conflicting views, knowledge and priorities emanating from external actors. The path of

the Las Hamelias micro-enterprise has through the years been influenced not only by the views of development actors from NGOs and institutions, but by the women's priorities and options.

8.4 Conclusions

The inquiry into the origin of the knowledge the Las Hamelias women used to produce their herbal products and preparations enabled a visualization of a historical process whereby during the late 1970s and 1980s various sectors involved in health policy and promotion in Mexico engaged in a process of reviving and revaluing traditional medicines' and lay people's herbal knowledge. In southern Veracruz, where the case study is situated, this process involved the creation and dissemination of herbal knowledge through 'botanic walks' with traditional indigenous healers, the publication of topical booklets on medicinal plants and herbal product manufacture, as well as the emergence of a regional network of health promoters. While this enabled wider acceptance, use and dissemination of medicinal plants and herbal preparations, it also revealed key struggles over therapeutic authority and value among the actors involved. Some of the main controversies I identified concerned the commercial use of herbal products and preparations and struggles over the value of traditional indigenous medical concepts and therapies.

The value of popular and traditional indigenous herbal knowledge was accepted and encouraged by actors involved in health promotion as a way of treating basic health problems; however, they did not accept the wider concepts and treatments of traditional indigenous medicine. On the other hand, traditional doctors contested the values and knowledge of health promoters, pointing out that their knowledge was limited and incomplete. These struggles over the legitimacy of medical knowledge among actors belonging to two different health paradigms revealed an ongoing conflict about therapeutic value and space. The knowledge used by the Las Hamelias micro-enterprise was the outcome of the health promotion process and included both popular and traditional indigenous herbal knowledge. As a group, the women were considered neither health promoters nor traditional doctors and in fact were rejected by representatives from both health paradigms. For traditional doctors, *curanderos*, the women lacked a profound understanding of herbal and medicinal knowledge; while for the people still involved in health promotion, the commercial exploitation of medicinal plant preparations was wrong, because they believed that such knowledge should

remain accessible to all and work for the collective benefit of the communities and not for the individual profit of a few.

The examination of the knowledge interface involving product development, marketing and manufacture of the herbal products revealed the way the women accommodated to the vision and expertise that NGO advisors gave them while at the same time contesting these at particular points. Examples of how the women controlled and used their own vision and opportunities to advance their aims were first, the diversification of herbal products to cosmetics, the wider use of plant extracts and essences and their decision regarding the registration of their herbal preparations. Against the best advice of external actors, the leader of the group took courses in Mexico City on the development of cosmetics with plant essences and extract and the group began expanding its line of products while also simplifying the methods used to manufacture many of the products. While external advisors insisted on the registration of their products, the group of women realized that this was not possible, or necessary to their commercial strategy.

Las Hamelias micro-enterprise was the outcome of an intermixing of popular and traditional herbal knowledge, allopathic methods and principles and was created against the backdrop of income-generating policies for rural women in Mexico. The group is a clear example of the syncretic processes and knowledge transformations that occur within the livelihood strategies of families and social groups within development interventions. Las Hamelias group was able to integrate, accommodate, negotiate or contest the meanings, values and visions that surrounded it. This case study adds to Long's (2001) argument that even though development interventions involve external financing, capacity-building efforts and pressures, local actors have the capacity to reject and accept different types of knowledge and accommodate them to their own livelihood strategies. Nevertheless, the case likewise demonstrates how power differences and asymmetries between health systems and actors can be drivers of the establishment of rules and norms that effectively limit the development of some health options over others as the Las Hamelias case demonstrated.

CHAPTER 9: CONCLUSIONS

9.1 Introduction

Over the last decades there has been growing awareness of the expanding consumption of, demand for and trade in medicinal plant species and herbal medicines in wealthy urban populations and western nations, creating a boom in the market. This growth in the demand and supply of herbal products across countries and cultures has triggered development policy makers' and academics' interest in their potential to harness economic and social benefits for rural and economically marginalized populations. The assumption is that rural communities may benefit from the dynamic herbal product market by cultivating, harvesting and managing medicinal species which may provide an important source of income (Balick et al 1996; Srivastava et al. 1996; Frei et al. 2000; Schipmann et al 2003; Karki and Tiwari 2005; Lambert et al. 2005). Some authors identify women as a target group that could gain advantage from the development of small scale rural firms (Alberti 2006; Rao and Rajeswara 2006) due to their knowledge of their curative properties and experience of managing medicinal plant species in their home gardens (Howard 2003).

By analysing the case of a women's herbal product micro-enterprise in rural Veracruz, Mexico, this thesis has explored these ideas, focusing on three thematic areas: the gender dimension of micro-enterprise creation; aspects of collective action and access to social networks; and knowledge about the use of medicinal plants. The analysis of the gender dimension in the micro-enterprise aimed to understand the issues faced by women involved in income-generating projects and the impacts on their work, time and empowerment. The analysis of group dynamics and the internal bonds among the women who participated in Las Hamelias enabled an exploration of potentially crucial factors in cooperative and collective action in women's micro-enterprise groups. Scrutiny of the group's relationships with external actors explored how the case study group was linked with markets and institutions and the manner in which relationships with these actors influenced their access to resources, knowledge and opportunities. The third thematic area investigated how herbal medicinal knowledge is used through the creation of the micro-enterprise, seeking to understand how knowledge is adapted to respond to market initiatives in the livelihood strategies of social groups such as Las Hamelias.

9.2 Gender

The micro-enterprise sector has been identified as a source of income and flexible employment for rural women, with potential positive effects on family welfare and gender equality (Cunningham 2000; Rodriguez-Garcia et al. 2004: Blumberg 2005; Mayoux 2006). However, studies focusing on women's household relations in rural Mexico argue that policies promoting micro-enterprises for women do not take into consideration the social norms that limit women's effective participation in them, the weight of their household activities and their limited time availability (Zapata and Mercado 1996; Kusinir et al. 2000; Suárez 2005; Canabal 2006; Colinas 2008; Zapata et al. 2005; Urquieta et al. 2009). The first research question questioned the main factors that affect women's participation in the Las Hamelias micro-enterprise, focusing attention on social norms and the gendered division of labour in rural Mexico.

The case study illustrates how micro-enterprises may not be such a flexible work alternative as policy makers appear to believe. Las Hamelias' activities place heavy demands on the women's time. The women had to dedicate considerable time to travelling to sell their merchandise at town fairs and events, often having to leave the community for a day or two at a time. The basic management of the enterprise such as contacting suppliers, making up orders, taking care of purchases and deliveries and going to the bank, also required them to travel. Therefore although the manufacture of the products was carried out twice a week in Pescador and involved flexible hours, the overall activities of the micro-enterprise still demanded a great deal of time and travelling that interfered with the women's maternal and domestic responsibilities.

The travelling requirements of the micro-enterprise presented most of the women with difficulties. The amount of time travelling took from their childcare responsibilities and the opposition this created on the part of their husbands and family were significant. Travelling also meant that they fell behind with their domestic work and had to catch up on their return. The women who had young children under the age of ten struggled most with the travel demands of the micro-enterprise as they had to leave their children in the care of someone else, which their husbands often opposed. Therefore a fundamental element affecting the women's effective participation in the Las Hamelias micro-enterprise was the amount of time available after they had carried out their social and reproductive activities and the complications of having to travel.

The social norms that expect women to stay home in rural Mexico are related to the importance of women's reproductive role but also to the stigma attached to women who travel without their husbands. Having to ask for the husbands' permission to go out is a commonly accepted restriction in rural Mexico and social norms that dictate that a women's place is at home and not 'out in the streets' are still prevalent (Guzman 2004; Zapata et al. 2005). On the one hand there are security concerns for women travelling on their own and on the other, ideas prevail about the alleged 'temptations' that they might encounter. In either case, their lack of autonomy and freedom of movement have been identified by researchers analyzing women's household relations in Mexico (Colinas 2008; Gammage2008; Urquieta et al. 2009). Travelling presented problems for some of the Las Hamelias women in terms of the gossip to which they and their husbands were exposed. A survey of women in Pescador showed that one of the main reasons other women had not been interested in joining the micro-enterprise was that they would have to travel, which, they said, their husbands would not give them permission to do.

However, not all the women in the Las Hamelias group faced opposition from their husbands or the same limitations to participating in the micro-enterprise. Of the eight women who made up the group, six were in their early forties and had children over the age of eighteen. These women were able to cope better with juggling their household duties and enterprise responsibilities. Likewise, not all the women had difficulties with their husbands as a result of working outside the household. Three of them (not surprisingly married to men from the same family) had husbands who supported their participation in the micro-enterprise and sometimes even helped with household chores. This demonstrates the heterogeneity within families in rural communities in Mexico and the individual context of each of the women that influenced their capacity to participate.

Examining the individual circumstances of each woman more closely revealed that the main factors enabling participation in the micro-enterprise were the age of her children, the family environment (i.e husband's approval) and level of education. Research on rural women's work in Mexico has shown that the role of women in the domestic sphere is strongly ingrained in the Mexican family, especially in the *campesino* sector (Vazquez et al. 2002; Guzman 2004; Martínez-Corona 2005; Suarez 2005; Zapata et al. 2005). Women remain responsible for the majority of social reproduction activities such as rearing the children, caring for elders and the sick and household maintenance such as cleaning, cooking, washing clothes, etc.

Although the unemployment and poverty of Mexico's *campesino* sector is forcing many women to search for sources of income, this research has shown there are still important difficulties and trade-offs for women involved in micro-enterprise schemes. Many of the women who participated in Las Hamelias found their caring responsibilities, the conflict with their husbands, the hard work and the travel too much to sustain. Of the nine women originally in the group, three dropped out after less than two years and eight years later only three remained. Thus the assumption that micro-enterprises provide an intermediate option for poor rural women to juggle economic and domestic activities without pondering broader parallel consequences such as overwork, harmful gossip, conflicts with husbands, and the lack of skills required for business management, is not supported by the current case study.

The second research question sought to understand the effects on women's empowerment of participating in Las Hamelias by analysing changes in their lives related to their personal growth, self-esteem and capacity for action and decision making within the household. The concept of empowerment has been variously defined and analysed due to the fact that the concept of 'power' has multiple meanings and connotations. In this thesis, empowerment is seen as a process enabling the ability to make choices and act within a broadened individual consciousness and in relationship to others (Kabeer 1999; Haugaard 2003). As Rowlands (1997: 131) points out: 'At its core, empowerment is about transforming social relations'. Taking into account Rowlands' (1997) framework, I divided the analysis into three main categories: personal, relational and collective empowerment. Personal empowerment focuses on identifying aspects of individual confidence and capacity, and relational empowerment on the capacity to negotiate and influence decisions in the family domain.

Micro-enterprises have been found to initiate advances in women's self-esteem and consequently in their relationships with others, enabling a process of empowerment (Molyneux 1985). One of the reasons that micro-enterprises have been identified as a catalyst for this process of change is the opportunities that these projects open up for women in terms of acquiring new skills, knowledge and abilities. All the women in Las Hamelias mentioned having the opportunity to learn as prime motivation for joining the group. The medicinal knowledge of plant species, the skill to manufacture herbal products and the ability to give a therapeutic massage were only some of the new skills and knowledge that the women valued and that helped them to develop personally within their own interests and abilities. Learning how to speak to strangers in order to sell their products, interacting with people from different walks of life including people in positions of authority and learning to travel confidently

outside the community all contributed to strengthening the women's sense of authority and self-esteem.

Some authors argue that women's control of economic resources is the most important factor in gaining a sense of self worth and personal empowerment (Kabeer 2001; Bloomberg 2005; Mayoux 2006). In contrast, other studies point out that micro-enterprise projects often do not offer sufficient income to substantially improve women's livelihoods or provide enough leverage to increase their bargaining power with their husbands or family members (Buvinick 1986; Velazquez 2002; Eversole 2004). The women of Las Hamelias expressed a number of times how being able to contribute money to the household gave them a feeling of achievement and pride that motivated them to continue despite the hardships. Although their earnings from the micro-enterprise only complemented the family's income, it was significant for them as they were able to decide how and when to spend it. For the women of Las Hamelias the extra money alone did not make the difference in terms of their increased bargaining power with husbands: rather it was the mixture of their access to new skills, knowledge and ideas, the realization of hitherto hidden abilities and support from individuals outside their kin networks. Participating in the micro-enterprise gave them the self-confidence to negotiate their needs and interests with their husbands, in many cases transforming relationships within their families.

Another aspect of micro-enterprise projects that has positive consequences for women's empowerment is the support that the women find within such groups. Mayoux (2001) writes that micro-enterprise initiatives that build on and develop women's networks through group activities have the potential to contribute to women's empowerment, based on the argument that extra-domestic activities such as micro-enterprises counter women's isolation in home-based activities by giving them the opportunity to establish relationships of solidarity with other women. Some authors studying women's groups in Mexico argue that they are extremely important, as they offer a place where women can share their experiences, emotions and aspirations while also developing solidarity (Mercado 1999; Martínez-Corona 2005; Townsend et al. 1999; Tuñón 2007). In Las Hamelias, the case of Josefina was emblematic in that her links to the other women in the group enabled her to learn important new skills (reading, writing and basic arithmetic), find support and gain the confidence to confront her husband when she faced abuse. Her example eloquently demonstrates the importance of women's groups as a measure of 'power with', an aspect Rowlands identifies as a motor for change in women's lives.

In Rowlands' (1997) framework, 'power with' is linked to the concept of collective empowerment; defined as the ability of individuals to work together; and identified with elements such as collective agency, group identity and self-organisation. This aspect of empowerment was analyzed using concepts of social capital and, as seen in Chapter 7, collective empowerment was not fully accomplished. The internal conflicts, lack of trust and envy that permeated the relationships among the women, especially when their leader died, demonstrate the fragility of the group's capacity for collective agency and organisation.

In sum, the findings of the case study suggest that the women lived their participation in the micro-enterprise initiative in contradictory ways. They valued the experience, the learning and the satisfaction of being able to contribute to the family economy, but the weight of the work and the travel that the micro-enterprise added to their busy lives, especially in the case of the women with small children, were difficult to cope with. The opportunities for learning new skills and knowledge were especially important and seem to have had the strongest impact on their processes of personal empowerment. Changes in the women's capacity to negotiate and influence decisions in the family domain were also noted and seem to have occurred in response to their inner transformation, increased awareness of choice, confidence and self esteem and therefore to their progress towards personal empowerment. However, the internal conflicts among the women were the most challenging aspects of their participation, and when their leader died this became increasingly difficult to manage and overcome, causing various members to quit the group. The analysis of the group's bonding social capital revealed aspects of collective empowerment were not achieved in the Las Hamelias group experience.

9.3 Social Capital

The first research question used the concept of bonding social capital to analyze the relationships among the women who integrated Las Hamelias micro-enterprise and their capacity for cooperative and collective action. Bonding social capital allows individuals to draw on 'the strong ties between immediate family members, neighbours and close friends who share similar demographic characteristics' (Woolcock 1998:26). The literature on social capital tends to stress relationships among people who know one another in multiple and repeating roles, such as family members, neighbours and close friends, prompt attitudes of trust and reciprocity and make collective action possible. Women have been singled out as more likely to have relationships based on solidarity and cooperation than men and to achieve the most bonding social capital. Policies are often formulated either to take advantage of the strong

cohesion and solidarity among groups of women (such as, for instance, in micro-finance projects) or aiming to foster social capital through group-based initiatives such as micro-enterprises. In this research, the concept of bonding social capital was used to explore the factors that enabled or limited Las Hamelias' capacity for cooperation and collective action, focusing on issues of trust, social identity, solidarity and group norms.

The interrelationship between trust and collective action is a central part of social capital discussion and debate. Montgomery and Inkeles (2000) define social capital as 'enduring social relationships of trust and reciprocity that enhance a group's capacity to co-ordinate action and work toward a collective good'. Organizations such as the World Bank argue that social capital is necessary for improving the effectiveness of development projects. The problem lies in the fact that it is difficult to encourage or develop trusting relationships. From the evidence of this particular case study, I argue that leadership may be an effective mechanism whereby interpersonal trust can be extended to a group in order to enhance the cooperation of its members. However, good leadership, like trusting relationships, is elusive and hard to come by.

In the Las Hamelias micro-enterprise the main factor that influenced the members' capacity for cooperation and collective action was the existence of a strong and inspirational leader whose personal characteristics, reputation and leadership style influenced the ability of the women to work together. She was able to resolve disputes and the management of the micro-enterprise went well while she was in charge. The downside was that her leadership created great reliance on her presence. When she died, financial problems, internal disputes and lack of trust among the women surfaced. The familiarity and repeated interaction among the women were not enough to maintain trust and cooperation, illustrating how the moment a leader ceases to have legitimacy or disappears, so do the trust, commitment and obligation which upheld the trusting relationships.

A shared identity has been identified as an element conducive to collective action (Ramos-Pinto 2007). The Las Hamelias case study shows how assumptions that the homogeneity and/or shared identity of small groups in rural communities produce bonding social capital should be viewed with caution. Social differences, power differentials and economic disparities are present even in a small rural community such as Pescador. This research illustrates how differences in the women's education and/or economic situations seem to have weighed more heavily than their supposed or assumed shared identity.

Analysis of the conflicts within the Las Hamelias group has shown that many of them originated in money issues. Disagreement about the distribution of profits, excessive borrowing from the micro-enterprise's revolving fund and misunderstandings and accusations concerning the accounts were the causes of some of the main disputes. Therefore a fundamental problem affecting the capacity of Las Hamelias for collective action was its money-making objective. A first explanation for this is the women's lack of experience in enterprise management. As Zapata and Mercado (1996:115) have observed in other women's micro-enterprise initiatives in rural Mexico, it often happens that 'tasks are not clearly separated, there is lending of money without clear rules or controls and what is spent and how much money comes in is only roughly calculated'. On the other hand, collective initiatives centred on making money are not necessarily based on solidarity or a supposed shared identity: the mediation of formal rules to establish activities and regulate behaviour is needed.

In the case of Las Hamelias, adherence to formal group rules was weak and therefore did not foster cooperation. Rules are often agreed and written down in order to create a joint understanding of how the collaboration should function and to lay down penalties for not following them. However, formal rules do not always have the same strength or weight as unwritten social norms of behaviour, and if formal rules are not understood or agreed upon collectively they may be ignored or questioned in particular cases and circumstances. In Las Hamelias conflicts arose as the formal rules and regulations were inconsistently applied and the women's different understandings and values underpinning the group clashed. The formal rules were sought out only when there was already a conflict to resolve and a third party had to intervene to resolve it.

Envy was another factor that affected the group's internal capacity to act collectively and impacted on the establishment of a supportive environment in the Pescador community. *Doña* Flor expressed how participation in the group came at a price for the women of Las Hamelias: not only did their hard work outside the household entail a great deal of difficulty and conflict with their husbands, they were also objects of envy to other community members. This manifestation of envy changed people's attitudes towards them. Some members of the community perceived the Las Hamelias women as 'rich' and therefore responsible for heavier communal obligations. The women of Las Hamelias explained that virtually no one in the community supported their enterprise.

In sum, the findings of the Las Hamelias case study question the capacity of development interventions such as micro-enterprise initiatives to take advantage of 'strong ties between immediate family members, neighbours and close friends' or to develop attitudes of trust and reciprocity to make cooperation and collective action possible. The conflicts among the women of Las Hamelias and between the group and other community members demonstrate how the creation of micro-enterprise groups does not necessarily strengthen bonding social capital. The micro-enterprise's money-making objective complicated and in fact was counterproductive to fostering bonding social capital and supporting a collective empowerment process.

The second research question was based on the analysis of bridging social ties, understood as 'weak ties between people from different ethnic, geographical and occupational backgrounds' (Woolcock 1998, 2000). This dimension of social capital engages with the benefits of weak ties with people who move in different social circles (Granovetter 1973). It is best expressed in Bourdieu's (1986: 248) definition of social capital as: 'the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition'. The analysis of bridging social capital helped to clarify how relationships between the women and external actors from bodies such as government agencies, academic institutions and NGOs were established, the central characteristics of these interactions and how they enabled the group to access resources, knowledge and opportunities.

The Las Hamelias case study illustrates how bridging ties with actors from civil society organisations were essential to the group's access to opportunities to develop skills, acquire funding and extend their networks and connections. The existence of 'brokers' – defined as individuals who function as intermediaries between development projects and the local population (Bebbington 1997) – was found to be important in establishing bridges between Las Hamelias and a wide diversity of actors in the public and private spheres. For almost two years the women received close external advice from two NGO workers who helped them to organize the micro-enterprise's activities, access government funding and expand their network of contacts. The women's links to these brokers and to local grassroots organisations constituted a framework that vitally assisted them with the management of the enterprise. Their bridging ties gave the women of Las Hamelias better access to information and opportunities: for example they were the first to know if there was a new project or money available from a social development fund.

Nonetheless, in the long run the lack of government funds to support the activities of the grassroots organization and that of the consultants hampered Las Hamelias' capacity to benefit from these bridging ties. Thus diminishing government funds had a negative effect on the bridging social capital that the women had established with organizations and 'brokers'. By 2008, after the death of the leader and with limited support from grassroots organizations, the women were financially unstable and the group on the brink of dissolving. They acknowledged that they had no money left in their revolving fund because they had been subject to fraud by the accountant; how much profit they were making each month from their sales or indeed the development costs of their products was not clear. This raised questions about the long-term sustainability of the micro-enterprise and the ephemeral benefits of bridging social capital.

In addition to the transient nature of bridging ties formed within micro-enterprise projects, a further obstacle to the establishment of bridging social capital was that the women depended heavily on the leader of the group and her personal networks. When she passed away, the bridging capital that had been established weakened and new contacts and relationships had to be established again. A number of authors stress that analysis of the benefits of bridging social capital should include recognition of how power is reproduced in social networks and determined by the individual's broader position in social space (Arneil 2006; Bebbington 2007; Edwards 2006). The analysis of the leader's social networks and her access to other forms of capital (economic and human) illustrates how differences in power and influence in rural communities are directly linked to the ability to access various types of capital (i.e. economic, human and social). However in addition to her social networks and access to other forms of capital, *doña* Flor's age, her previous experience with the Basic Ecclesial Communities and her involvement in the land struggle that preceded the establishment of Pescador community gave her the experience, character and reputation to hold a leadership position in Pescador and the Las Hamelias group.

Participation in the micro-enterprise entailed trade-offs for the women: on the one hand they were able to expand their social networks with actors from different socio-economic backgrounds and access information, resources and knowledge more easily than other community members; however, on the other hand, their participation brought about conflict and feelings of resentment and envy from other community members. Additionally the bridging social capital they had started to construct disappeared easily with the death of the

leader and shrinking government financing to maintain the activities of grassroots organisations and consultants.

9.4 Knowledge

The research question related to the source of the women's knowledge of medicinal plants and herbal product preparation led me to an unexpected exploration of health promotion activities in southern Veracruz which began at the end of the 1970s and lasted through the early 1990s. My initial assumption that the medicinal plant knowledge used by Las Hamelias women had been passed down to them from their mothers, grandmothers or other family members was incorrect. The group of women had received their initial knowledge about developing herbal products from the leader due to her experience and training as a health promoter. Surprisingly, they claimed to have had little herbal knowledge before they joined Las Hamelias. The case study thus demonstrates the importance of knowledge transmission mediated by institutional contexts and the understanding of knowledge within the social and political dimensions of its emergence and use (Pottier 2003; Martin 2003).

The analysis of the emergence and institutional context of the knowledge used by the Las Hamelias women to manufacture their herbal products revealed the existence of a broader national movement, 'The Popular Health Movement' (Movimiento de Salud Popular (MSP)), a group of social workers and organizations involved in health promotion. The analysis of the MSP, and specifically the case of the Regional Centre for Education and Organisation (CREO), where the leader of Las Hamelias had trained as a health promoter, enabled the understanding of the movement's discourses. Among the issues raised by the organizations participating in the MSP were the authoritarian characteristics of the health system in Mexico, which discredits other health practices and takes away people's ability to deal with their ill-health themselves. Health promotion organizations such as CREO restored the value of medicinal plants as a fundamental aspect of people's medical knowledge and a highly effective therapeutic tool in the hands of people in the community to treat and cure many illnesses and diseases.

The acknowledgement of the fundamental role of herbal knowledge (and other traditional indigenous therapies) in health care, led organisations such as CREO to initiate a process of the re-evaluation, restoration and dissemination of traditional indigenous and lay herbal knowledge which became a central element of the health promotion training. The re-evaluation of medicinal plant knowledge by health promoters strengthened and justified these

efforts among the local population. Methods of preparing herbal remedies incorporated both chemical knowledge and traditional indigenous herbal knowledge. Topical booklets with information on methods of processing medicinal plants included traditional knowledge about methods of collecting plants (time of year to collect, part of the plant used and even time of day to harvest plants); and technical knowledge of other forms of preparation and manufacturing medicinal plants with a longer shelf life such as tinctures, microdosis, syrups, soaps, oils and creams. Ethno botanists contributed information on the popular and scientific names of plant species, chemical and clinical information about the active substances and concerns about plant toxicity. Thus the health promotion process included syncretism and knowledge transformation processes combining lay, traditional indigenous and scientific knowledge.

The analysis of this 'knowledge dialogue' revealed power imbalances and struggles embedded in relationships (Leff 2002); in this case among actors belonging to different medical systems. The revival of herbal knowledge that emerged from the health promotion movement exposed on the one hand the importance of the knowledge held by lay healers in *campesino* societies and on the other, the existence of specialized knowledge holders, both allopathic doctors and traditional indigenous healers, who used their knowledge to maintain control and increase their status (Howard 2003). Thus the health promotion process in Veracruz illustrates battles for legitimacy and therapeutic value; allopathic doctors participating in health promotion ignoring or even repressing aspects of indigenous medicine, and indigenous healers deciding to stop sharing their herbal knowledge as part of the health promotion effort.

These struggles over the legitimacy of medical knowledge among actors of different health paradigms reveal an ongoing conflict about the therapeutic value of traditional medicines in Mexico. However, the predominance and power of the allopathic health system has resulted in intolerance of and prejudice against traditional indigenous medicine and the use of medicinal plants, a resource that, as Hersh (2000) clearly illustrates, remains undervalued by the official health system, as plant-based medicines are still widely seen as second-class health resources used mostly by the poor. Caught between these opposing views and in an awkward situation, the Las Hamelias group was rejected on the one hand for not having the proper credentials and knowledge of traditional indigenous doctors, and on the other, criticized by health promoters for their commercial stance, as the latter believe that such knowledge should remain accessible to all and work for the collective benefit of the communities rather than profiting just a few.

The second research question was framed in the context of the creation of the Las Hamelias micro-enterprise in 2001, when development organizations encouraged the group to initiate a business manufacturing herbal products. The analysis focused on the knowledge interface between the women, external development actors and government authorities, and the interests, perceptions and circumstances of the women as well as the agendas of the institutions supporting the enterprise. As Long (2001) argues, analysis of the social interface provides detailed understanding of the responses of local groups to development interventions.

Among the objectives shared by actors from NGOs that supported the establishment of the Las Hamelias micro-enterprise was an interest in conserving the natural and cultural heritage of the area around Pescador. Protecting natural resources and biodiversity is the prime interest of the Los Tuxtlas Biosphere Reserve officials and NGO workers, who realized that this objective could not be achieved without supporting people's livelihood options as well. Therefore income-generating projects that utilized traditional management of the forest and agricultural practices that enhanced biodiversity were promoted. Las Hamelias fulfilled these objectives: biodiversity was supported through the cultivation of medicinal species in home gardens, livelihoods were strengthened through the commercialization of herbal products and cultural heritage was revived by restoring medicinal plant use.

A fundamental knowledge interface occurred as Las Hamelias began to manufacture cosmetic products with purchased plant extracts and essences. The women's priority was to maintain the extra income they were generating for their families. They found that a way of achieving this was to diversify their product range to include cosmetics, which avoided problems associated with medicinal plant cultivation, harvesting and management: the cosmetics could be manufactured with less effort and time. Effective commercialization of herbal products using locally managed and cultivated medicinal plants was found impractical for the women of Las Hamelias.

Advisors to the group were disappointed with this course of action as the environmental and health objectives of the project were curtailed. The path the group took was not aligned with the interests and priorities of the institutions and NGOs that had initially supported the group, which then tried to steer the women in the direction of health tourism by supporting their training in massage and traditional *temazcal* baths. This alternative livelihood option did not take off, and support from the original institutions and NGOs dwindled. Analysis of the

knowledge interface provided an understanding of Las Hamelias' response to the aims and agendas of the development institutions supporting them, unravelling whose interpretations and meanings prevailed, under what circumstances and at what cost (Long 1992, 2001).

The changes in Las Hamelias' product range and activities were a response to practicalities of the harvesting and cultivation of medicinal plants and concrete obstacles surrounding the herbal product market, as the group was excluded from the big commercial chains and stores by the cost of registering the products and obtaining health and safety certification for their workshop. Las Hamelias found that the best option was to diversify the product range for direct sale to a smaller public familiar with their products. Fortunately the women's links to the health authorities enabled them to sell their products outside the local rural hospital, which reinforced their credibility. These strategies allowed Las Hamelias to confront obstacles to the herbal product market and difficulties with the time and effort required to make the products and ultimately strengthen their livelihoods, regardless of the initial environmental and health objectives of the institutions and NGOs supporting them.

However, the women were also left to their own devices with little financial assistance in registering and certifying their products to enable them to access a larger market, and ultimately had to settle for a small section of an informal market, only marginally profitable, and one that raised questions of effectiveness and safety. This case study adds to Long's (2001) argument that local actors have the capacity to reject and accept different types of knowledge and accommodate them to their own livelihood strategies. Nevertheless, it also illustrates how local people have a lot more to lose if their strategies cause them to fall out of favour with development organisations and institutions with specific agendas and objectives.

9.5 Policy recommendations and further research

The purpose of this research was to explore and comprehend the potential of small-scale herbal product enterprises to foster social and economic benefits for women living in poor rural areas of Mexico. The main findings of this research point to inherent difficulties in the herbal product market and to the limitations of promoting rural micro-enterprise initiatives for poor rural women. The first policy recommendations offered here engage with the need for wider understanding and acceptance of medicinal plants and herbal products as effective health care resources by the public health system and biomedical health professionals. It includes an ideal policy scenario that could drive the establishment of successful rural herbal product micro-enterprises. The second set of policy recommendations relates to the

limitations of women's herbal product micro-enterprises as they are currently promoted. Criticisms of market-based policies for rural women are outlined, together with suggestions for alternatives that might better acknowledge and respond to the situation of women in rural Mexico. Suggestions for further research are likewise outlined for each of the sections below.

9.5.1 Potential of herbal medicines

The difficulties inherent in the herbal product market lie first of all in the asymmetry of power within the health system in Mexico which has meant that the necessary policy framework for the establishment and growth of herbal product enterprises has not been promoted. The pre-eminence of the biomedical health paradigm together with the use of pharmaceuticals have led to medicinal plants and herbal remedies being looked down upon and their curative properties devalued (Hersch 2000). The current market for medicinal plants and herbal medicines in Mexico remains largely within the informal economy, where they are tolerated by health authorities but questioned as to their safety and efficacy. As long as the prevailing attitude towards medicinal plants and herbal products within the official biomedical health system remains it is unlikely small-scale rural based initiatives will prosper.

The lack of appropriate capital investment, technology and skills is a great limitation for these small-scale initiatives. The transformation of market opportunities into concrete opportunities for poor rural groups or communities is a complicated and expensive task that requires the development of products and processes of production, adaptation to prevailing norms and the construction of a market that recognises their value (Ibargüen and Chapela 2007). Unless a determined policy initiative strongly supports these initiatives, the real potential of medicinal plants and herbal product micro-enterprises as motors for rural development currently seems unattainable.

The status of herbal medicines in Mexico would benefit if the public health system were to open up more spaces where medicinal plant-based therapies could be offered as an alternative or complement to biomedical treatments. For example, currently the Ministry of Health is offering clinical phyto-therapy[54] in a selected number of clinics in Mexico City. It is in

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[54] Clinical phyto-therapy a concept taken from Dr. Christina Duraffourd, takes into account the pathologies of the individual and integrates mechanisms of physiological regulation to correct the factors that predispose an individual to illness. It favours the use of medicinal plants under the form of extracts using indications found in traditional, pharmacological and clinical studies.
http://sites.google.com/site/someficac/fitoterapia-clinica

the initial development stages, but the expansion of similar programmes open to treatments using medicinal plants could create a market for high-quality medicinal plant based products, thus creating the foundation for the development of rural herbal micro-enterprises. To the extent that plant-based therapies are offered by public health institutions the government could support and become involved in the commercial chain of the herbal products offered in public clinics and hospitals. This strategy could help resolve some of the problems related to quality and safety of herbal medicines such as: the environmental conditions of harvesting and/or cultivation of medicinal plants, adequate post-harvest management, botanical identification of species, and good manufacturing practices for herbal medicines. All of these aspects could be carefully monitored by government authorities. Thus the World Health Organization's recommendations to governments on the incorporation of proven traditional remedies into national drugs policy could progress (WHO 2002).

The creation of a specific programme related to the development of herbal medicines in the country would require the joint collaboration between ministries, however the lead would need to be in the hands of the Ministry of Health as the main force behind the demand for and supply of plant based medicines. A policy framework committed to a sustainable and safe supply of herbal medicines would require the following general features:

1) Support for producers involved in the organic cultivation of medicinal species, with a favourable policy environment such as technical assistance, financing, links to research institutions etc. This could be carried out by the Rural Development Ministry.

2) Establishment of good harvesting practices for medicinal species not currently cultivated, with incentives for good post-harvest management certification. These policies and activities could be promoted by the Ministry of the Environment.

3) Support for agricultural research into widely-used and overexploited medicinal species. The Mexican Council for Science and Technology could be in charge of supporting this.

4) Support for the establishment of local micro-enterprises, monitoring the manufacture of products following established health and safety norms. The Ministry of Health would have to be in charge of this aspect of producing safe, effective and high quality herbal medicines for distribution through the public health provision system.

An ideal scenario for the development of local rural-based herbal micro-enterprises would include links between local clinics and hospitals and local micro-enterprises. The continuous demand for herbal medicine would help the enterprises achieve financial stability and security in the long term. However, due to public health concerns these would initially need to be monitored and supported by government funds which could come from a joint national-local government endowment. Especially important would be investment in building workshops with the necessary equipment to manufacture the products in accordance with health and safety regulations. Monitoring and technical support from chemists and other specialists to ensure that the medicines achieve a quality standard would also be necessary. Only after a given time span, for example five years, could an enterprise become independent of government financial support.

This scheme, based on small rural micro-enterprises dotted all over the country, could provide the incentive for the local cultivation of medicinal species and their sustainable harvest. The interchange of medicines between different geographical areas and with varying climatic conditions could allow the benefits of the wide range of plants found across the country to be shared. Thus a stable supply of high-quality herbal medicines, produced locally and creating employment, could have positive impacts on local health, economies and biodiversity.

In order to gauge whether these policy recommendations could be realistic, further research would need to delve into the current attitudes of health policy makers and biomedical professionals concerning the importance of people's access to other health systems and traditions, including the therapeutic use of medicinal plants. There is likewise lack of information on the academic offer (i.e courses, diplomas, specializations) on herbal knowledge and therapies and their quality. During the current research a number of courses were identified in universities and schools, however a systematic evaluation of these was outside the scope of the research. Further investigation into the type of courses given, the objectives, the quality, type of knowledge disseminated and the objectives would be crucial in order to assure the safety and efficacy of practitioners and thus the herbal therapies and preparations offered to the public.

9.5.2 Women's micro-enterprises

Based on the case of Las Hamelias, some of the problems of women's micro-enterprise policy are due to the fact that such enterprises are often set up without financial planning, a marketing strategy or a business plan. No prior business or management training was given to

the women, and as a further obstacle, most of them had only minimal (primary level) literacy and numeracy skills. In this way the women were integrated into the formal economy with informal and insufficient training and preparation. Micro-enterprise initiatives need to be launched with a comprehensive education and training programme, strengthening basic literacy and numeracy skills first followed by training in business and management skills and capabilities. Research into the market for the particular commodity and a business plan are also required prior to the establishment of a micro-enterprise programme. Another limitation is insufficient financial support: Las Hamelias needed stronger investment in infrastructure, for example in a properly-equipped workshop that could, at minimum, meet health and safety norms and regulations and thus be able to access a wider range of markets.

The research findings point to the importance of access to bridging social capital in the form of local NGO's and advisors acting as 'bridges' between small rural enterprises and funding institutions, information and wider markets. The weakness of the organizations in this case study was that they did not have assured sources of financing for their own activities and their intervention lasted only as long as their government funding, which, in the case of Las Hamelias, was not long enough to help establish and secure the enterprise's self-sufficiency. Another limitation was the lack of specialist advice on business administration and legislation required to certify the herbal products. Therefore the lack of training in and preparation for business-related issues, insufficient financial investment and the lack of long-term specialist advice all demonstrate that such market-oriented projects are often established without the minimal conditions for success.

This thesis concluded that the money-making objective of micro-enterprises and the aims of harnessing collective empowerment seem counterproductive. The most pervasive internal problems among the women were related to conflicts about money. Related to this, the case study illustrates the women's failure to achieve bonding social capital and a sense of collective empowerment and agency. Assumptions about the individuals' capacity to draw on the strong ties of familiarity and supposed shared identity should be viewed with caution by policymakers aiming to use local social capital to develop micro-enterprises. Furthermore, the effects of the Las Hamelias project on the women's relationships with other community members were generally negative as feelings of envy and exclusion surfaced.

Future research could explore the role played by envy related specifically to market oriented development projects as it seems to have an impact on the success of productive and micro-

enterprise groups. Envy was identified in the research as a deterrent to the creation of bonding social capital within the Las Hamelias group and with other community members. There seems to be the conception among development workers I interviewed that in poor rural communities when an initiative benefits only one person or group, it attracts the envy of others causing opposition and its ultimate failure. The logic seems to be that either everyone gets out of poverty or everyone stays miserable. The research was able to only touch upon this issue but the topic merits further research. It would be interesting to explore how people perceive, respond and are affected by the consequences of other people's envy as well as investigate whether people accept their own feelings of envy. My initial perception was that people openly accepted feeling envious and did not feel ashamed about these feelings; this initial perception could be explored further.

Despite the internal problems related to feelings of envy, the element that did help the women cooperate and manage conflicts was the existence of a strong leader. Most decisions and conflicts were mediated by her; however as the research illustrated, the women's excessive reliance on their leader greatly affected them on the long run. Issues of leadership in collective enterprises should be a crucial element for consideration by policy makers when promoting collective initiatives. An understanding of the importance of leaders, the identification of leaders within a community and the promotion of leadership skills are essential steps required before establishing development projects. Additionally, I would agree with David Day (2000) who argues leadership promotion should be about building social (as opposed to human) capital and involve a focus on characteristics such as social awareness, empathy, building bonds, team work and conflict management.

Las Hamelias' most encouraging results were the effects of the women's participation on their personal empowerment, which manifested in their increased confidence and self-esteem and changes in their bargaining power within their relationships. The question remains whether progress in women's empowerment could be stimulated without an emphasis on income generation. The current study has found that although the extra income was important to the women, the opportunities to learn, acquire new skills and interact with other people were the aspects of participation that they valued most and that, most significantly, gave them a heightened sense of pride and achievement. Incorporation into the formal economy through market initiatives is not the only way to advance women's empowerment or to attack gender subordination issues. Other strategies that involve learning, working in groups and interacting with diverse people, without so much pressure on economic success or earning money, could

be a more effective in promoting woman's empowerment. For example, the women's initial idea to learn about medicinal plants and prepare simple herbal remedies for the family and other community members could have been a good start from which to develop an educational project encouraging the acquisition of new medical knowledge that would result in women becoming more involved and empowered to resolve family health needs.

While the need to strengthen the family economy in Mexico's rural areas remains important, this research did not find that microenterprise programmes was an adequate policy response to rural women's situation. The establishment of micro-enterprises is not necessarily an easy or flexible option that allows women to juggle their domestic responsibilities with income-generating activities. This thesis concludes that such initiatives are complex: to be successful they require good management skills, reliable financial investment, a wide range of contacts, the support of husbands and family to be able to travel and a great deal of energy and commitment. The idea that setting up an enterprise is easy and requires little time is misleading: in fact for some of the women, the conflicts with their husbands and gossip placed them in stressful and complicated situations, while the time invested created an extra workload.

Policies on women's micro-enterprises would likewise need to take into account how these impact men. As Townsend (1999) has argued, whether the women can stay home and take care of domestic responsibilities or if she needs to search for income, directly reflects on the man. It remains important to keep in mind the social pressure husbands receive to prove that they can provide for their families. Therefore, a focus on masculinities and the impact of the rural crisis on men in Mexico could be subject of further research. In sum, the dilemma of how to create income opportunities for women in rural areas remains. The sustained migration of men to the USA and the generalized crisis of Mexico's campesino sector continue to push women to search for extra-domestic employment; nevertheless micro-enterprise policies for women are being implemented without the necessary conditions to succeed economically. They effectively work as masked subsidy programmes that benefit only a few women and as the Las Hamelias case illustrated may indeed generate resentment in the community and money related conflicts among those participating, ultimately causing setbacks in the social capital and empowerment process of the women who stand to benefit.

REFERENCES

Acosta, I. (2008). "Mujeres trabajadoras en el medio rural. Una aproximación a la agricultura mexicana." Contribuciones a las Ciencias Sociales.
http://www.eumed.net/rev/cccss/0712/ilar.htm

Aguilar, A. (1994). Plantas medicinales del herbario medicinal del IMSS: Cuadros básicos por aparatos y sistemas del cuerpo humano. México D.F: Instituto Mexicano del Seguro Social.

Agrawal, A. (1995). "Dismantling the divide between indigenous and scientific knowledge." Development and Change **26:** 413-439.

Akerele, O. (1988). "Medicinal plants: Policies and priorities." The Conservation of Medicinal Plants. O. Akerele, V. Heywood and H. Synge. Chiang Mai, Thailand, Cambridge University Press.

Alberti, P. (2006). "Los aportes de las mujeres rurales al conocimiento de plantas medicinales en México. Análisis de género." Agricultura, Sociedad y Desarrollo **3**(2): 139-153.

Alcorn, J. (1995). "Ethno botanical knowledge systems - A resource for meeting rural development goals." The cultural dimension of development. Indigenous knowledge systems. M. Warren, L.J. Slikkerveer and D. Brokensha. London, Intermediate Technology Publications Ltd.

Alexiades, M. and P. Shanley (2004). Productos forestales, medio de subsistencia y conservacion: Estudios de caso sobre sistemas de manejo de productos forestales no maderables. Jakarta, Indonesia, CIFOR.

Appadurai, A. (1986). "Introduction: Commodities and the politics of value." The social life of things: Commodities in cultural perspective. A. Appadurai. Cambridge, Cambridge University Press.

Aranda, J. (2000). "Políticas públicas y mujeres campesinas." Tiempo de crisis, tiempo de mujeres. J. Aranda, C. Botey and R. Robles. Oaxaca, Mexico, Universidad Autónoma Benito Juarez.

Arce, A. and N. Long (1992). "The dynamics of knowledge interfaces between bureaucrats and peasants." Battlefields of knowledge: The interlocking of theory and practice in social research and development. N. Long and A. Long. London, Routledge.

Arneil, B. (2006). "Just communities: Social capital, gender, and culture." Gender and social capital. B. O'Neill and E. Gidengil. Oxford, Routledge.

Arnold, J.E.M. and M. Ruiz-Perez (2001). "Can non-timber forest products match tropical forest conservation and development objectives?" Ecological Economics **39:** 437-447.

Arnold, M. (2004). "Preface." Productos forestales, medios de susbsitencia y conservación: Estudios de caso sobre sistemas de manejo de productos forestales no maderables. M. Alexiades and P. Shanley. Jakarta, CIFOR.

Arriagada, I. (2005). "Los límites del uso del tiempo: Dificultades para las políticas de conciliación familia y trabajo." Políticas hacia las familias, protección e inclusión sociales. CEPAL.

Atkinson, P. and M. Hammersley (1998). "Ethnography and participant observation." Strategies of qualitative inquiry. N. Denzin and Y. Lincoln. London, Sage.

Balick, M.J and R. Mendelsohn (1992). "Assessing the economic value of traditional medicines from tropical rainforests." Conservation Biology **6:** 128-130.

Balick, M.J., E. Elisabetsky and S.A. Laird (1996). Medicinal resources of the tropical forest. Biodiveristy and its importance to human health. New York, Columbia University Press.

Baser, K. (2003). "New trends in utilisation of medicinal and aromatic plants". The Third World Congress on medicinal and aromatic plants: Conservation, cultivation and sustainable use of MAPs. Chiang Mai, Thailand.

Balkundi, P. and M. Kilduff (2006). "The ties that lead: A social network approach to leadership." The Leadership Quarterly **17:** 419-439.

Baytelman, B. (1993). Acerca de plantas y curanderos. Mexico City, Conaculta & INAH.

Bebbington, A.(2002). "Sharp knives and blunt instruments: The social capital in development studies." Antipode **34**(4): 800-803.

Bebbington, A. (2004). "Social capital and development studies I: Critique, debate, progress?" Progress in Development Studies **4**(4): 343-349.

Bebbington, A. (2007). "Social capital and development studies II: Can Bourdieu travel to policy?" Progress in Development Studies **7**(2): 155-162.

Belcher, B.M. (1998). "A production-to-consumption systems approach: Lessons from the bamboo and rattan sectors in Asia." Incomes from the forest. Methods for the development and conservation of forest products for local communities. E. Wollenberg and A. Ingles. Bogor, CIFOR and IUCN.

Belcher, B.M. (2003). "What isn't a NTFP?" International Forestry Review **5**(2): 161-167.

Belcher, B.M., M.Ruiz Perez and R. Achdiawan (2005). "Global patterns and trends in the use and management of commercial NTFPs: Implications for livelihoods and conservation." World Development **33**(9): 1435-1452.

Beneria, L. and S. Gita (1997). "Accumulation, reproduction and women's role in economic development: Boserup revisited." The women, gender and development reader. N. Visvanathan, L. Duggan, L. Nisonoff and N. Wiegersma. London, Zed Books.

Berger, P. and T. Luckmann (1966). The social construction of reality. A treatise in the sociology of knowledge. London, Penguin Books.

Berkes, F., J. Colding and C. Folke (2000). "Rediscovery of traditional ecological knowledge as adaptive management." Ecological Applications **10**(5): 1251-1262.

Blaikie, P., K. Brown, M. Stocking, L. Tang, P. Dixon and P. Sillitoe (1997). "Knowledge in action: Local knowledge as a development resource and barriers to its incorporation in natural resource research and development." Agricultural Systems **55**(2): 217-237.

Blaser, M., H. A. Feit, and G. McRae (2004). In the way of development. Indigenous peoples, life projects and globalization. London, Zed Books Ltd.

Blumberg, R. (2005). "Women's economic empowerment as the "Magic Potion" of development?" 100th Annual Meeting of the American Sociological Association. Philadelphia.

Bocco, G., A. Velázquez and A. Torres (2000). "Ciencia, comunidades indígenas y manejo de recursos naturales. Un caso de investigación participativa en México" Interciencia **25**(2): 64-70.

Bodeker, G. (1999). "Valuing biodiversity for human health and well-being: Traditional health systems." Cultural and spiritual values of biodiversity. D.A. Posey. London and Nairobi, Intermediate Tecnology Publications, United Nations Environment Programme.

Bourdieu, P. (1986). "The forms of capital." Handbook of theory and research for the sociology of education, J.G. Richardson. London, Greenwood Press.

Brown, K. (1995). "Medicinal plants, indigenous medicine and conservation of biodiversity in Ghana." Intellectual property rights and biodiversity conservation: An interdisciplinary analysis of the values of medicinal plants. T. Swanson. Cambridge, Cambridge University Press.

Browner, C.H. (1991). "Gender Politics in the distribution of therapeutic herbal knowledge." Medical Anthropology Quarterly **5**(2): 99-132.

Bryant, R. and M. Goodman (2004). "Consuming narratives: The political ecology of 'alternative' consumption." Trans Inst Br Geogr NS 29: 344-366.

Buvinick, M. (1986). "Projects for women in the Third World: Explaining their misbehavior." World Development **14**(5): 653-664.

Cahuich, M. (2004). "El Movimiento Nacional de la Salud Popular en México." IV Congreso Europeo CEISAL de Latinoamericanistas. Bratislava, Eslovaquia.

Callon, M. and B. Latour (1981). "Unscrewing the big Leviathan: How actors macro-structure reality and how sociologists help them to do so." Advances in social theory and methodology. Toward an integration of micro- and macro- sociologies. K. and Cicourel Knorr-Cetina, A.V. London, Routledge and Kegan Paul.

Canabal, B. (2006). "Y entonces, yo me quedé a cargo de todo..." In Diversidad rural. Estrategias económicas y procesos culturales. B. Canabal, G. Contreras and A. León. México D.F., Universidad Autónoma Metropolitana. Unidad Xochimilco.

Carlson, T. (2001). "Language, ethnobotanical knowledge, and tropical public health." On biocultural diversity. Linking language, knowledge and the environment. L. Maffi. Washington and London, Smithsonian Institution Press.

Carlson, T. and L. Maffi (2004). "Introduction: Ethnobotany and conservation of biocultural diversity." Ethnobotany and conservation of biocultural diversity. T. Carlson and L. Maffi. New York, New York Botanical Garden Press.

Castro, R. (2001). "Sociología médica en México: El último cuarto de siglo" Revista Mexicana de Sociología, 65(3): 271-293.

Chambers, R. (1992). Rural appraisal: Rapid, relaxed and participatory. Brighton, Insitute of Development Studies.

Chambers, R. (1983). Rural development: Putting the last first. London, Pearson Education Limited.

Chapman, P. (2003). "Living and writing feminist ethnographies. Threads in a quilt stiched from the heart." Expressions of ethongraphy. Novel approaches to qualitative methods. R. Patric. Albany, New York, State University of New York.

Chevalier, J.M. and D. Buckles (1995). A land without gods. Process theory, maldevelopment and the Mexican Nahuas. London, Zed Books.

Cleaver, F. (2005). "The inequality of social capital and reproduction of chronic poverty." World Development 33(6): 893-906.

Colinas, L. (2008). "Economía productiva y reproductive en México: Un llamado a la conciliación." Estudios y Perspectivas. CEPAL. México D.F., Naciones Unidas.

CONAPO (2005). "Perfil socio-deomografico XII Censo de Población y Vivienda (2005)." México D.F., Comision Nacional de Población.

Correa, G. and M. Cárdenas (1985). "El proyecto cumbre del gobierno de JLP se derrumbó: El ostión, a los comuneros." Proceso, 432

Cox, D. and M. Fafchamps (2006). "Extended family and kinship networks: Economic insights and evolutionary directions." Handbook of development economics. http://www.economics.ox.ac.uk/members/marcel.fafchamps/homepage/coxfafchamps_firstdraft.pdf

Craker, L. and Zoë Gardner (2003). "Sustaining the harvest: Challenges in MAP production and markets." A proceedings of the WOCMAP III. The Thrid World Congress on Medicinal and Aromatic Plants. A. Jatisatienr, T. Paratasilpin, S. Elliott, V. Anusarnsunthorn and D. Wedge. Chiang Mai, Thailand, International Society for Horticultural Science.

Crowell, L. (2004). "Weak ties: A meachnism for helping women expand their social networks and increase their capital." The Social Science Journal 41: 15-28.

Cruz, M.R. (1999). Testimonios de vida de médicos indígenas tradicionales. Mexico D.F., Instituto Nacional Indigenista.

Cunningham, W. (2000). "Mexican female small firm ownership: Motivations, returns, and gender." LCSPR – Gender, The World Bank

De Oliveira, O. (2000). "Trnsformaciones socioeconómicas, familia y condición femenina." Familia, género y pobreza. M.P. Lopez and V. Salles. México, D.F., GIMTRAP and Miguel Angel Porrua.

De Silva, T. (1997). "Industrial utilization of medicinal plants in developing countries." Medicinal plants for forest conservation and health care. G. Bhat Bodeker, K. Burley, P. Vantomme. Rome, FAO.

Denman, C. and J.A. Haro (2000). "Introducción: Trayectoria y desvaríos de los métodos cualitativos en la investigación social ." Por los rincones: Antología de métodos cualitativos en la investigación social. C. Denman and J.A. Haro. Hermosillo, Sonora, El Colegio de Sonora. .

Denzin, N. and Y. Lincoln (1994). "Introduction: Entering the field of qualitative research". Handbook of qualitative research. N. Denzin and Y. Lincoln. London, SAGE Publications.

Denzin, N. and Y. Lincoln (2005). "Introduction: The discipline and practice of qualitative research." The SAGE handbook of qualitative research. N. Denzin and Y. Lincoln. London, SAGE Publications.

Dowla, (2006). "In credit we trust: Building social capital by Grameen Bank in Bangladesh." The Journal of Socio-Economics **35**: 102-122.

Duarte, M., V. Brachet, R. Campos and G. Nigenda (2004). "National health policies and local decisions in Mexico: The case of an intercultural hospital in Cuetzalan, Puebla." Salud Pública de México **46**(5).

Duncombe, J. and J. Jessop(2002). "'Doing rapport' and the ethics of 'Faking friendship'." Ethics in Qualitative Research. M. Mauthner, M. Birch, J. Jessop and T. Miller. London, SAGE Publications.

Durston, J.(2002). El capital social campesino en la gestión del desarrollo rural: Síadas, equipos, puentes y escaleras. Santiago de Chile, Publicación de las Naciones Unidas.

Dutfield, G. (1997). "Between a rock and a hard place: Indingenous peoples, nation states and the multinatinationals." Medicinal plants for forest conservation and health care. G. Bodeker, K. Bhat, J Burley and P. Vantomme. Rome, Food and Agriculture Organization (FAO).

Edwards, R. (2006). "Introduction." Assessing social capital: Concept, policy and practice. R. Edwards, J. Franklin and J. Holland. Cambridge, Cambridge Scholars Press.

Edwards, R. and M. Mauthner(2002). "Ethics and feminist research: Theory and practice." Ethics in qualitative research. M. Mauthner, M. Beich, J. Jessop and T. Miller. London, SAGE Publications.

England, K. (1994). "Getting personal: Reflexivity, positionality, and feminist reserach." Professional Geographer **46**(1): 80-89.

Escobar, A. (1996). La invención del tercer mundo. Construcción y deconstrucción del desarrollo. Santa Fé de Bogotá, Norma.

Eversole, R. (2004). "Change makers? Women's microenterprises in a Bolivian city." Gender, work and organization **11**(2): 123-142.

Farnsworth, N. and D. Soejarto (1991). "Global importance of medicinal plants." International consultation on conservation of medicinal plants. O. Akerele, V. Heywood and H. Synge. Chiang Mai, Thailand, Cambridge University Press.

Farr, J. (2004). "Social capital: A conceptual history." Political Theory **32**(1): 6-33.

Fischer, E. and P. Benson (2006). Broccoli and desire. Global connections and Maya struggles in postwar Guatemala. Standford University Press. Standford, California.

Folke, C. (2004). "Traditional knowledge in social-ecological systems." Ecology and Society **9**(3).

Fox, J. (1996). "How does civil society thicken? The political construction of social capital in rural Mexico." World Development **24**(6): 1089-1103.

Fox, J. and J. Gershman (2000). "The World Bank and social capital: Lessons from ten rural development projects in the Philippines and Mexico." Policy Sciences **33**: 399-419.

Fraser, E., A. Thirkell and A. McKay (2003). "Tapping into existing social capital. Rich networks, poor connections." Social Development Direct. London, DFID, Department for International Development.

Frei, B., O. Sticher and M. Heinrich (2000). "Zapotec and Mixe use of tropical habitats for securing medicinal plants in Mexico." Economic Botany **54**.

Freire, P. (1970). Pedagogy of the oppressed. New Revised 20th Anniversary Edition. New York, The Continuum Publishing Company.

Frey, J. and A. Fontana (1998). "The interview. From neutral stance to political involvement." Collecting and interpreting qualitative materials. N. Denzin and S. Yvonna. London. SAGE Publications.

Gaines, A. and R. Davis-Floyd (2003). "On biomedicine." Encyclopedia of Medical Anthropology. M. Ember and C. Ember. Yale, Human Relations Area Files.

Galante, C. (1992). "Plantas medicinales de la región istmeña utilizada en la reproducción." Medicina tradicional, herbolaria y salud comunitaria en Oaxaca. P. Sesia. Mexico, D.F., Centro de Investigaciones y Estudios Superiores en Antropología Social CIESAS.

Gammage, S. and M. Orozco (2008). "El trabajo productivo no remunerado dentro del hogar: Guatemala y México." Estudios y Perspectivas. CEPAL. México D.F., Naciones Unidas.

García, H., A. Sierra and B. Gilberto (1996). Medicina maya tradicional. Confrontación con el sistema conceptual chino. Mexico D.F., EDUCE.

Gaventa, J. (2006). "Finding the spaces for change: A power analysis " IDS Bulletin **37**(6): 23-33.

Gidengil, E. and B. O'Neill (2006). "Removing rose colored glasses. Examining theories of social capital through a gendered lens." Gender and social capital. B. O'Neill and E. Gidengil. Oxon, Routledge.

González, S.(2002). "Las mujeres y las relaciones de género en las investigaciones sobre el México campesino e indígena." Estudios sobre las mujeres y las relaciones de género en México: Aportes desde diversas disciplinas. E. Urrutia. México D.F., El Colegio de México.

Gooren, H.(2002). "Catholic and non-catholic theologies of liberation: Poverty, self-improvement and ethics among small-scale entrepreneurs in Guatemala City." Journal for the Scientific Study of Religion **41**(1): 29-45.

Granovetter, M. (1990). "Problems of explanation in economic sociology." Networks and organizations. Structure, form and action. N. Nohria. Harvard Business Press.

Granovetter, M. (1973). "The strength of weak ties " American Journal of Sociology **78**(6): 1360-1380.

Guba, E. and Y. Lincoln (1998). "Competing paradigms in qualitative research." In The landscape of qualitative research: Theories and issues. N. Denzin and Y. Lincoln. London, SAGE Publications.

Gutierrez, M. and Y. Betancourt (1999). "El mercado de plantas medicinales en Mexico. Situacion actual y perspectivas de desarrollo." México D.F., Fondo de América del Norte para la Cooperación Ambiental (FANCA), Ecología y Desarrollo de Tlaxcala y Puebla A.C.

Guzmán, E. (2004). "Mujeres, trabajo y organización familiar: Los traspatios en Ahuehuetzingo, Morelos." Entre el corazón y la necesidad. Microempresas familiares en el contexto rural. B. Suárez and P. Bonfil. México D.F., Grupo Interdisciplinario sobre Mujer, Trabajo y Pobreza, A.C. (GIMTRAP).

Haas, P. (1992). "Introduction: Epistemic communities and international policy coordiantion." International Organization **46**(1).

Hamilton, A. C. (2004). "Medicinal plants, conservation and livelihoods." Biodiversity and Conservation **13**: 1477-1517.

Hannigan, J. A. (1995). Environmental sociology. A Social constructionist perspective, Routledge.

Harriss, J. (2001). Depoliticizing development. The World Bank and social capital. New Delhi, Left Word Books.

Haugaard, M. (2003). "Reflection on seven ways of creating power." European Journal of Social Theory **6**(1): 8-113.

Heinrich, M. (2000). "Ethnobotany and its role in drug development." Phytotherapy Research **14**: 479-488.

Heinrich, M., J. Barnes, S. Gibbons and E.M. Williamson (2004). Fundamentals of pharmacognosy and phytotherapy. London, Churchill Livingstone.

Hersch, P. (1995). "Commercialization of Wild Medicinal Plants from Southwest Puebla, Mexico." Economic Botany **49**(2): 197-206.

Hersch, P. (1996). Destino común: Los recolectores y su flora medicinal. México D.F., Instituto Nacional de Antropología e Historia.

Hersch, P. (1997). "Medicinal plants and regional traders in Mexico: Physiographic differences and conservation challenge." Economic Botany **51**(1): 107-120.

Hersch, P. (1999)a. "De hierbas y herbolarios en el Mexico actual." Arqueologia Mexicana **VII**(9): 60-65.

Hersch, P. (1999)b. "La flora medicinal silvestre como mercancia." Antropología Social **35** (July-September).

Hersch, P. (2000). Plantas medicinales: Relato de una posibilidad confiscada. El estatuto de la flora en la biomedicina mexicana. México, D.F., Instituto Nacional de Antropología e Historia.

Hersch, P. (2001). "La doble subordinación de la etnobotánica latinoamerciana en el descubrimiento y desarrollo de medicamentos: Algunas perspectivas." Etnobiologia **2**: 103-119.

Howard, P. (2003)a. "The major Importance of 'minor' resources: Women and plant biodiversity." London, International Institute for Environment and Development IIED and Swedish International Development Cooperation Agency (SIDA).

Howard, P. (2003)b. "Women and the plant world: An exploration." Women and plants. Gender relations in biodiversity management and conservation. P. Howard. London, Zed Books in association with GTZ and IDRC.

Howard, P. (2006). "Gender and social dynamics in swidden and homegardens in Latin America." Tropical homegardens. A time-tested example of sustainable agroforestry. B. Kumar and P. Nair. Dordrecht, Springer.

Hughes, A. (2000). "Retailers, knowledges and changing commodity networks: The case of the cut flower trade." Geoforum **31**: 170-190.

IADB. (1998). "Promoting growth with equity. The Inter-American Development Bank and microenterprise." Washington D.C., The Inter-American Development Bank, Sustainable Development Department.

Ibargüen, L. and G. Chapela (2007). "Conocimiento tradicional forestal en Mexico." Biodiversidad y conocimiento tradicional en la sociedad rural. Entre el bien común y la propiedad privada. L. Concheiro and F. López. México, D.F., Centro de Estudios para el Desarrollo Rural Sustentable y la Soberanía Alimentaria, Cámara de Diputados, LX Legislatura en convenio con la Universidad Autónoma Metropolitana, Unidad Xochimilco.

Illich, I. (1976). Medical nemesis: The exporopriation of health. London, Maron Boyars Publishers.

INI (1994). Flora medicinal indigena de Mexico: Treinta y cinco monografías del Atlas de las plantas de la medicina tradicional mexicana. Vol 1. Mexico D.F. Instituto Nacional Indigenista.

INEGI(2002). "Las mujeres en el México rural." Instituto Nacional de Estadística, Geografía e Informática.

INEGI (2005). "Censos y conteos de población y vivienda." ed. Instituto Nacional de EStadísitica, Geografía e Informática.

Isla, A. and S. Thompson (2003). "Environmental economics reality check: A case study of the Abanico medicinal plant and organic agriculture microenterprise project." Environmental Monitoring and Assessment **86**: 171-182.

Jackson, C. (1999). "Social exclusion and gender: Does one size it all?" The European Journal of Development Research **11**(1): 125-146.

Jackson, C. (2006). "Feminism spoken here: Epistemologies for interdisciplinary development research." Development and Change **37**(3): 1-23.

Kabeer, N. (1999). "Resources, agency, achievements: Reflections on the measurement of women's empowerment." Development and Change **30**: 435-464.

Kabeer, N. (2001). "Conflict over credit: Re-evaluating the empowerment potential of loans to women in rural Bangladesh." World Development **29**(1): 63-84.

Karki, M. and B. Tiwari (2005). "Creating livelihoods and enhancing biodiversity rich production systems based on medicinal and aromatic plants: Preliminary lessons form South Asia." Acta Horticulturae **678**: 37-43.

Khan, S., A. Mannan and T. Chowdhury (2005). "Medicinal plant conservation through community participation." H. Irfanullah and A. Nishat. Bangladesh Country Office, The World Conservation Union IUCN.

Knox, H., M. Savage and P. Harvey (2006). "Social networks and the study of relations: Networks as method, metaphor and form." Economy and Society **35**(1): 113-140.

Kothari, B. (2003). "The invisible queen in the plant kingdom: Gender perspectives in medical ethnobotany." Women and plants. Gender relations in biodiversity management and conservation. Patricia Howard. London, Zed Books, in association with GTZ and IDRC.

Krishna, A.(2002). Active social capital. Tracing the roots of development and democracy. New York, Columbia University Press.

Kuipers, S. (1996). "Trade in medicinal plants." Medicinal plants for forest conservation and health care. G. Bodeker, K. Bhat, J. Burley and P. Vantomme. Rome, Food and Agriculture Organization (FAO).

Kusnir, L., C. Jusidman, J. Townsend and E. Mijares (2000). "Consideraciones para la elaboración de un estado del arte sobre las políticas públicas y la mujer." Familia, género y pobreza. M.P. Lopez and V. Salles. México D.F., GIMTRAP and Miguel Angel Porrua.

Laird, S.A. (1999). "The botanical medicine industry." The commercial use of biodiversity: Access to genetic resources and benefit-sharing. S. Laird and K. ten Kate. London, Earthscan.

Laird, S.A. (2000). "Benefit-sharing 'best practice' in the pharmaceutical and botanical medicine industries." Responding to bioprospecting. From biodiveristy in the South to medicines in the North. H. Svarstad and S. Dhillion. Oslo, Spartacus Forlag AS.

Laird, S.A. and A. Pierce (2003). "In search of comprehensive standards for non-timber forest products in the botanicals trade." International Forestry Review 5(2): 138-147.

Lambert, J., P. Ryden and E. Esikuri (2005). "Capitalizing on the bio-economic value of multi-purpose medicinal plants for the rehabilitation of drylands in sub-Saharan Africa." Washington DC, The World Bank.

Lambert, J., J. Srivastava and N. Vietmeyer (1997). "Medicinal plants. Rescuing a global heritage." World Bank Technical Paper. Washington, D.C.

Lange, D. (2004). "Medicinal and aromatic plants: Trade, production and management of botanical resources." Acta Horticulturae 629 (XXVI International Horticultural Congress: The future for medicinal and aromatic plants).

Leff, E. (2002 - [1998]). Saber ambiental. Sustentabilidad, racionalidad, complejidad, poder. México D.F., Siglo XXI Editores; Centro de Investigaciones Interdisciplinarias en Ciencias y Humanidades, UNAM; Programa de las Naciones Unidas para el Medio Ambiente PNUMA.

Lin, N. (2000). "Inequality in social capital." Contemporary Sociology 29(6): 785-796.

Lin, N. (2001). Social capital. A theory of social structure and action. Cambridge, Cambridge University Press.

Linares, E., R. Bye and B. Flores (1999). Plantas medicinales de Mexico, usos y remedios tradicionales. Mexico, D.F., Universidad Nacional Autonomo de Mexico, Instituto de Biologia.

Long, N. (1992). "From paradigm lost to paradigm regained?" Battlefields of knowledge. The interlocking of theory and practice in social research and development. N. Long and A. Long. London, Routledge.

Long, N. (2001). Development sociology, actor perspectives. London, Routledge.

Lope-Alzina, D. (2007). "Gendered production spaces and crop varietal selection: Case study in Yucatán, Mexico." Singapore Journal of Tropical Geography **28**: 21-38.

Lozoya, X. (1994). Plantas, medicina y poder. Breve historia de la herbolaria mexicana. Mexico, D.F., Procuraduría Federal del Consumidor.

Lozoya, X. (1996). "Medicinal Plants of Mexico: A program for their scientific validation." Medicinal resources of the tropical forest. Biodiversity and its importance to human health. M. Balick, A. Anderson and K. Redford. New York, Columbia University Press.

Lozoya, X. (2003). La docta ignorancia. Reflexiones sobre el futuro de la cultura médica de los mexicanos. Buenos Aires, Saga Editores.

Lozoya, X., G. Velazquez and A. Flores (1988). La medicina tradicional en México. México, D.F., Instituto Mexicano del Seguro Social.

Lincoln, Y. and E. Guba (1985). Naturalistic inquiry. Newbury Park, SAGE Publications.

Marins, J. (1989). The church from the roots. Basic ecclesial communities. London, CAFOD The Catholic Fund for Overseas Development.

Marins, J. (2002). "El presente de las comunidades eclesiales de base." Misiones extranjeras (Marzo-Abril num.188): 128-139.

Marshall, E., K. Schreckenberg and A.C. Newton (2006). "Comercialization of non timber forest products: Factors influencing success. Lessons learnt from México and Bolivia and policy implications for decision makers." UNEP World Conservation Monitoring Centre. Cambridge, U.K.

Marshall, E., A. Newton and K. Schreckenberg (2003). International Forestry Review. **5**(2): 128-137.

Merriam, S. B. (1998). Qualitative research and case study applications in education, 2nd ed. San Francisco, Jossey-Bass Publishers.

Martin, A. (2003). "On knowing what trees to plant: local and expert perspectives in the western ghats of Karnataka." Geoforum **34**: 57-69.

Martínez-Corona, B. (2005). "Mujeres de núcleos agrarios, liderazgo y proyectos productivos." La integración económica de las mujeres rurales: Un enfoque de género. E. Zapata and J. López. México, D.F., Secretaría de la Reforma Agraria, Programa de la Mujer en el Sector Agrario.

Mata, R. (2003). "Medicinal natural products in Mexican phytomedicines." Biodiversity and health: Focusing research to policy. J. Arnason, P. Catling, E. Small, P. Dang and J. Lambert. Ottawa, Canada, National Research Council NRC Research Press.

Mayoux, L. (2001). "Tackling the down side: Social capital, women's empowerment and micro-finance in Cameroon." Development and Change **32**: 435-464.

Mayoux, L. (2003). "From marginalisation to empowerment. Towards a new appraoch in small enterprise development." Small enterprise development and empowerment. Switzerland.

Mayoux, L. (2006). "Women's empowerment through sustainble microfinance: Rethinking 'best practice' ", Gender and micro-finance website: http://www.genfinance.net

Mayoux, L. (1995). "From vicious to virtuous circles? Gender and micro-enterprise development." Occasional papers, ed. United Nations Research Institute for Social Development. Geneva, UNDP.

McCaleb, R. (1997). "Medicinal plants for healing the planet: Biodiversity and environmental health care." Biodiversity and human health. F. Grifo and J. Rosenthal. Washington, D.C., Island Press.

McChesney, J.D. (1996). "Biological diversity, chemical diversity, and the search for new pharmaceuticals." Medicinal resources of the tropical forest. Biodiversity and its importance to human health. M.J. Anderson Balick, A.B.; Redford, K. New York, Columbia University Press.

Mercado, M. (1999). "Power to do and make money " Women and power. Fighting patriarchies and overty. E. Zapata, J. Townsend, J. Rowlands, P. Alberti and M. Mercado. London, Zed Books.

Molteberg, E. and C. Bergstrom (2000). "Our common discourse: Diversity and paradigms in development studies." Noragric Working Papers Argicultural University of Norway. Centre for Interantional Environment and Development Studies.

Molyneux, M. (1985). "Mobilisation without emancipation? Women's interests, the state and revolution in Nicaragua." Feminist Studies **11**(Summer): 227-254.

Molyneux, M.(2002). "Gender and silences of social capital: Lessons from Latin America." Development and Change **33**(2): 167-188.

Moreno, S. (2005). "Fuerza y esperanza. La construcción histórica del poder político en Agua Dulce, Veracruz." ULUA Julio- Diciembre

Moser, C. (1989). "Gender planning in the Third World: Meeting practical and strategic gender needs." World Development **17**(11): 1799-1825.

Mosse, D. (1996). "The social construction of 'people's knowledge' in participatory rural development." Assessing participation: A debate from South Asia. S. Bastian and N. Bastian. New Delhi, Konark Press.

Narayan, D. (1999). "Bonds and bridges: Social capital and poverty." Washington D.C., World Bank Poverty Group.

Narayan, D. and L. Pritchett (1999). "Cents and sociability: Household income and social capital in rural Tanzania." Economic Development and Cultural Change **47**(July): 871-897.

Nigenda, G., E. Cifuentes and W. Hill (2004). "Knowledge and practice of traditional medicine in Mexico: A survey of healthcare practitioners." International Journal of Occupational and Environmental Health **4**(4): 417-420.

Nigenda, G., L. Lockett, C. Manca and G. Mora (2001)a. "Non-biomedical health care practices in the state of Morelos, Mexico: Analysis of an emergent phenomenon." Sociology of Health and Illness **23**(1): 3-23.

Nigenda, G., G. Mora, S. Aldama and E. Orozco (2001)b. "The practice of traditional medicine in Latin America and the Caribbean: The dilema between regulation adn tolerance." <u>Salud Pública de México</u> **43**(1).

O'Brien, O. (1993). "Sisters, parents, neighbours, friends. Reflections on fieldwork in North Catalonia (France) " <u>Gendered fields. Women, men and ethnography</u>. C. Bell, P. Caplan and K. Wazir-Jahan. London, Routledge.

Olesen, V. (1994). "Feminisms and models of qualitative research." <u>Handbook of Qualitative Research</u>. N.K. Denzin and Y.S. Lincoln. Thousand Oaks, CA, Sage

Page, J. (1995). "Política sanitaria y legislación en materia de medicina indígena y tradicional en México." <u>Cad. Saúde Pública</u> **11**(2).

Paré, L. (1997). "Características generales de la Sierra de Santa Marta." <u>Gestión de los recursos naturales y opciones agroecológicas para la Sierra de Santa Marta, Veracruz</u>. L. Paré and E. Velázquez. México D.F., Instituto de Investigaciones Sociales (UNAM).

Pare, L. and T. Fuentes. (2007). "Gobernanza ambiental y políticas públicas en áreas naturales protegidas: Lecciones desde Los Tuxtlas." <u>Cuadernos de Investigacion</u>. México D.F., Instituto de Investigaciones Sociales UNAM.

Parra-Sosa, B., B. Martínez-Corona, E. Herrera-Cabrera and A. Fernández-Crispín (2007). "Reproducción campesina, recursos naturales y género en una comunidad campesina en Puebla, México." <u>Agricultura, Sociedad y Desarrollo</u> **4**(1): 53-67.

Patric, R. (2003). "The changing story of ethnography." <u>Expressions of ethnography. Novel approaches to qualitative methods</u>. R. Patric. Albany, New York, State University of New York.

Patton, M. (1990). <u>Qualitative evaluation and research methods</u>. Newbury Park, CA, SAGE Publications.

Pedrero, M. (2003). "La encuesta del uso del tiempo y sus potencialidades para concocer las equidades de género." México D.F., Instituto Nacional de la Mujer.

Phillipson, C., G. Allan and D. Morgan (2004). <u>Social networks and social exclusion</u>. Ashgate, Keele

Portes, A. (1998). "Social capital: Its origins and applications in modern sociology." <u>Annual Review of Sociology</u> **24**: 1-24.

Posey, D. (1999). "Cultural and spritual values of biodiversity." <u>Intermediate technology publications</u>. London and Nairobi, United Nations Environment Programme.

Pottier, J. (2003). " Negotiating local knowledge: An introduction." <u>Negotiating local knowledge: Identity and power in development. Anthropology, culture, and society</u>. J. Pottier, P. Sillitoe and A. Bicker. London, Pluto.

Putnam, R. (2000). <u>Bowling alone: The collapse and revival of American community</u>. New York City, Simon and Schuster.

Ramos-Pinto, P. (2007). "Social capital as a capacity for collective action." <u>Assessing social capital: Concept, policy and practice</u>. R. Edwards, J. Franklin and J Holland. Newcastle, Cambridge Scholars Publishing.

Rankin, K.(2002). "Social capital, microfinance, and the politics of development." Feminist Economics **8**(1): 1-24.

Rao, M. and B. Rajeswara (2006). "Medicinal plants in tropical homegardens " Tropical homegardens. A time-tested example of sustainable agroforestry. B. Kumar and P. Nair. Dordrecht, Springer.

Reyes, J. and S. González (2005). "Doctor Xavier Lozoya. La historia nos alcanzó (acerca de la medicina traditional herbolaria)." Revista de Medicina Preventiva. México D.F., IMSS.

Richards, M.(2002). "The impacts of forest trade liberalization on forest governance in Mexico". Mexico City: FAO-IIED.

Rock, P. (2001). "Symbolic interactionism and ethnography." Handbook of ethnography. P. Atkinson, A. Coffery, S. Delamont, J. Lofland and L. Lofland. London, SAGE Publications.

Rodriguez-Garcia, R., J. Macinko and M. Waters (2004). "Women and micro enterprise development." Report, UNFPA.

Rowlands, J. (1997). Questioning empowerment. Working with women in Honduras. Oxford, Oxfam.

Scheyvens, R., B. Nowak and H. Scheyvens (2003). "Ethical issues." Development fieldwork. A practical guide. R. Scheyvens and D. Storey. London, SAGE Publications.

Schippmann, U., D. Leaman, A. Cunningham and S. Walter (2003). "Impact of cultivation and collection on the conservation of medicinal plants: Global trends and issues." The Third World Congress of Medicinal and Aromatic Plants. A. Jatisatienr, T. Paratasilpin, S. Elliott, V. Anusarnsunthorn and D. Wedge. Chiang Mai, Thailand, Acta Horticulturae. International Society for Horticultural Science.

Schultes, R. (1989). "Ethnopharmacolgocial conservation - key to progress in medicine." Plants and society. M. Swamiinathan and S. Kochhar. London, Macmillan Publishers.

Schwandt, T. (2003). "Constructivist, interpretivist approaches to human inquiry." The landscape of qualitative research. Theories and issues. N. Denzin and Y. Lincoln. SAGE Publications.

Scoones, I. and J. Thompson (1994). "Knowledge, power and agriculture- towards a theoretical understanding." Beyond farmer first: Rural people's knoweldge, agricultural research and extension practice. I. Scoones and J. Thompson. London, Intermediate Technology Publication.

SEDESOL (2005). "Listado de localidades y número de familias beneficiarias al cierre del ejercicio fiscal". Oportunidades: Gobierno Federal.

Secretaría de Salud. (2005). "Hacia una política farmacéutica integral para México." Enriquez Rubio, E., A.C. Frati Munari and E. Gonzalez Pier. Comisión Federal para la Protección de Riesgos Sanitarios. México D.F

SEMARNAT-PRODERS. (1997). "Diágnostico y propuesta del plan de desarrollo comunitario de el Pescador, Municipio de Pajapan Veracruz." Proyecto Sierra Santa Marta (PSSM) Universidad Autónoma Chapingo (UACH), Instituto de Investigaciones Sociales (IIS-UNAM) México D.F.

Sheldon, J.W., M.J. Balick and S. A. Laird (1997). Medicinal plants: Can utilization and conservation coexist? New York, The New York Botanical Garden.

Silverman, D. (2006). Interpreting qualitative data. London, SAGE.

Silvey, R. and R. Elmhirst (2003). "Engendering social capital: Women workers and rural-urban networks in Indonesia's crisis." World Development **31**(5): 865-879.

Sowerwine, J.C. (2004). "Effects of economic liberalization on Dao women´s traditional knowledge, ecology, and trade of medicinal plants in northern Vietnam." Ethnobotany and conservation of biocultural diversity. T. Carlson and L. Maffi. New York, The New York Botanical Garden Press.

Srivastava, J., J. Lambert and N. Vietmeyer (1996). "Medicinal plants, an expanding role in development." World Bank Technical Paper. Washington D.C.

Stage, C. and M. Mattson (2003). "Ethnographic interviewing as contextualized conversation." Expressions of ethnography. Novel appraoches to qualitative methods. R. Patric. Albany, New York, State University of New York.

Stake, R. (1998) "Case studies. Strategies of qualitative inquiry." Collecting and interpreting qualitative materials. N. Denzin and Y. Lincoln. London, SAGE Publications.

Suárez, B. (2005). "La jornada de trabajo de las mujeres campesinas e indígenas en los proyectos productivos." La integración económica de las mujeres rurales: Un enfoque de género. E. Zapata and J. López. México D.F., Secretaría de la Reforma Agraria Programa de la Mujer en el Sector Agrario PROMUSAG.

Taylor, S. J. and R. Bogdan (1984). Introduction to qualitative research methods: The search for meaning. New York, John Wiley, 2nd edition.

Thapar, S. and S. Reverter (2001). "Gendered violence and social capital." An appropriate capital-isation? Questioning social capital. G. Morrow. London, London School of Economics, Gender Institute.

Thompson, G. (2003). Between hierarchies and markets. The logic and limits of network forms of organization. New York City, Oxford University Press

Timmermans, K. (2003). "Intellectual property rights and traditional medicine: Policy dilemmas at the interface." Social Science and Medicine **57**: 745-756.

Tinker, I. (1997). "The making of a field: Advocates, practitoners and scholars." The women, gender and development reader. N. Visvanathan, L. Duggan, L. Nisonoff and N. Wiegersma. London, Zed Books.

Townsend, J. (1999). "'Power from within': Getting out of that house! " Women and power: Fighting patriarchies and poverty. J. Townsend, E. Zapata, J. Rowlands, P. Alberti and M. Mercado. London, Zed Books.

Townsend, J., U. Arrevillaga, J. Baine, S. Cancino, S. Frenk, S. Pacheco and E. Peréz (1995). Women's voices from the rainforest. London, Routledge.

Trotter II, R. (1999). "Friends, relatives and relevant others: Conducting ethnographic network studies." Mapping social networks, spatial data and hidden populations. J.J. Schensul, M. LeComptre, R. Trotter II, E.K. Cromley and M. Singer. Plymoth, Altamira Press.

Tuñón, E. (2007). "The empowerment of women and productive backyard projects in Mexico." Unpacking globalization. Markets, gender and work. L. Lucas. Plymouth, Lexington Books.

Tyler, V. (1996). "Natural Products and Medicine: An overview." <u>Medicinal resources of the tropical forest. Biodiversity and its importance to human health</u>. Columbia University Press.

Tyler, V. (1999). "An introduction to the medicinal use of botanicals." <u>Botanical medicine. Efficacy, quality assurance, and regulation</u>. D. Eskinazi. New York, Mary Ann Liebert, Inc. Publishers.

UNFPA. (2004). "Women and micro enterprise developments: Report." <u>OP-UN/(2004) Women</u>. New York.

Urquieta, J., A. Tepichin and M. Téllez (2009). "Poverty and gender perspective in productive projects for rural women in Mexico." <u>Evaluation Review</u> **33**(1): 27-53.

Van House, N. (2002). "Actor-network theory, knowledge work, and digital libraries" <u>Research proposal</u>. School of Information Management and Systems. Berkely, University of California, Berkely

van Seters, A.P. (1995). "Forest based medicines in traditional and cosmopolitan health care." <u>Medicinal plants for forest conservation</u>. G. Bhat Bodeker, K. Burley J. Vantomme, P. Rome, Food and Agriculture Organization, FAO.

Vázquez, E., E. Tuñón, E. Zapata and R. Ayús(2002). "Procesos de empoderamiento entre mujeres productoras de Tabasco." <u>Revista Mexicana de Sociologia</u> **64**(4): 85-124.

Vázquez, V. (2008). "Gender, ethnicity, and economic status in plant management: Uncultivated edible plants among the Nahuas and Popolucas of Veracruz, Mexico." <u>Agriculture and Human Value</u> **25**: 67-77.

Vazquez, V., M. Godínez, A. Ortiz and M. Montes (2004). "Uncultivated foods in southern Veracruz, Mexico: Establishing the links between ecosystem health, food availability, and human nutrition." **Ecohealth 1**(Suppl. 2): 131-143.

Verschoor, G. (1992). "Identity, networks, and space. New dimensions in the study of small-scale enterprise and commoditization." <u>Battelfields of knowledge. The interlocking of theory and practice in social research and development</u>. N. Long and A. Long. London, Routledge.

Villarreal, M. (1994). "Wielding and yielding: Power, subordination and gender identity in the context of a Mexican development project." Wageningen.

Villegas, N. (1997). "Bases para una gestión municipal y comunitaria de los recursos naturales de la zona lacustre y manejo de las zonas bajas de la "Laguna del Ostión"." <u>Gestión de recursos naturales y opciones agroecológicas para la Sierra de Santa Marta, Veracruz</u>. L. Paré and E. Velazquez. México, D.F., Instituto de Investigaciones Sociales (UNAM).

von Bertrab, A.(2002). "Social conflict around environmental conservation in Los Tuxtlas Biosphere Reserve, Veracruz, Mexico: Is there room for transformation?" <u>Institute of Development Studies</u>. Brighton, University of Sussex.

Westermann, O., J. Ashby and J. Pretty (2005). "Gender and social capital: The importance of gender differences for the maturity and effectiveness of natural resource management groups." <u>World Development</u> **33**(11): 1783-1799.

Wetterberg, A. (2007). "Crisis, connections, and class: How social ties affect household welfare." <u>World Development</u> **35**(4): 585-606.

WHO(2002). "Traditional Medicine Strategy 2002-2005." Geneva: World Health Organization.

WHO (2003). "World Health Fact Sheet number 134." World Health Organization.

WHO (2004). "WHO guidelines on good agricultural and collection practices for medicinal plants." Geneva, World Health Organization.

Woolcock, M. (1998). "Social capital and economic development: Toward a theoretical synthesis and policy framework." Theory and Society **27**.

Woolcock, M. (2000). "Friends in high places? An overview of social capital." Development Research Insights (34). Sussex, Institute of Development Studies.

Woolcock, M. and D. Narayan (2000). "Social capital: Implications for development theory, research, and policy." World Bank Research Observer **15**(2): 225-249.

Zapata, E. and M. Mercado (1996). "Del proyecto productivo a la empresa social de mujeres." Cuadernos Agrarios **13**(Enero-Junio): 104-128.

Zapata, E., B. Suárez, L. Garza, O. Rodríguez, A. Rodríguez and L. Gómez (2005). "Mujeres rurales e indígenas ante el reto de generar ingresos." Tejiendo esperanzas. Los proyectos de mujeres rurales. E. Zapata. Guanajuato, Instituto de la Mujer Guanajuatense.

Zapata, E. and J. Townsend (1999). "Outsiders and self-empowerment." Women and power: Fighting patriarchies and poverty. J. Townsend, E. Zapata, J. Rowlands, P. Alberti and M. Mercado. London, Zed Books.

Zolla, C. (1979). "La etnobotánica en el estudio de la medicina tradicional mexicana" Medicina Tradicional: Alternativa para la salud. Mexico D.F. CEESTEM

Zolla, C. and V. Mellado (1995). "La función de la medicina doméstica en el medio rural mexicano." Las mujeres y la salud. S. González-Montes. Mexico D.F., El Colegio de México.

Appendix 1: Semi-structured interviews. Places conducted and brief description of interviewee

Name (alphabetical order) and place of interview	Description
1. Abigail Aguilar Mexico City	Ethno botanist director of the National Herbarium located in the main IMSS hospital
2. Alejandro Negrete Xalapa, Veracurz	Member of SENDAS, NGO involved in capacity building with Las Hamelias group
3. Andres Fierro Mexico City	Agricultural scientist involved in medicinal plant research in Mexico City University (UAM-Xochimilco)
4. Antonio Gonzalez Catemaco, Veracruz	Government official ,Director of 'Los Tuxtlas Bioshpere Reserve'
5. Arturo Guerrero Cosoleacaque, Veracruz	Traditional doctor who also participated in health promotion network
6. Carlos Gomez Mexico City	Member of Tlahuillli and lecturer of traditional medicine
7. Carlos Zolla Mexico City	Researcher and Director of Intercultural University Programme of National Autonomous University of Mexico UNAM
8. Carolina Grajales Mexico City	Director of health promotion NGO PRODUSSEP
9. Cristina Guerrero San Cristobal de las Casas, Chiapas	Member of SENDAS NGO, advisor for Las Hamelias
10. Daniel Tehuitzil Xalapa, Veracruz	Member of sustainable development NGO PSSM Proyecto Sierra Santa Martha
11. Genaro Santos Zaragoza, Veracruz	Traditional doctor from Zaragoza participated in health promotion network
12. Guadalupe Adbdó San Andres Tuxtla, Veracruz	Health promoter from health house in San Andrés Tuxtla and member of CREO
13. Guillermo Mendoza Texcoco, Edo. Mexico	Department of plant science, University Programme of Traditional Medicine and Natural Therapy
14. Hector Marcelli Playa Linda, Veracruz	Director of alternative trade network and sustainable development NGO BIOPLANETA
15. Hector Rojas Cuernavaca, Morelos	Doctor and director of NGO Director of Tlahuilli
16. Hernan García Mexico City	Sub-director of Department of Intercultural Medicine IMSS
17. Jesus Morales San Andres Tuxtla, Veracruz	Director of NGO working on issues around health and poverty alleviation CREO
18. José Alejandro Almaguer Mexico City	Doctor, Director of Department of Intercultural Medicine. IMSS
19. Leonardo Porras Jaltipán, Veracruz	Government official. Director of 'Community action programme' IMSS-southern region of Veracruz
20. Lida Galindo Chinameca, Veracruz	Technical advisor of NGO, Tssoka Teyoo de la Sierra
21. Luisa Paré Xalapa, Veracruz	Researcher and founder of NGO SENDAS
22. Maria de los Angeles Member of Health house	Health promoter and founder of health house in Minatitlán

Minatitlán, Veracuz	
23. Mario Rojas Cuernavaca, Morelos	Doctor and director of network of Tlahui
24. Martha Landa Chinameca, Veracruz	Accountant of Tssoka Teyoo de la Sierra
25. Miguel Angel Gutierrez Tlaxcala, Tlaxcala	Director of Botanical Garden of the University of Tlaxcala and director of the medicinal plant network REDMEXPLAN
26. Oswaldo Porras Xalapa, Veracruz	Member of NGO working for sustainable development NGO (PSSM Proyecto Sierra Santa Martha)
27. Susana Cruz Xalapa, Veracruz	Member of NGO, advisor of Las Hamelias
28. Tomasa Pareli Chinameca, Veracruz	Health promoter from health house in neighbouring town of Chinameca
29. Traditional doctors Loma linda, Veracruz	Group of traditional doctors members of health house 'Tati-tamati'
30. Veronica Munier Huazuntlán, Veracruz	Activist and professor of Intercultural University, was member of SENDAS and Tssoka Teyo de la Sierra