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**GENDER ASSESSMENT IN NATURAL RESOURCE USE AND
MANAGEMENT AND ENVIRONMENTAL PROTECTION
IN VIETNAM: A CASE STUDY IN SOC SON DISTRICT**

By

Tran Thu Phuong

International Development Studies

Saint Mary's University

Halifax – Canada

2001



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**GENDER ASSESSMENT IN NATURAL RESOURCE USE AND
MANAGEMENT AND ENVIRONMENTAL PROTECTION
IN VIETNAM: A CASE STUDY IN SOC SON DISTRICT**

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A thesis submitted in partial fulfilment of the requirements for the
degree of Master of Arts in International Development Studies
at Saint Mary's University, Halifax, Nova Scotia, Canada

June 25, 2001

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ABSTRACT

GENDER ASSESSMENT IN NATURAL RESOURCE USE AND MANAGEMENT AND ENVIRONMENTAL PROTECTION IN VIETNAM: A CASE STUDY IN SOC SON DISTRICT

Efficient and environmentally sound use of natural resources is one of the most significant factors influencing the sustainable development of a country. It has also been internationally recognized that women play a key role in most aspects of sustainable development. This thesis examines the use and management of natural resources and environment in two rural communities: Do Luong and Do Tan villages, Bac Son Commune, Soc Son district, Hanoi City.

On the basis of community-based research and secondary sources, the author has studied the different roles of men and women in natural resource use and management. By analyzing the gender division of labour in the research areas, the question of gender equity and its relations to women's subordination and oppression to men is raised and addressed. The thesis claims that women's empowerment is a key to enabling sustainable development in the research areas. Finally, the thesis attempts to make a contribution to gender equitable sustainable development in the area studied as well as to the international literature on this topic.

TRAN THU PHUONG

June 25, 2001

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ACRONYMS

CBRM	Community-Based Resource Management
CIDA	Canadian International Development Agency
FAO	Food and Agriculture Organization
GAD	Gender and Development
IMF	International Monetary Fund
INSTRAW	International Research and Training Institute for the Advancement of Women
IUCN	International Union for the Conservation of Nature
MOSTE	Ministry of Science, Technology and Environment
NCFAW	National Committee for Advanced Women
NGO	Non-governmental Organization
PRA	Participatory Rural Appraisal
RRA	Rapid Rural Appraisal
SL	Sustainable Livelihoods
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNEP	United Nations Environment Program
UNICEF	United Nations Children's Fund
UNIFEM	United Nations Fund for Women
UNFPA	United Nations Population Fund
WAD	Women and Development
WB	World Bank
WCED	World Commission on Environment and Development
WED	Women, Environment and Development
WID	Women in Development
WUV	Women's Union of Vietnam
WWF	World Wide Fund for Nature

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Chapter One

INTRODUCTION

1.1 Background and Rationale

The economic development of a country, especially of a developing country, is very dependent on its natural resources. An issue of unprecedented concern in development programs in almost all countries during the last two decades has been how to manage natural resources – soil, water, air, flora and fauna - so that they can meet the development demands of a country and, at the same time, are not depleted.

To achieve this aim of development, it is considered necessary to assess properly the role of women in agriculture production and natural resource management and to create conditions for women to fulfil their roles. The Food and Agriculture Organization of the United Nations has highly evaluated the role of women in contributing to global food security as they are responsible for half of the world's food production and produce between 60 and 80 percent of the food in most developing countries (FAO, 2001). To date, the roles women play in agriculture and natural resource management as users, producers and managers have not received adequate attention, but they are increasingly recognized. Women's issues related to access to and control over land, credit, technology and training also have been given more attention in development initiatives.

Achieving the aim of development will accelerate if gender relations between women and men are looked at across various ages and at all levels of society. Defined as socially constructed characteristics of women and men, gender is a key dimension of social

difference that affects people's experiences, concerns and capabilities in managing natural resources. In any given society, gender is a significant factor determining access to and control over land, labour, resources, institutions and services. Understanding the different roles and responsibilities of women and men in a natural resource management system is critical to understanding how changes to the system will affect food security, resource management practices and hence, productivity and sustainability.

Vietnam is an agricultural country with a population of 76.33 million people, of which 76% are involved in the agricultural, forestry and aquacultural sectors¹. Accounting for 19.91% of the GDP², the agricultural sector plays a very important role in the economy of the country. Processing of primary products accounts for 65% of industrial production, which comprises 20% of the GDP and reveals that the Vietnam economy is very reliant on the country's natural resources (World Bank, 1995b:i).

Although people's lives have been significantly improved since the implementation of the renovation program in 1986, Vietnam is still considered one of the poorest countries in the world (World Bank, 1995b:i). Poverty and environmental degradation are closely interrelated. Nowadays, Vietnam faces critical degradation of its natural resources and a decrease in environmental quality. Major environmental issues include deforestation, degradation of land resources, pollution, inefficient use of water and mineral resources, and deterioration of biological resources. Reconciling economic growth and the environment has become a priority of Vietnam. Many development projects supported by the government and international organizations are carried out in

¹ According to the National Population Census in April 1999.

² According to the statistic of the National Committee on Population and Family Planning in April 2000.

order to improve the quality of life and restore natural resources so as to promote sustainable development in rural areas.

Recognizing the importance of gender issues in the development process of the country, the Vietnamese government has worked out policies on combining socio-economic development with environmental protection and the preservation of natural resources, in which a gender aspect is included, but in a very general way. In addition, academic researchers and non-governmental organizations have been interested in gender issues in rural development. Most of the studies, however, have focused on working and living conditions of rural women, and the rural household economy. Regretably, the gender problem in using and managing natural resources and the environment – the basis for all sustainable development activities - has not received proper attention. There are several reasons for this neglect. First, natural resource and environmental issues are rather new not only for ordinary people but also for the government officials. Second, gender researchers originate mainly from the sociology and psychology disciplines, and their knowledge of natural resources and the environment is limited. Third, the relationship of gender to natural resources and the environment is also a new aspect of environmental studies in Vietnam.

In order to begin to rectify this neglect, this thesis provides a case study on natural resource use and management from a gender perspective in a rural area of Vietnam. Soc Son district, Hanoi City was chosen for the case study. Though it is administratively owned by Hanoi, the capital of the country, Soc Son has all the same conservation problems as many other mountainous areas in North Vietnam: deforestation, a loss of biodiversity and water and soil conservation.

The thesis will examine how people use and manage their natural resources and the environment. Do women and men use and manage their resources in the same ways? What is the difference, and why? The thesis rests on the assumption that the full participation of women is a crucial component of sustainable development so it also addresses the questions of gender equity in the division of labour and its relation to women's subordination and oppression to men.

1.2 Research Objective and Thesis Statement

The primary objective of the research is to analyze gender differentiated use and management of natural resources and the environment. The thesis will then attempt to propose more effective measures for natural resource management and life quality improvement for local people. The focus will be on the empowerment of women as a key factor in achieving sustainable development.

Men and women have different responsibilities in the family and community so their roles are also different. The statement of the thesis is that by examining the role of both men and women in the family and the community around the use and management of natural resources, we can determine if there has been sufficient empowerment of women to achieve sustainable development. Furthermore, this awareness of gender roles provides a foundation for determining what strategies could be employed in order to increase women's empowerment.

1.3 Methodology

The research draws upon a combination of qualitative research and primary and secondary material around the issues which have been raised. The research was divided into three steps. The first step was to study the literature concerning gender issues in the agricultural sector in international, national, and regional spheres. This provided a general context for the study and highlighted issues and insights of previous research. The second and third steps were conducted in the field.

The second step involved collecting secondary materials and conducting interviews with two key informants from local government offices at district and commune levels. These interviews had a threefold objective: (i) attaining an overview of the economic and social situation; (ii) gaining knowledge about their development strategy which might have a great influence on the natural resources existing in the area; and (iii) understanding the opinions of the government officials on gender issues in natural resources management. The interviews also helped the researcher to choose Do Luong and Do Tan villages for the case study. Do Luong is considered a relatively rich village and Do Tan is poor. This selection was made with the aim to give a comparison of the manner of use and management of natural resources between a rich village and a poor one. This helped to determine how large an influence the availability of resources plays in the daily lives of the villagers, as well as its effect on gender roles.

The third step was directed toward rural women and men in the research areas and several field-based research methods were used: participatory rural appraisal (PRA), focus group discussions and in-depth interviews.

Participatory rural appraisal is a grass-roots research method that has been developed from Rapid Rural Appraisal (RRA) by Robert Chambers, the Aga Khan Foundation, Action Aid, Oxfam and other agencies. Usually, PRA relies on a large research team rather than a “lone ranger” approach (Pratt and Loizos, 1992:67). Though working independently, I still applied by PRA in this study because of its suitability for addressing the research objective of the thesis. First, PRA involves local people in the research – an important component of community-based conservation management research. Second, PRA helps the researcher to get information about existing critical problems which are identified by the local people themselves. Third, PRA is a relatively low-cost approach to collecting information quickly (ibid.:66).

Using a series of PRA techniques such as field observation, sketch-maps, transects, diagrams, timelines and seasonal diagrams, the researcher acquired a general picture of the natural resources existing in the area. Specific techniques included using gender disaggregated activity calendars, mobility maps, access and control profiles, gender resource mapping and household member diagrams to reveal how gender differences define people’s rights, responsibilities and opportunities in resource management.

Focus group interviews were conducted in each village with two groups: one group was male and the other was female. The purpose of this was to find out the differences in opinions between men and women on the same issues. There were ten participants in each group representing different ages and living in different hamlets of the villages. They were people whose lives directly depend on natural resources and therefore had a lot to lose should the resources be depleted.

Six sessions of focus group discussions were conducted with each group within each village and one session was held with a combination of male and female groups. The first five sessions focused on the status of natural resources, women's issues and gender relations in the use and management of natural resources. The sixth session was conducted to investigate the socially-constructed barriers that prevent women and men from engaging in sustainable and equitable resource management practices, and strategies that women and men might suggest for overcoming these obstacles. Attention is paid to how these differ. The last session was conducted in order to reach a consensus among the participants about the access and control profile and the gender activity profile.

In-depth interviews with open-ended questions were designed to discover the reasons for the ways in which women presently participate, the difficulties they experience and their ideas for improving the situation. There were five in-depth interviews conducted with women in each village. The interviewees were selected to maximize differences of economic conditions and geographic locations within the villages.

Information and transcripts collected during the field research were interpreted together with the secondary data. Data were analyzed with the intent of making suggestions to the local government regarding the creation of new development policies.

1.4 Overview of the Thesis

The thesis consists of six chapters. Chapter One introduces the background and rationale, and, main research objectives and the thesis statement. This chapter also provides the research methodology as well as the structure of the thesis.

Chapter Two reviews the theoretical framework of gender and sustainable development. The Gender and Development approach is analyzed and the WED approach is also addressed. Gender issues in the international forum are explored. The general debate on sustainable development is followed by a discussion of two current popular approaches to sustainable development – sustainable livelihoods and community-based resources management. Women’s empowerment, seen as a means of achieving sustainable development, is also addressed in this chapter.

Chapter Three examines the status of gender research and training as well as gender issues in Vietnam. The overview of the geographic features and development history of the country is introduced at the beginning of the chapter in order to provide readers with a better understanding of the social and environmental context of the gender issues.

Chapter Four leads readers to the research sites, providing them with a general picture of the socio-economic and environmental situation of Do Luong and Do Tan villages. This provides a foundation for the gender assessment of natural resource use and management in the following chapter.

In Chapter Five, an analysis of natural resource use and management from a gender perspective is presented for each village. This is followed by a comparison of the two villages. An investigation of the socially constructed constraints women face in achieving equality is presented at the end of the chapter.

Chapter Six provides a conclusion to the thesis and a number of recommendations related to sustainable development and women’s empowerment are proposed. Questions for further study are also raised.

Chapter Two

THEORETICAL FRAMEWORK:

GENDER AND SUSTAINABLE DEVELOPMENT

Developing effective measures to improve the people's quality of life and achieve sustainable development requires understanding a variety of current perspectives on sustainable development. It also means understanding feminist approaches to gender and development. Feminist approaches provide an appropriate framework to analyze the gendered differences in using and managing resources. Gender and development is treated first because the insights about gender and development occurred before the definition of sustainable development.

2.1 Gender and Development

The present focus on the role of women and development generally prefers the Gender and Development (GAD) approach. The GAD approach emerged in the 1980s under the influence of socialist feminist thinkers and attempted to address some weaknesses of Women in Development (WID) and Women and Development (WAD) approaches, in which women's issues in development were addressed.

Perhaps the most influential starting point for the study of gender issues in the development process was Ester Boserup's book *Women's Role in Economic Development* published in 1970. Boserup was the first researcher who evaluated the contribution of

women in the productive sector³. Furthermore, she found that women often were excluded from the benefits of the development process, and the negative effects of modernization on women were largely ignored. Based on her publication, the WID approach emerged in the early 1970s. The term “WID” was first used by the women’s committee of the Washington, D.C. Chapter of the Society for International Development with the aim of bringing Boserup’s ideas to the attention of American policy-makers. WID was a product of its environment and was strongly influenced by both mainstream development theory and liberal feminist theory which prevailed at that time (Rathgeber, 1989).

As a feminist perspective, WID focused on the inequality between women and men in society and the need to integrate women into the economic system through necessary legal and administrative changes. The WID perspective emphasized the productive role of women and developed strategies to minimize the disadvantages facing women in the productive realm. But reproductive roles generally were ignored except insofar as they related to population.

In the 1970s, the WID approach was addressed in the policies and activities of development agencies such as United Nations, World Bank (WB), the International Monetary Fund (IMF) and, especially, Non-Governmental Organizations (NGOs) in order to generate more income for women in the Third World. Caroline Moser (1993) identified five distinct WID approaches to third world women in the development policies during the last four decades:

³ Productive sector refers to the production of goods and services for consumption and trade (farming, fishing, employment and self-employment). In addition to such a productive work is reproductive work, which involves the care and maintenance of the household and its members.

- (i) **Welfare approach, which focuses solely on women's reproductive roles and includes programs to control population growth.**
- (ii) **Equity approach, which enhances women's civil and political rights.**
- (iii) **Anti-poverty approach, which enhances women's productive role through waged work and income generation.**
- (iv) **Efficiency approach, which stresses women's reaction and response to the debt crises through their participation in the newly restructured economies.**
- (v) **Empowerment approach, which addresses women's strategic need to transform laws and structures that oppress them through a bottom-up process of organizing around practical needs.**

Grounded solidly in traditional modernization theory, the WID approach accepted the existing social structure. In the WID approach, fundamental questions about the sources and nature of women's subordination and oppression were rarely addressed. Instead, WID focused on advocacy for more equal participation in education, employment and other spheres of society (Mbilinyi, 1984). In the WID approach, the impact and influence of class, race and culture on women were largely ignored.

Grown out of concerns with the limitations of the modernization theory and the WID approach, the Women and Development (WAD) approach emerged in the second half of the 1970s. Unlike WID, the WAD perspective focused on the relationship between women and development processes rather than simply strategies for the integration of women into development. WAD evaluated women as important economic actors in their societies. Their work inside and outside the household was considered central to the

maintenance of those societies. The WAD perspective recognized and focused on the class problem but gave little analytical attention to the social relations of gender within classes (Rathgeber, 1989).

The WAD acronym encompasses a diverse range of approaches to the issues associated with women in development between 1970s and the late 1980s. It would be difficult to name all of the feminist development approaches, but the list would include Marxist feminism, radical feminism and social feminism, in which principles of the Marxist feminist approach were dominant.

Although it provided a more critical view of women's position than WID, the Marxist feminist approach failed to analyze the relationship among patriarchy, different modes of production and women's subordination and oppression. It assumed that women's position would improve if and when international structures become more equitable (Rathgeber, 1989). The Marxist feminist perspective discourages a strict analytical focus on the problems of women independent of those of men, since both sexes were seen to be disadvantaged by oppressive global structures based on class and capital. The Marxist feminist perspective also emphasized the reproductive role of women in their work and life but failed to address reproductive labour adequately by ignoring the time and energy burdens faced by women in their households. According to this approach, labour invested in family maintenance, such as childbearing and rearing, housework, and care of the ill and elderly, belongs to the "private" domain and is thus outside of development (Rathgeber, 1989).

The awareness of the need to further the discussion between gender and development was addressed in the GAD approach. GAD focused not just on women, but on the social

relations between men and women in various settings (Kate Young, 1992). Taking the view that understanding the structure and dynamic of gender relations is central to analysing of social organization and social progress, the GAD approach used gender relations rather than women to evaluate men as potential supporters of women. Recognizing the household as the basic unit of social organization, GAD acknowledged the importance of understanding gender relations, the sexual division of labour, and other major influences within the household in planning change and development.

The most significant aspect of the GAD approach is a holistic perspective. It looks at the totality of social organization, economic and political life in order to understand the shaping of particular aspects of society (Young, 1992). GAD not only examines the productive work (goods and services) and reproductive work (household/family care and management) of women and men but also focuses on the “fit” and balance among the personal, household, community, economic, and political spheres.

Like WAD, GAD sees women as agents of change rather than passive recipients of development and stresses the need for women to organize themselves for a more effective political voice (Rathgeber, 1989). It emphasizes the state’s duty to provide social services in promoting women’s emancipation and focuses on strengthening women’s legal rights, including the reform of inheritance and land laws.

GAD pays special attention to the oppression of women within the family by entering the so-called “private sphere”. It does not exclusively emphasize women’s solidarity and welcomes contributions of sensitive men. GAD adopts a two-pronged approach to the study of women and development, investigating women’s material condition and class position as well as the patriarchal structures and ideas that maintain and define women’s

subordination. The GAD approach recognizes the interrelationship between gender, class, and race and defines the socially constructed characteristics. Caroline Moser (1993) points out that women experience oppression differently according to their race, class, colonial history, culture, and position in the international economic order.

GAD recognizes the differential impact of development policies and practices on women and men. The GAD approach also distinguishes between the practical needs and strategic needs⁴ of women. At the level of practical programming and project development the GAD approach does not easily integrate itself into existing development strategies and programs; rather it demands structural change and power shifts, which are unlikely to be implemented in national or international agencies (Rathgeber, 1989).

In short, the primary objectives of GAD are to empower⁵ women and to improve their position in society relative to men. The GAD approach raises fundamental questions about the process of development and gender relationships within it. It continues to explore: Who benefits? Who pays and with what consequences for the balance of power and privilege between men and women?

For the purpose of this thesis GAD will be understood as integrating an analysis of the structure of gender roles with the existing notion of empowerment presented by WAD. This is because GAD, when used merely as a tool to describe the structure of

⁴ According to Caroline Moser (1993) practical gender needs are the needs women identify in their socially accepted roles in society. Practical gender needs do not challenge the gender division of labour or women's subordinate position in society, although rising out of them. Strategic gender needs are the needs women identify because of their subordinate position to men in their society. Strategic needs relate to gender divisions of labour, power and control and may include such issues as legal rights.

⁵ The concept of empowerment is discussed further below.

gender relations, does nothing to change those relations. Thus, analyzing gender roles in this thesis is aimed at empowering women in sustainable development.

2.2 Women, Environment and Development (WED)

WED came on the scene in the mid 1980s and primarily adds the notion of environment or sustainable development to GAD.

In describing the role of women in the environment, Annabel Rodda argues that as far as the environment is concerned, there is no one more knowledgeable than women (Rodda, 1991). Women, particularly those living in rural areas of developing countries, play a major role in managing natural resources – soil, water, forest and energy. We can not deny the fact that women are the primary users of natural resources for human subsistence in the developing world. As users most women have direct contact with the natural environment as they collect essential items for their daily needs. They gather trees and plant products for food, medicines, fuel, fodder, etc. While men explore the forest for more commercial items, women find there a source for their basic needs. Women also are water collectors and carriers. They are responsible for fetching and storing water, and controlling its use.

Women are producers. It is women farmers who work to produce basic food and crops so their role is crucial to the sustainable use of land, while other women workers in both the formal and informal sectors are often engaged in food production processes which also have an impact on the environment (Rodda, 1991:59). In sub-Saharan Africa, women produce up to 80 percent of basic foodstuffs both for consumption and for sale; women perform from 25 to 45 percent of agricultural field tasks in Columbia and Peru; in

Southeast Asia, women provide up to 90 percent of labour for rice cultivation (FAO, 2001); and in Vietnam women constitute 53 percent of the agricultural labour force (Le Thi Nham Tuyet, 1994:1). In many contexts where men had been assumed to be the primary agriculturalists, women were actually contributing half or more of all field labour (Collins, 1991:37). In the most rural areas women not only produce food and traditionally take care of livestock, but they are also becoming increasingly involved in the production of cash crops.

Through close contact with natural resources, women have acquired a profound knowledge of the plants, animals and ecological processes around them. Furthermore, as care-givers and educators of children, women have an important role to play in changing attitudes and practices for the better management of natural resources and the environment.

There is little dispute over the importance of women in managing natural resources, especially in developing countries. As natural resource managers, women are well aware of the value of natural resources. Increasingly, technology helps to meet people's food demands, but at the same time it causes environmental problems, which have a detrimental effect on women's lives. Pesticide problems are a typical example of the environmental impacts of technology.

Because of their daily tasks in caring for their families and communities, women in developing countries affect and are closely affected by their environment. Poverty often forces women to exploit rather than conserve natural resources in order to fulfil family needs. Where resource bases are declining, women are the ones who end up searching farther and farther away for wood and water. It is women who are most easily

marginalized onto unproductive lands. Entrenched impoverishment forces women to exploit resource bases, often against their intuitive knowledge regarding the long-term well-being of their local environment. The principal victims of environmental degradation are the most underprivileged people, and the majority of these are women.

All of these roles of women in environmental management were presented at the UN Women's Conference on Equality, Development and Peace at Nairobi in 1985. Since then the women, environment and development (WED) debate began to be conducted by many NGOs (INSTRAW, FAO, UNIFEM, UNFPA, IUCN, WWF, etc.) and developmentalists. The Brundtland Report, *Our Common Future* published in 1987, promoted long-term strategies for achieving sustainable development and highlighted the importance of environmental issues in the development process. In the years following publication of the Brundtland Report, gradually "women, environment and development" became "women, environment and sustainable development".

The WED debate focused on the imperative for women's involvement in strategies and programs aimed at "sustainable development". Maria Mies, a proponent of the WED approach, argues that women are inextricably linked to the natural environment in both their productive and reproductive roles. Mies demonstrates this by defining women's role in bearing and rearing as productive work. And, because women work closer to nature in providing the basis necessities for family survival, they also have a direct relationship to the environment in their productive role (Braidotti, 1994:93). Vandana Shiva deals specifically with the relation of women with nature within subsistence agriculture. She believes that "only poor, rural women, bearing the brunt of the environmental and

development crisis in their daily struggle for survival, know, and have known, how to survive since time immemorial and therefore have solutions to the crisis” (ibid, 1994).

WED has been the subject of much debate in development agencies. The WED approach argues that if women and the environment were given due consideration in development practice, the environmental crisis could be solved. The centre of the argument is the sexual division of labour. Although having different perspectives on WED, many NGOs and people populating development agencies agree that the restoration of the environment becomes a major cause taken on by (poor Third World) women. As a result, within the developmentalist framework, women are seen as the most valuable resource in the process towards achieving sustainable development (ibid, 1994).

2.3 Gender in the International Forum

The decade 1975-1985 was the women’s decade with many events concerning women in the international forum. In the 1990s women continued to receive focused attention. The United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, June 1992, was an important event for women. It achieved consensus on the crucial role of women in promoting sustainable development and recognized the need to strengthen women’s expertise in the fields of environment and development. It also focused on enhancing their legal and administrative capacities for decision-making and promoting an increased managerial role for women. The Rio Declaration on Environment and Development and Agenda 21 are two of the four major documents adopted by UNCED.

The Rio Declaration on Environment and Development consists of 27 principles, which were set to achieve the goal of establishing a new and equitable global partnership in environmental management and protection. The role of women is addressed in Principle 20 as “Women have a vital role in environmental management and development. Their full participation is therefore essential to achieve sustainable development.”

Agenda 21 is seen as a wide range blueprint for action to achieve sustainable development. In Agenda 21, women’s issues were treated as cross-cutting all environmental questions (Ahooja- Patel, 1999). Chapter 24 known as Global Action for Women Towards Sustainable and Equitable Development was one of 40 chapters within the UNCED Agenda 21. The chapter stressed that any successful implementation of the UNCED Agenda 21 will depend on the active involvement of women in economic and political decision-making and implementation of the relevant conventions and plans of action adopted by the UN earlier (Braidotti, 1994).

The other important event for women was the United Nations Fourth World Conference on Women held in Beijing, China, September 4-15, 1995. The conference established clearly that women are a global force for the twenty-first century and that women’s human rights are central to women’s leadership for the future. Representatives from over 100 countries attended the conference and adopted the Platform for Action to Promote the Advancement of Women by the year 2000. Emphasizing that lop-sided development which ignores women’s development is not real development, the document advocates the advancement and empowerment of women in the political, economic, social, legal and environmental life of their states and the world. The Platform for Action

emphasized the need for gender-based analysis of public policies and institutional mechanisms designed to advance the status of women. It also identified twelve interrelated critical areas, one of which was environment, for priority action to achieve the advancement and empowerment of women. It emphasized that women share common concerns that can be addressed only by working together and in partnership with men towards the common goal of gender equality around the world. It also recognized that women face barriers to full equality and advancement because of such factors as race, age, ethnicity, religion and disability.

Five years after the Fourth World Conference on Women in Beijing, the United Nations General Assembly Special Session “Women: 2000: Gender Equality, Development and Peace for the Twenty-first Century” was set up in New York in June 2000. The governments’ representatives reviewed and appraised progress in each of the twelve critical areas of concerns in the Platform for Action; they identified the achievements as well as obstacles and current challenges in the implementation. Recognizing that the goals and commitments made in the Platform for Action have not been fully achieved, they have agreed upon further actions and initiatives at local, national, regional, and international levels to accelerate its implementation and to ensure that commitments for gender equality, development and peace are fully realized.

2.4 Approaches to Sustainable Development

The concept of sustainable development first emerged in the World Conservation Strategy, adopted in 1980 by IUCN, UNEP and the World Wide Fund for Nature (WWF). However, the term ‘sustainable development’ was popularized by its use in the

widely acclaimed report *Our Common Future*, prepared by the World Commission on Environment and Development (The Brundtland Commission) in 1987, as mentioned above. Particularly since the United Nations Conference on Environment and Development in Rio de Janeiro, 1992, “sustainable development” has become a key concept which has stimulated the interests of many developmentalists in the 1990s and will achieve ever growing importance as we enter the twenty-first century.

Although the need for sustainable development received a broad consensus among mainstream political and development institutions, the concept of sustainable development is understood considerably differently among them in both theory and practice. Holberg and Sandbrook quoted 70 definitions of sustainable development, but the most widely accepted and referred to definition is that found in the Brundtland Report (WCED, 1987):

Sustainable development is development which meets the needs of the present without compromising the ability of future generations to meet their own needs... Sustainable development requires meeting the basic needs of all and extending to all the opportunity to satisfy their aspirations for a better life (WCED 1987:43).

The WCED definition of sustainable development emphasizes human needs and improving the quality of life for people, rather than on the trade-offs between economic and biological systems. Michael Redclift (1992:54) argues that in the Third World improved living levels depend on the extent of increased consumption of resources. Therefore the present level and method of exploitation for meeting human needs should not degrade the environment to the point that resource availability in the future will decline. The close relationship between natural resource conservation and development is addressed by Jessica M. Vivian as follows: “The current coincidence of interest in

sustainable development emerges from the developmentalists' increasing recognition of the importance of preserving natural resources if development is to continue; and conservationists' growing acceptance that, without development, preservation is not possible" (Vivian, 1992:55).

Perspectives of sustainable development are multidimensional, thus there are various approaches to sustainable development. People from diverse backgrounds have different understandings of sustainable development, although their general ideas about it may be the same (Pezzey, 1992).

The ecofeminism approach considered that sustainability involves the generation of nature's process. Vandana Shiva and many other ecofeminists have condemned the dominant western development model. Their critiques found that the dominant western development model spoiled nature and people. For them sustainability is being in harmony with nature.

One of the approaches to the concept of development, which received great support from developmentalists, is the "human focus" approach developed by Robert Chambers. In this approach Chambers uses the term 'sustainable livelihood' to emphasize the relationship between the South's environment and poverty at the local level, which results from striving to fulfill basic needs, lower risk and increase security. Chambers argues that 'sustainable livelihood' must be used as an integrated concept, which includes stabilizing population, reducing migration, fending off core exploitation, and long-term sustainable resource management (Chambers, 1988). This approach is important because it is a 'bottom-up' approach with a focus on grass-roots people.

Another approach that is considered a viable strategy to achieve the goals of sustainable development is community-based resource management (CBRM). This approach has gained recognition as a welcome alternative to solving the problems and difficulties arising from the exploitation and conservation of natural resources. It will be discussed further below.

Sustainable Livelihoods from a Gender Perspective

The concept of sustainable livelihoods (SL) has emerged over the last decade. In the report of the Brundtland Commission in 1987, SL were introduced in terms of resource ownership and access, basic needs and livelihood security especially in rural areas. The 1992 UN Conference on Environment and Development (UNCED) moved the concept towards an action agenda especially in Agenda 21, which stated that SL could serve as an integrating factor that allows policies to address development, sustainable resource management and poverty eradication simultaneously (Singh and Gilman, 2000).

Conceptually, livelihoods consist of means, activities, entitlements and assets which people utilize in order to make a living. Assets, in this particular context, are defined as not only natural or biological, but also social, political, human, physical and economic. Sustainability of livelihood becomes a function of how men and women utilize asset portfolios on both a short and long-term basis. Therefore, sustainable livelihoods are defined by UNDP as the capability of people to make a living and improve their quality of life without jeopardizing the livelihood options of others, now or in the future (UNDP, 1999).

To implement these steps it is important to consider the gendered aspects of the sustainable livelihoods approach. The importance of this is identified by Katepa-Kalala (1997) as (i) the ample evidence of gender differences in the distribution of assets and entitlements, as well as the gender division of activities, (ii) the gendered nature of knowledge, and (iii) the different roles played by men and women in the formulation and implementation of policies and strategies. Another important factor is gender interface with other social distinctions of class, age, and ethnicity. Sustainable livelihood opportunities and adaptation and coping patterns for women and men are different as also demonstrated in the first sections of this chapter. Hence, gender disaggregated analysis is necessary to establish the appropriate policies for sustainable livelihoods.

To achieve SL requires that the government have appropriate policy options. The SL approach requires both higher level policy development and planning at the local level.

Community-Based Resource Management (CBRM)

CBRM is defined as a process by which people themselves are provided the opportunity and/or responsibility to manage their own resources, define their needs, goals and aspirations and make decisions affecting their well-being (Fellizar, 1993:5). The main elements of CBRM are community access and control over resources, proper resource use, viable organization and availability of sustainable technology (ibid, 1993).

Recognizing that people can have a great deal of knowledge about their environment and resources, the CBRM approach places special emphasis on strengthening the capabilities of the community in resource control and management. According to Benjamin Bagadion, CBRM is a strategy for achieving a people-centered development

where the locus of decision-making with regard to the sustainable use of resources in an area lies with people in the communities of that area (Bagadion, 1993:51).

CBRM acknowledges that although communities may have common culturally-based ideas and practices related to the use and management of natural resources, not all individuals and groups within the community have equal access. By using “the wisdom of starting where people are, with what they have and what they know” (Fellizar, 1993:6) CBRM seeks to understand the differences in access to resources according to gender, age, socio-economic class, and in appropriate cases ethnicity.

In CBRM, gender is recognized as a critical factor structuring resource use and access, and deeply affecting the natural environment and the livelihoods that can be gained from it. Here gender issues are not seen in isolation; since it is recognized that gender divisions are themselves cross-cut by class divisions between rich and poor, age and ethnicity.

Based on governing principles such as empowerment, equity, ecological soundness, respect for traditional/indigenous knowledge and gender fairness, CBRM proposes actions involving decision-making at the lowest level possible. CBRM believes that communities can manage their resources when they are equipped and provided with opportunities to do so. A viable organization becomes indispensable for CBRM strategy.

Both SL and CBRM emphasize the control over and management of natural resources at a community level. But while CBRM encourages and strengthens the capacities of the community, SL requires more co-operation between government and local authorities. In

this thesis SL and CBRM are understood to be interwoven approaches to achieve sustainable development.

2.5 Women and Empowerment

In both the SL approach and the CBRM approach empowerment, including women's empowerment, is seen as one of the enabling means of achieving sustainable development.

The concept of empowerment is considered a "bottom-up" approach to development. According to Naresh Singh and Vangile Titi (1995:14), empowerment is a strategy for poverty alleviation and sustainable development. Empowerment is a multifaceted, multidimensional process involving the mobilization of resources and people's capacities to enter the transition towards sustainable development. They also point out that women comprise the main group which needs to be empowered.

The concept of women's empowerment has its roots in the women's movement throughout the world. The term has been popular since the mid 1980s, especially in reference to women. Long before the word became popular, women were speaking about gaining control over their lives, and participating in decision-making that affected them in the home and community, as well as in government and international development policies. The word "empowerment" captures this sense of gaining control, of participating, of decision making. More recently, the word has entered the vocabulary of development agencies, including international organizations and the United Nations (Karl, 1995:14).

Empowerment is a word widely used, but seldom defined. The term “empowerment” is interpreted in various ways by different people. Barker (1991) defines empowerment as “the process of helping a group or community to achieve political influence or relevant legal authority”. Pillai (1995) considers empowerment to be an active, multi-dimensional process which enables women (in this case) to realize their full identity and power in all spheres of life. Karl (1995) defines empowerment as a process and is not, therefore, something that can be given to people. The process of empowerment is both individual and collective, since it is through involvement in groups that people most often begin to develop their awareness and the ability to organize to take action and bring about change. She says further that women’s empowerment can be viewed as a continuum of several interrelated and mutually reinforcing components:

- awareness building about women’s situation, discrimination, and rights and opportunities as a step towards gender equality. Collective awareness building provides a sense of group identity and the power of working as a group;
- capacity building and skills development, especially the ability to plan, make decisions, organize, manage and carry out activities, and to deal with people and institutions in the world around them;
- participation and greater control and decision-making power in the home, community and society; and
- action to bring about greater equality between men and women (Karl, 1995).

According to Canadian International Development Agency (CIDA), “empowerment is about people – both women and men – taking control over their lives: setting their own agendas, gaining skills, building self-confidence, solving problems, and developing self-

reliance. It is not only a collective, social and political process, but an individual one as well – and it is not only a process but an outcome too” (CIDA, 1999). CIDA states that outsiders cannot empower women, only women can empower themselves to make choices or to speak out of their own behalf. CIDA also identifies the significant role of institutions, including international co-operation agencies, in supporting women’s empowerment process.

Used within the context of sustainable development, empowerment means the capacity to access and utilize options such as cultural and spiritual space, recognition and validation of indigenous knowledge, entitlements to land and other resources (e.g. income, credit, information and training) and participation in decision-making to meet today’s needs without foreclosing future options (Singh and Titi, 1995).

Another articulation of the principles involved in women’s empowerment is the women’s empowerment framework, which is developed by UNICEF.

The women’s empowerment framework

The core of the Empowerment Framework is its argument that women’s development can be viewed in terms of five levels of equality, of which empowerment is an essential element at each level. The levels are: welfare, access, conscientization, participation and control.

1. **Welfare** addresses only the basic needs of women, without recognizing or attempting to solve the underlying structural causes, which necessitate provision of welfare services. At this point, women are merely passive beneficiaries of welfare benefits.
2. **Access** is essential for women to make meaningful progress. This involves equality of access to resources, such as education opportunities, land and credit. The path of empowerment is initiated when women recognize their lack of access to resources as a barrier to their growth and overall well being, and take action to address this.
3. **Conscientization** is a crucial point in the empowerment framework. For women to take appropriate action to close gender gaps or gender inequalities, there must be recognition that their problems stem from inherent structural and institutional

discrimination. They must also recognize the role they can often play in reinforcing the system that restricts their growth.

4. **Participation** is the point where women are taking decisions alongside men equally. To reach this level, however, mobilization is necessary. By organizing themselves and working collectively, women will be empowered toward increased representation, which will lead to increased empowerment and ultimately greater control.
5. **Control** is the ultimate level of equality and empowerment. Here, the balance of power between men and women is equal, and neither party has dominance over the other. At this stage in the empowerment framework, women are able to make decisions over their lives, and the lives of their children, and play an active role in the development process. Further, the contributions of women are fully recognized and rewarded.

Using the empowerment framework, development planners can determine whether a project or program is at the welfare, access, conscientization, participation or control level, and determine the point of intervention, to move women to higher levels of equality and empowerment. (UNICEF, 'The Women Empowerment Framework' in Women and Girls Advance, Vol.1, No.1, 1993, p.5).

Empowerment Approaches in South Asia

There are three approaches to empowering women in South Asia (Sahay, 1998). They are integrated development, economic empowerment, and consciousness-raising. The integrated development approach views women's development as key to the advancement of the family and community. This approach provides a package of interventions to alleviate poverty, meet basic needs, reduce gender discrimination, and help women gain self-esteem. It encourages the formation of women's collectives that engage in development activities and tackle social problems.

The economic empowerment approach focuses on improving women's control over material resources and strengthening women's economic security. This approach undoubtedly improves women's economic position and condition, but it is not clear that this change necessarily empowers them in other dimensions of their lives.

The consciousness-raising approach is based on a more complex understanding of gender relations and women's status. The strategy of this approach focuses more on organizing women to recognize and challenge both gender and class-based discrimination in all aspects of their lives. In this approach women are mobilized to struggle for greater access to resources, rather than remain passive recipients of charity schemes and services. This approach successfully enables women to address their position and strategic needs, but may not be as effective in meeting immediate needs.

In short, in order to assess the use and management of natural resources in a rural community the following features of GAD and WED approaches will be applied. First, women will be acknowledged as the main agents for conserving natural resources and achieving sustainable development. Second, gender relations within and between households in productive and reproductive works will be highly recognized. Third, the sexual division of labour will be seen as a means to assess gender equality. Finally, the different impacts of development policies and practices on men and women will be considered.

In the framework of this thesis, as a means of achieving sustainable development "women's empowerment" is understood by the author as a socio-economic and political process, which enables women to become self-reliant and to gain the capacity to organize themselves. Therefore, empowering women means to provide them with opportunities to access resources, education, training, information, technology and decision making so that they can be equal with men in all spheres. In this thesis the author argues that initially women have to be empowered at the household level. Their basic needs (such as clothes, food, clean water, shelter), production means (land and other natural resources,

technology, equipment) as well as conditions for labour reproduction should be satisfied. Ultimately though, women are really empowered only when they are equal with men in making decision about their own lives at all levels of society.

Chapter Three

GENDER IN THE VIETNAMESE CONTEXT

According to the GAD approach, gender is defined as socially constructed characteristics of women and men, and gender roles are determined by cultural, social and economic facts which are learned by all women and men in all societies (UNDP, 2000:56). Based on this definition and in order to understand gender issues in Vietnam, it is necessary to provide a broad overview of the geographic features and development history of the country and to review the economic policies from which present day gender issues have evolved.

3.1 Introduction to Vietnam

3.1.1 Background on Vietnam (Geography and History of Development)

The Socialist Republic of Vietnam is situated on the eastern shore of Southeast Asia. It shares borders with China to the north, and Laos and Cambodia to the west (See Appendix 1). The capital of the country is Hanoi. The country has a land area of 330,363 square km, with 3,260 km of coastline (Nguyen Trong Dieu, 1992). Three quarters of the country consists of hills and mountains reaching to over 3,000 m above sea level. There are two main deltas: Red River Delta in the north and Mekong River Delta in the south, which are the granaries for the whole country. Vietnam has a humid tropical climate, which is influenced by the monsoon regime. There are two main seasons: dry and wet. Dry season lasts 6 months from November to April and wet season from May to October.

The annual mean temperature is 23.5°C in Hanoi, 23.7°C in Hue and 27.1°C in Ho Chi Minh City (ibid, 1992:35). The annual rainfall over the greater part of Vietnam is around 1600 mm. Rain is concentrated during the wet season due to monsoon influences, but regional variations exist (ibid.).

According to the National Population Census in April 1999, the population of Vietnam is 76.33 million, 50.8% of which is female and 49.2% male, and the annual natural growth rate is 1.7%. Seventy-six percent of the population lives in the rural areas and is involved in agricultural, forestry, aqua-cultural production and manual work (handicraft sector). The population distribution is unevenly spread throughout different geographical regions and between highly developed and under-developed regions (Nguyen Trong Dieu, 1992: 103). The population active in the labour force is about 54%. This is the most significant resource for a developing country.

There are 54 different ethnic groups in Vietnam, but about 80% of the population belongs to the Kinh group. The rest belong to minority groups which are very different from each other in cultural and social behavior and in the way in which they use and manage natural resources. People in the two villages, studied in this thesis, mostly belong to the Kinh group and only twelve households belonged to the San Diu minority group.

Although there is no national or official religion in Vietnam, the three traditional religions are Buddhism, Taoism and Confucianism, of which Buddhism is predominant with the largest number of followers (Kurian, 1982).

Vietnam has a long history of nation building and national defense. Based on the features/characteristics of development and significant events, its development process

can be divided into three periods: before 1945, from 1945 to 1985, and from 1986 to present.

The period before 1945. In its early history, Vietnam was invaded and subsequently occupied by China from 207 BC to 939 AD. Thus, for more than ten centuries Vietnam lived under Confucianism. From 939 AD until the 18th century Vietnam was independent from China and was under the successive rule of the Ly, Tran, Le and Nguyen dynasties. During this time Confucianism continued to provide the foundation for the political institutions of the state. In 1859 the French arrived and began its protectorate in Vietnam. Although French occupation brought improvements in transportation and communications and contributed to the growth of commerce and manufacturing, colonialism over-exploited labour and the natural resources of the country. To oppose the French oppression various nationalist parties began to demand reform and independence. In August 1945 under the leadership of Ho Chi Minh, Vietnam declared its independence from France.

Period from 1945 to 1986. Although Vietnam's declaration of independence was stated in August 1945, the French were unwilling to concede independence and continued the war. It was not until eight years later, in 1954, that the French government agreed to begin negotiations to end the war. At that point Vietnam temporarily was divided into North Vietnam and South Vietnam. While in the South the war with America⁶ took place, in the North the Vietnamese government implemented socialism. The goal of the socialist state -- "to eliminate all inequalities based on exploitation and injustice" -- was

⁶ The United Nations calls this war the Vietnam War

implemented by a process of nationalizing major enterprises, abolishing capitalist relations, collectivizing agricultural production, and providing free social services (Beresford, 1989:102).

In 1975 the North and the South were reunified and the united Socialist Republic of Vietnam was declared in 1976. After unification, agricultural collectivization, which had been implemented in the North, was introduced to the South. Due to the failures of working in cooperatives, Vietnam faced a lot of economic challenges, which were eliminated only after the first reform held in 1981. The landmark of the reformation was Directive No. 100, which was issued by the government with the intent of contracting agricultural production to the households and individuals. Based on the contract, households and individuals were responsible for planting, caring and harvesting stages of production while others stages (ploughing, sowing seeds, spraying pesticides) were done by the cooperatives. Households and individuals could receive the excess output of the production after paying tax and a fixed quota. This policy encouraged people to participate in agricultural production and use arable land, which led to an increase in agricultural production.

Period from 1986 to present. Since 1986 the Government of Vietnam has been promoting a process of institutional reform under the banner “*Doi moi*” (renovation) to guide the country from a centrally-planned economy toward a market economy. Macro-economic and sector specific measures and decrees were implemented by the government in order to provide the country with macro-economic stabilization; liberalization of pricing, marketing and trading; the shift from centrally planned collective farming to individualized family farming; and increased management and financial autonomy for

state enterprises (World Bank, 1995b:3). These reforms have had a tremendous impact on economic performance with the average GDP growing at 7% p.a. and exports increasing at 30% p.a. over the three year period from 1989-1992 (World Bank, 1995b:62). It is estimated that the proportion of poor households has declined from 90 percent in 1990 to 19 percent in 1995 (Morrison and Dubois, 1998:1). Renovation has not only increased economic growth, but has further promoted self-help initiatives, facilitated new forms of community-level and voluntary association, and organized and introduced new programs at the provincial, district and commune levels in order to encourage participatory involvement in a search for ways to reduce poverty and enhance livelihood opportunities (Hainsworth, 1999: 29). Unfortunately, the renovation has also had considerable impact on the environment as well as gender relations, which will be discussed in more detail later.

3.1.2 Land Policy and Household Economy

One of the most important socio-economic reforms carried out by the Vietnamese government during the renovation period is agricultural reform. For an agricultural country like Vietnam this reform has significantly changed the face of the rural area. The agricultural reform consists of several policies on issues such as land, the peasant household economy and multi-economic sector in agriculture, an agricultural land utilization tax, credit for peasant households, the circulation of agro-products and agricultural input (Bui Thi Lan, 1994). This thesis focuses in particular on land policy, which has had a significant influence on land use and management as well as on gender relations within households.

In December, 1987 the National Assembly passed the Land Law, which meant that agricultural land was allocated to farmers on a long term and stable basis. The law declared that land was the property of the entire people and uniformly managed by the State. The law abolished the collective possession of agricultural land by the cooperatives. Instead, land was allocated to individual households and farmers for stable and long-term use for the purpose of agricultural production. According to the law, the principle for reallocation of agricultural land is equality among the households. The amount of land allocated to each peasant household was based on the size of the family but differed among the villages, communes, districts due to the availability of agricultural land in that locality. The farmers who received land were responsible for its protection, improvement, fertilisation, and rational and effective use. The Land Law basically changed agricultural production in Vietnam. It created the foundation for significant future developments in agriculture.

The Land Law of 1986 was modified by the National Assembly in 1993. The law now stipulated conditions for the land administration and use system, and outlined the rights and obligations of the land users. The law issued long-term land use certificates, which were 20 years for annual crop land and 50 years for perennial crop land. Five rights of agricultural land users were permitted: land could be exchanged, transferred, leased, inherited and mortgaged. Although the state retained formal ownership of the land, leases were generally expected to be extended upon expiry.

In 1994 the Vietnamese government issued the Decree No. 02-CP regulating the allocation of forestry land to organizations, households, and individuals for stable and long-term use for forestry purposes. The allocation of forestry land to households was for

production as well as for reforestation and protection. The decree stipulated that the duration of forestry land allocation is 50 years for households and individuals. According to the regulations, the forestry land user is allowed to enjoy the fruits and outcomes of any investment made on the allocated land. The forestry land user is entitled to pass on, to assign, mortgage or convert to his/her successors the right to use the forestry land allocated to him/her.

All of these land policies have made the household re-emerge as the primary unit for agricultural production, income generation, division of labour, and coordination of production. The head of a household is required better to manage and coordinate the production activities in order to increase the family income.

3.1.3 Environment Problems

Poverty, rapid population growth and the effects of the war are the main causes of environmental degradation in Vietnam. Recently, the renovation, which has been increasing national economic growth, has also been exacerbating the environmental problems in the country. The environmental issues addressed in the reports on the Status of Environment of Vietnam by the Ministry of Science, Technology and Environment (MOSTE) are deforestation, soil degradation, inefficiency in use of fresh water, natural resource over-exploitation, gene erosion, and pollution. These issues are over and above the long-term impacts of the war, which take place in a large area of the center and the south of the country. Located in the North, the research area of this thesis has not been affected by the war.

Decrease in forest cover area and forest quality as a significant problem. From 1945 to 1998, Vietnam's forest cover decreased from an estimated 43 percent to 28 percent. Of the remaining 28% only 10 percent is primary forest (MOSTE, 1999:124). Over the last 50 years, the primary factors contributing to forest destruction have been increased demand for wood products, more intensive and extensive timber extraction and accelerated conversion from forest to crop land. Further causes of deforestation include forest land reclamation to establish economic settlement zones, on-going population increase, shifting cultivation practices, forest fires and damage from war.

Deforestation has contributed to the exposure of Vietnam's principal watersheds, and has had negative impacts on fresh water quality. Floods and landslides have increased in both frequency and severity and continue to destroy farmland and infrastructure. Deforestation has also caused profound changes in the physical and biological characteristics of ecosystems (Vo Quy, 1997).

Recognizing that deforestation is a significant loss that threatens the reproductive capacity of renewable resource, the Vietnamese government has issued a series of forest protection and afforestation policies, such as the Program 327-CT on the use of bare land, denuded hills, forests, alluvial flats and river bodies; Decree No. 02-CP on the allocation of forest land to households and individuals; and the Law of Forest Protection and Development. Currently, the Vietnamese government is carrying out the Five Million Hectares Afforestation National Program, which is to be implemented from 1998 to 2010 with the aim of increasing the national forest cover from 28 percent to 43 percent. This major program encompasses two million hectares of protection and special use forest and three million hectares of production forests (MOSTE, 1999:145).

Degradation of quality of soil is a critical problem in many regions. Vietnam has 33 million hectares of land, which is divided into 5 types: agricultural land, forestry land, special use land, residential land and unused land. In 1997 the area of each land type was as follows:

- Agricultural land: 8.2 million ha, which comprises 24.8% of the total land
- Forestry land: 11.52 million ha, which comprises 34.8% of the total land
- Special use land: 1.33 million ha, comprise 4% of the total land
- Residential land: 0.45 million ha, comprises 1.4% of the total land
- Unused land: 11.33 ha, comprises 34.3% of the total land

(Source: MOSTE, 1999:29)

It is estimated that 50% of the total land has problem soils. The use of land is not yet rational and efficient, which is revealed by poor crop structure and the low rate of land use. The main soil problems are erosion, degeneration, desertification, landslides, acid sulphate, saline and pollution. The most significant consequence of soil degeneration is the recession of fauna and flora populations and the reduction of cultivated land area per capita (MOSTE, 1999). The main causes of soil degradation are rooted in natural and socio-economic conditions, which include shifting cultivation measures in the mountainous areas, deforestation, unplanned settlement, poor implementation of the laws (Law on Forest Protection and Development, the Law on Environmental Protection, and the Land Law), and limitations of application and propagation of advanced agriculture and agro-forestry ecosystem models. In addition, the quality of a large area of land in the Centre and in the South of the country has been affected by the war.

To prevent the decline of soil quality the Vietnamese government allocates land to households and individuals for long-term use in accordance with the land law. In addition, the government offers support programs for farmers in areas such as technology transfer by onsite modeling and training, credit fund creation, diversification of crops and trees, application of advanced agricultural and agro-forestry ecosystems on hillsides.

The shortage of fresh water and pollution of surface water become a significant factor.

Vietnam has some of the most abundant water resources in the world. There are 2,860 rivers and canals with an area of 653,566 ha, 394,000 ha of lake, 56,000 ha of ponds, 85,000 ha of marshland, and over one million ha of saline soil (Vo Quy, 1997:14). Unequal distribution of water according to region and season causes disadvantages in the use of water. Water is superabundant in wet season and scarce in the dry season. In some places there is not enough water to meet demands. Exploitation of ground water leads to decreased groundwater levels, lowering supply capacity and increasing the chances of pollution. The use of fertilizers and pesticides for agricultural production and the discharge of waste water without treatment into rivers causes water pollution. The water management of the government is very weak (MOSTE, 1999).

Coastal environment is seriously degraded and wet land area is declining. With 3260 km of coastline, Vietnam has a diversity of wet land areas and marine ecosystems, which provide direct economic benefits as well as indirect biological benefits. The large mangrove areas, which were replanted after the war, have been continuously destroyed or converted for agricultural production, aquacultural production, settlement and other purposes. The deforestation of mangroves and coastal ecosystem degradation has significant negative impacts on the biological functions of the coastal environment.

Biodiversity is rapidly decreasing. It is estimated that Vietnam has 12,000 species of flora and more than 14,000 species of fauna (Vo Quy, 1997). In the last ten years, three new mammal species were discovered in Vietnam. Under the pressures of economic development biodiversity resources are over-exploited. Many species have become rare and endangered, some species are near extinction. The reasons for the decline in biodiversity are loss of habitat, over-exploitation, pollution, violation of hunting regulations, and the illegal trade of wildlife (Vo Quy, 1997).

Nowadays, Vietnam is facing a number of very real trade-offs in its development objectives, particularly between growth and poverty and between growth and environment (World Bank, 1995b:i). Recognizing the danger of environmental degradation, the Vietnamese government has issued policies on environmental protection, such as the Law of Environmental Protection, the Land Law, and the Law of Forest Protection. It has also set up an agenda for environmental action to increase the awareness of people on environmental issues. It is argued by the author that such policies should incorporate community-based resource management activities. Otherwise, the implementation of such policies is both insufficient and ineffective.

3.2 Current Status of Gender Research and Training

In Vietnam studies on women and feminism generated interest many years ago among researchers from the literal, historical and artistic perspectives (Le Thi, 1999).

The first organization for women's studies in Vietnam was the Women's Studies Committee established by the Women's Union of Vietnam (WUV) in the 1980s. This organization focused mainly on studying policy-making on women issues and suggesting

recommendations to the Government. Basic research on women's perspectives and methodologies has not received proper attention from this organization (ibid.).

Women's Studies as a discipline in Vietnam was also established only in the 1980s. This is the responsibility of the Centre for Family and Women's Studies, which was established in 1987. Its tasks are to work in cooperation with agencies and organizations to set up research projects and programs on women's issues and to propagate knowledge on women, families and gender equity. The main topics of research projects and workshops conducted by this organization have focused on women and agricultural development, the working conditions of female workers, women and families, violence in families and social policies on women. However, during the early years of development the inception of women's studies did not have its own scientific perspectives as well as methodology. The research projects were scattered, not systematic and lacked strategic focus.

In the early 1990s, the GAD approach emerged and was applied in Vietnam due to the influence of the international movement (Le Thi, 1999). Since then gender issues have interested a number of academic researchers and non-government organizations. A number of gender workshops and training courses have been carried out in order to provide knowledge and skills in integrating gender perspectives into policy-making and implementation in different agencies and at different administrative levels (Le Ngoc Hung, 1999). At the same time, courses in women's studies, and gender and development have been taught in some universities and institutes. A women's studies faculty was established in 1992 in the Semi-public University of Ho Chi Minh City, and a gender education program was organized by the National Committee for the Advancement of

Women for women in the provinces. Some NGOs such as the Centre for Gender, Families and Environment in Development; the Centre for Families and Women's Health; and the Centre for Education Support and Women's Capacity Enhancement were established. The research topics of these NGOs focus on reproductive health, community health and initial health care.

According to Le Thi's evaluation of gender research and training in Vietnam, the focus of study is on peasant and rural women, female workers and female scientists. Rural women received significant attention since they comprise 78% of the female population of Vietnam. Women in mountainous areas were also given much attention while rural women working in the non-agricultural sector were rarely addressed (Le Thi, 1999).

The content of the research is diverse and depends on the functions of research organizations. The main concerns are employment, working conditions, living conditions, labour divisions and the role of women in the economic transition of the country. Gender equity in the family and women's reproductive health have recently begun to be addressed. The living condition of women without husbands has not received proper analysis in research. There is as yet very limited research on women's participation in management and political activities (ibid.)

Although there have been considerable achievements in gender research and training in Vietnam, some obstacles exist. According to Le Thi (1999) the obstacles are as follows: First, there is no co-operation between research agencies and organizations in implementing research projects, yet a gender and development approach requires multi-disciplinary cooperation. Second, the use and exchange of research results is very limited

since there is a lack of a co-ordinating agency. Third, publications of research results on gender are very limited. So far there are only five works on women's data published. The reason for this limitation is that most of the research has been carried out by different institutes or organizations that have poor cooperation, and most research has not been published due to the lack of finances.

After ten years of propagating and applying a gender and development approach in Vietnam, there is a great change in perspectives on women not only in science but also in the social domain. Gender issues are now more of a concern in policy and development planning agencies.

3.3. Government Policy on Gender

Although research on gender issues in Vietnam developed only in the past decade, Vietnam is one of the first countries in the world to adopt a policy of gender equality (Dang Bich Thuy, 1999:180). The Vietnamese government has strong policies on gender equality dating back to the first Constitution of 1946, which enshrined the equality of women and men in all respects. Article nine of the Constitution states:

“All power in the country belongs to the Vietnamese people, irrespective of race, sex, fortune, class, religion and women are equal to men in all respects.”

This equal right was firmly ensured and more detail was added in the following Constitutions of 1959, 1980 and 1992. The position and role of women was increasingly ensured and women's interests in all aspects are increasingly guaranteed. Article 63 in the Constitution of 1992 states:

“Male and female citizens have equal rights in all respects – political, economic, cultural, social and the family. All acts of discrimination against women and all acts damaging women’s dignity are strictly banned. Men and women shall receive equal pay for equal work. Women workers shall enjoy a regime related to maternity. Women who are state employees and wage-earners shall enjoy paid prenatal and post-natal leaves during which they shall receive all their wages and allowances as determined by law”.

Since 1992 the Vietnamese government has passed various laws, decrees and resolutions to protect the status of women and achieve gender equality. The Law on Marriage and Family enacts the equal right of citizens in marriage and family without sex, class or race discrimination. Moreover, the law defines regulations regarding mother and child protection, responsibilities of husbands and wives in rearing and educating children, common properties of wives and husbands, and divorce rights.

The Labour Law adopted by the National Assembly in 1994 gives special attention to gender equality rights. There is a separate chapter (Chapter Ten) on female labourers, which consists of ten articles focused on creating conditions for women to efficiently perform their professional capacities while maintaining quality family lives, and at the same time protect women’s motherhood function. For example, women have priority in employment in situations suitable for both women and men; also in enterprises with a high rate of female employees, the employer is responsible for organizing kindergartens or providing partial funding support for female employees who have children at the kindergarten age.

With regard to women’s political empowerment, in 1994 the Vietnamese Communist Party issued Directive No. 37, which states that all levels of Party and levels of government should aim to have at least 20% of elected positions filled by women. The

Directive also requires all branches of the state apparatus to improve awareness and develop plans for training and re-training women cadres.

One of the most important state apparatuses for institutionalizing gender issues in government policies is the National Committee for the Women's Decade (UNDP, 2000). This Committee was established in 1985 by the Vietnamese government in response to the International Decade for Women and the Nairobi Women's Conference. In 1993 this Committee changed to become the National Committee for Advancement of Women (NCFAW) and is mandated to monitor and supervise implementation of the National Plan of Action for the Advancement of Women in Vietnam by the year 2000.

The National Plan of Action for the Advancement of Women in Vietnam by the year 2000 was declared by the Vietnamese Government in order to implement a Global Strategy for "Equality – Development – Peace". The objective of the National Plan of Action is "to improve the material and spiritual life of women; enhance and bring into full play their qualification, capacity and role; ensure the performance by women of their functions and their full and equal participation in all sorts of activities, especially in political, economic, cultural and social fields, in the cause of industrialisation and modernisation of the country towards the goal of 'wealthy people, a powerful country, a just and civilised society'."⁷

Another organization for implementing government policies and programs on women is the Vietnam Women's Union (VWU). Established in 1930, VWU is the most active mass organization in Vietnam with an estimated membership of more than 10 million

⁷ From "National Plan of Action for the Advancement of Women in Vietnam by the year 2000". Available in <http://www.un.org/womenwatch/followup/national/vietnam.htm>

women (UNDP, 2000:13). Although technically not a government body, VWU is usually seen as the central organization for promoting women's issues within the government and the president of VWU has the right to participate as an equal member in the regular meetings of the government (ibid.). With the purpose of caring for and protecting the legitimate and legal rights and interests of women, VWU is involved in education and health, family planning, income generation and employment, credit schemes and maternal and child health programs.

Gender equality is one of the goals to be achieved in the development process of the Vietnamese government. This is demonstrated by the laws, decrees and regulations reviewed above. Unfortunately, there are many gender problems which need to be considered in implementing the laws and regulations. In practice, laws on gender issues are frequently violated and in many cases it leads to physical violence against women (Tran Thi Que, 1996:193). Gender equality in practice will be addressed in more detail in the following section.

3.4. Characteristics of Gender in Different Stages of Development

3.4.1 Gender Characteristics in Traditional Society before 1945

It is possible to say that the role and status of Vietnamese women in ancient time was highly appreciated in the history of building and protecting the country. It was Lady Sao Cai, who introduced the practice of rice cultivation to the Vietnamese citizens. Trung Trac and Trung Nhi were national heroines in the fight against Chinese invaders of the nation in the first century AD. These two Trung sisters led a large insurrection, wiping out very powerful foreign invaders from the Han dynasty of China in the year 40 and

were enthroned after the triumphant insurrection (Le Thi Nham Tuyet, 1998). Lady Trieu was another national heroine in the third century, who led an insurrection in the year 248 AD against the Ngo dynasty. Her famous declaration expressed not only the people's will, self-reliance and national independent spirit but also affirmed the role of women in the nation.

I wished to drive the strong wind, trample upon furious waves, cut huge fish in the East Sea, wipe out the invaders from the border to save our people from the war, rather than being subdued as a concubine of others (Le Thi Nham Tuyet, 1998:34).

According to Le Thi Nham Tuyet, in the first ten centuries of the development history of the country, images of Vietnamese women clearly emerged as the worker, the housewife, the soldier and the artist. However, from the eleventh century onward when Confucianism was introduced in Vietnam, the status of Vietnamese women changed for the worse (Le Thi Nham Tuyet, 1998: 34). "Men are superior and women are inferior" was the principle of Confucianism, which led to extreme inequality in the sexual division of labour. Women did all the domestic tasks, tedious agrarian tasks and manual labour which society held in contempt (Eisen, 1984: 14). Under Confucianism women had no right to citizenship and independence (Tran Thi Que, 1996). Throughout their lives women had to abide by "three obediences". First, as a child, the daughter owed unconditional obedience to her father. Second, when she married, she was supposed to transfer her obedience to her husband. Third, when her husband died, she had to obey her eldest son. Women also were very easily repudiated by their husbands for one of the seven reasons called "that xuat": barrenness, wanton conduct, neglect of parents in-law, garrulousness, theft, jealousy and ill-will, and incurable disease. Added to these principles, women were still under the pressure of "village's rules", which trampled on

women's dignity with such punishments as "to have one's nape shaven and marked with lime". Marriage was an institution to exploit women (Tran Thi Que, 1996:187). Wives not only had to serve and take care of their husbands and their families but also were treated as part of the estate of husbands' families as they could be bought and sold. Women were barred from ownership and inheritance as well as education.

While women under the feudal regime were totally dependent on men, their lives under the French colonialist yoke were even worse. In rural areas women and children had to work harder as peasant families lost their land and assets. In the factories or on plantations women generally were exploited economically and sexually (Tran Thi Que, 1996:188) and at home they continued to serve and obey men. Thus, for nearly a century living under the colonialist yoke, while Vietnamese men were suppressed under the two yokes of national oppression and class oppression, women suffered an additional yoke of gender oppression (Le Thi Nham Tuyet, 1998:34).

In short, the lives of Vietnamese women under Confucianism and Colonialism were the hardest. The patriarchal regime has had great influence on the characteristics and culture of Vietnamese people in the past and today.

3.4.2 Gender Characteristics from 1945 to 1986

The national and democratic revolution in August 1945 led by Ho Chi Minh ended the reign of colonialism in Vietnam. Since then the status of women has begun to improve. The landmark in women's emancipation was the first Constitution of 1945, which declared the right of equality between men and women in all aspects.

Vietnamese women's emancipation covered not only social and political fields, but also culture and education. In the early years of the national liberation, the Vietnamese government highly valued the role of women and encouraged their education:

Women most need to study. They were hampered for a long time. It is the time for women to make efforts to be an important part of the country, to have right for election. (Le Thi Nham Tuyet, 1998: 34).

The right of equality between men and women was ensured by the government in a number of policies and laws (discussed in Section 3.3). Consequently, the influence of oppressive Confucian values has been reduced and the position of women in the family and society has improved. New relations between men and women have also been introduced: freedom of choice of marriage partners; the right of women to work; the presence of women in high posts in society; and responsibilities of men for housework. The extension of gender equality still varies between urban and rural areas, among ethnic groups, and among people with different education levels (Tran Thi Que, 1996).

It is important to emphasize the role of Vietnamese women during the war against America from 1954 to 1975. During this period equality between men and women was enhanced. Together with men, a considerable number of women held combat positions in the front. In the rear, women were responsible for all fields from production and reproduction to leadership.

After the reunification of the country in 1975, the status of men and women was influenced by the major changes in the country. Male soldiers returning home resumed their former position as family heads, a position occupied by their mothers and wives

during the war. In most cases women were willing to share power with men in the villages, communes and society because of women's traditional sense of self-submission.

3.4.3 Gender Characteristics during the Process of Renovation

By generating economic growth as well as improving the quality of life of the people, the renovation has also led to certain changes in gender dynamics in Vietnam, both encouragingly positive as well as negative (Le Thi Nham Tuyet, 1998:35).

The renovation has had a range of positive effects. The open-market mechanism assigns women more important roles and new strength in social functions, economic development, and in scientific, technological and artistic activities. Participating in all economic sectors of the country, women comprise 52% of the 40 million labourers in Vietnam (Dang Bich Thuy, 1999:187). Regarding culture and education, women make a significant contribution. More than 75% of school-teachers are women, 65% of women with graduate degrees are working in educational and training sectors (*ibid.*). Women make up 37% of scientists and technical staff in Vietnam and 60% of those working in health sectors is 60% (*ibid.*). These data demonstrate not only the important role of women in socio-economic development but also the increasing equality between working men and women. It remains to be seen whether or not the increasing number of women in the work force will translate into a greater leadership role for women.

The number of women working in the National Assembly has increased from 18% in the Ninth National Assembly (1992-1997) to 26% in the Tenth National Assembly (1998-2002) (Dang Bich Thuy, 1999:187). This ratio has ranked Vietnam second among

countries in the Asia-Pacific region with regard to the number of women-deputies in National Assembly.⁸

Regarding the negative impacts of the renovation on gender, it is worth mentioning the economic pressure being put on women. In most cases women have to share with their husbands in increasing the income of their families. As economic re-structuring has decreased employment opportunities, women have clearly suffered more than men in finding employment because of their lower level of education and technical skill in comparison with men (Dang Bich Thuy, 1999:189-190). Consequently, women tend to do physical work, which requires less professional skill and pays lower wages. Another factor exerting pressure on women is the reduction of social services (such as health examinations and kindergartens) and the implementation of fees for children's education, which was free before the renovation. Due to low wages, which do not meet the basic daily needs of the families, a number of women are forced to do additional work. This often leads to the overexertion of women's capacity.

In rural areas the situation of women is often worse. Agricultural policies, including the Land Law discussed above, have gender differential impacts in terms of workload, health, income, benefits, and power in the family and in society. In most cases the improved household economy does not raise the position of women in their families and in society. Women's actual workload is heavier and their working day is longer while their reproductive work remains the same (Bui Thi Lan, 1994). The shortage of cultivated land also has a great impact on women. While the shortage forces men to find

⁸ According to the National Plan of Action for the Advancement of Women in Vietnam by the year 2000.

employment in big cities, women who stay at home are responsible for all productive and reproductive work in the households.

In many cases, women's involvement in economic activities to increase family income has led to a decrease in their personal quality of life. Moreover, because of limited employment opportunities for women, some women are forced into jobs that compromise their values and threaten their personal security and health such as prostitution or other sex work. This is the greatest challenge facing Vietnam's families in general and women in particular (Le Thi Nham Tuyet, 1998).

In short, the life of Vietnamese women is now much improved in comparison with past, especially under the system of Feudalism and Colonialism. Despite efforts of the Vietnamese government to promote equality between men and women through a series of gender policies, inequality between women and men still exists in everyday life. The idea of "men are respected, women despised" and the patriarchal roots in Confucianism are popular, especially in rural areas. Furthermore, gender planning is still largely lacking in development activities.

Chapter Four

RESEARCH SITE DESCRIPTION

To give a gender assessment in natural resource use and management in a community it is necessary to understand the socio-economic as well as physical conditions of that community. Following this principle, this chapter provides readers with an overview of the socio-economic situation of the research areas, followed by a description of their physical conditions, which have influenced the socio-economic development in the two areas.

4.1. Location and Administrative Framework

Do Luong and Do Tan are two villages of Bac Son commune chosen as research sites (Appendix 1, Map 2 & 3). These two villages belong to Soc Son district – the northern most district of Hanoi City. Located about 40 km from the center of Hanoi, Soc Son is bordered by Dong Anh district to the South, by Vinh Phuc province to the west and by Thai Nguyen province to the north and the east. Soc Son is the location of Vietnam's Noi Bai International and Domestic Airport.

Bac Son is one of 26 communes in Soc Son district. It is the most northern commune of Soc Son and is located about 15 km from the district headquarters. Bac Son shares the border line with Thai Nguyen province to the north and the east and with Phu Tho province to the west and north-west. It has communal boundaries with Minh Tri, Nam Son and Hong Ky communes in Soc Son district from the south-west to south-east.

Do Luong and Do Tan are two of eight villages of Bac Son commune. Do Luong is located in the north while Do Tan is located in the south of the commune. Both villages share a boundary with Thai Nguyen province to the north and the east. The eight villages of Bac Son commune are: Da Hoi, Do Luong, Do Tan, Lai Son, Luong Dinh, Nam Ly, Phuc Xuan and Tien Chu. The administrative framework is shown in Figure 4.1.

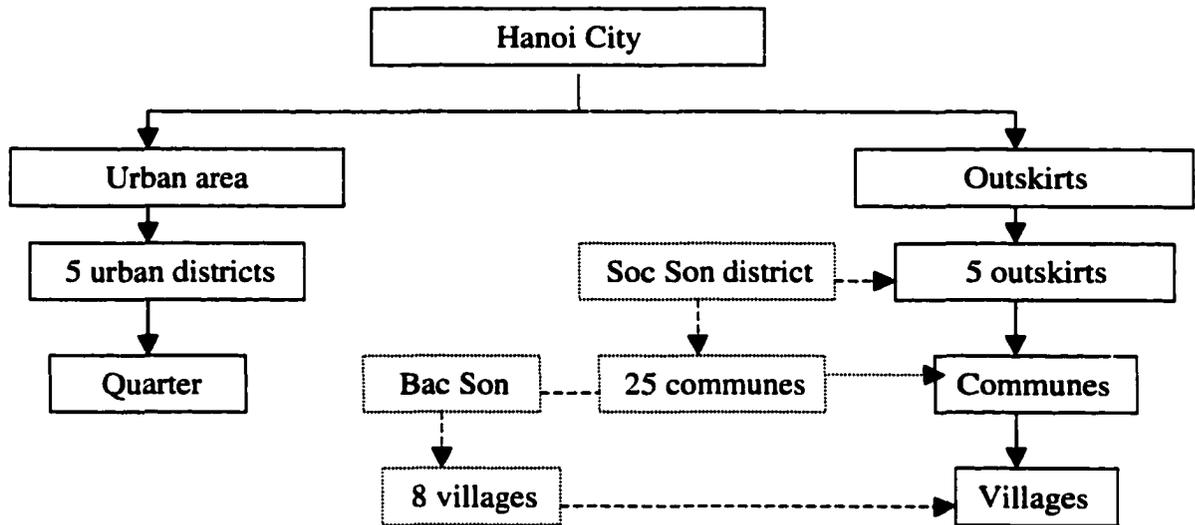


Figure 1: The research areas in the administrative framework of Hanoi City

4.2 Socio-economic Conditions

4.2.1 People and Lifestyle

The total population of Soc Son district in 1999 was 245,304 inhabitants in 53,319 households. The natural growth rate of 1.456% was lower than the national natural growth rate of 1.7%⁹. Women represented 50.4% of the total. The population of Bac Son commune, and Do Luong and Do Tan villages is shown in the Table 4.1.

⁹ According to the report of National Population Census in 1999.

In 1999, the average population density for Soc Son district was 800 persons/km². With 356 persons/km², Bac Son commune is not the most densely populated. The average family size in Do Tan is 4.95 persons while in Do Luong it is 5.00 persons. These averages are high in comparison with the average family size of the whole commune (4.87 persons).

Table 4.1 Structure of average population by sex in Bac Son commune, Do Luong and Do Tan villages in 1999

	Total population	Male	Female	Household	Increase rate
Soc Son district	245,304	121,551	123,753	53,329	1.398%
Bac Son commune	12,932	6,422	6,510	2,639	1.514%
Do Luong village	1,536	734	802	307	NV
Do Tan village	2,490	1189	1,301	503	NV

Source: Soc Son district Statistical Unit, 2000

People in both Do Luong and Do Tan villages live in hamlets and sub-hamlets. Many people in a sub-hamlet are relatives. This is the consequence of land inheritance in the past and present. Usually, when a son marries, his parents give a piece of land from their property (e.g., garden land, forestland or residential land) to the young couple. The oldest son often stays with his parents in their house and has responsibility of caring for them. Recently, the family size has tended to be smaller. Nuclear families are increasingly common for young couples. Following the implementation of the Family Planning Program, the number of couples having three or more children is very small. However, people still prefer sons over daughters. Most of the heads of households are men. The number of woman-headed households in Do Luong village is 47 (15% of total households) and 103 (20% of total households) in Do Tan village. It is worth mentioning that in many cases of woman-headed households, the husbands either were deceased or

were absent at the time of registration. The number of woman-headed households without a husband is very small in both two villages.

Do Luong village is home to an ethnic group called San Diu. It consists of twelve households and thus is a very small group in comparison to the Kinh who make up the remaining 295 households in this village. In practice, the lifestyle of the San Diu minority group does not differ from the Kinh group because of its small number and many of San Diu people have married Kinh.

During the collectivization period, people in each village had very close relationships because they had to share labour, tools, cultivated land, products and many other things. Since the Land Law of 1987 was adopted and households became the primary production units, the relationships between villagers have become less close. Under the coordination of the leadership committee, a village meeting is held once a month in each village with the purpose of transforming the policies of the local government and resolving any problems the village faces. The leadership committee of each village consists of three people: the chair and two vice-chairs. In both Do Luong and Do Tan villages there are no women sitting on the leadership committees. The committee has primary responsibility for administration to the local authority and seems to be less responsible for production. Do Luong has a Village Cultural Agreement¹⁰ which people respect. Such a cultural agreement is in the process of being established in Do Tan village.

There are several social organizations within each village: the Communist Party, the Women's Association, the Youth Association, the Veteran's Association, the Gardener and

¹⁰ The Village Cultural Agreement is a document approved and signed by all villagers. This document consists of regulations on the cultural life of the village. The document has validity only within that village and is updated over time.

Bee-keeper Association, the Farmer's Association and the Red Cross Association. Each organization is self-regulated. The Communist Party is the strongest and has a significant influence on socio-economic activities in the community. The Women's Association is the largest organization and encourages the participation of almost all women in the community. Its main tasks are to implement the family planning program, to encourage people to help each other in production activities and to participate in cultural activities. Members of the Gardener and Bee-keeper Associations share experiences in gardening and choosing seeds and strains. Other associations have fewer activities.

4.2.2 Infrastructure

Road system. In Bac Son commune, the transportation network is limited. The commune has 13 km of asphalt covered inter-district roads. Twenty-seven dirt roads cover 48 km in the commune. However, due to an increasing demand for socio-economic development, these roads must be improved and new ones have to be created.

Irrigation. There is one pumping station located in Do Tan village, which can irrigate about 330 ha (including 188 ha of paddy fields). This station will eventually work in conjunction with a channel system, which was started in 1998, but is not yet finished. There is 1 km of concrete irrigation channels and 2km of dirt channels. Due to the insufficient irrigation and drainage systems, only 25% of the agricultural land of Do Tan is intensively irrigated and properly drained. Other areas are irrigated by using electric pumps to transfer water from ponds or wells of households. In Do Luong village, water from reservoirs and lakes supplies 20% of the agricultural land. The other 80% depends on weather or is irrigated by using electric pumps to bring water from ponds and the household wells.

Drinking water and the domestic water supply. People in both Do Luong and Do Tan villages use well-water for drinking, washing and other domestic purposes. The water is not treated before using and, in many cases, wells are located very close to the pigsties. Wells are cleaned only when droughts cause the water to dry up. All of these factors influence the quality of the well water.

Electricity. An electric system was set up in Do Luong and Do Tan village in 1996. This system provides enough electricity to meet the communities' domestic needs for lighting, operating electrical appliances, irrigation, etc.

Markets. Trau is the local market of Bac Son commune. People of both Do Luong and Do Tan villages often go to exchange goods in this market. Do Luong villagers usually sell tea and fruits while Do Tan villagers sell agricultural products such as rice, beans, maize, cassava, sweet potatoes, ground-peanuts, fruit, etc. Villagers often prefer to travel to other markets in the district or to Thai Nguyen province for a wider variety of tools and domestic equipment.

4.2.3 Economic Conditions

Both Do Luong and Do Tan villages rely on agriculture. There is no other formal source of income in these two villages. Almost everyone works in the agricultural production sector. Only a small number of people work in administrative offices at the commune and district level. In Do Tan village, due to the shortage of cultivated land per capita, cultivation workers comprise only two thirds of the labour force. The surplus labour force serves in other practices like collecting and selling fuel-wood, brick-making, scavenging,

sand transferring, carpentry work, bricklaying, etc. There are approximately 15 young men who pan gold in other provinces.

Production and farming systems. As the result of the redistribution of land to private owners from the co-operative systems, farm sizes are small in Bac Son commune. Agricultural farming systems depend both on the use of technology and on the weather for the irrigation of rice and other food crops. Most farmers use low level technology in agricultural production for staple foods. Land preparation consists of ploughing using cattle (cows or buffaloes) or even digging by hand if livestock can not be afforded, and then planting. Mixed crops are very common in the area.

In Do Luong village the models VAC and RVAC¹¹ are relatively developed due to the large area of forestland. Agricultural production is comprised of six crops groups: food crops, foodstuff crops, annual industrial crops, fruit crops, perennial industrial crops and other crops.

Rice is the main crop and the staple food in both Do Luong and Do Tan villages. There are two crops in a year: winter-spring crop and summer-autumn crop. The former is considered the main one. The average rice productivity is 150kg/sao¹²/year in Do Luong, and 250kg/sao/year in Do Tan. This difference is mainly due to the soil quality.

Maize is more popular in Do Tan than in Do Luong. It is mainly grown in the areas along the Cong River. Other annual crops include cassava, sweet potato, beans and

¹¹ VAC refers to a system of integrated household production and recycling of nutrients between Vuon (garden), Ao (fishpond) and Chuong (pig-pen). RVAC is like VAC model but Rung (forest) is added to the system.

¹² Sao is an area measurement unit. It is applied in the north of Vietnam. 1sao = 360m²

ground-nuts which grow in fewer areas and have smaller yields. Harvesting of these crops is enough for domestic use only and partly for livestock production.

Tea is grown in hill gardens. Tea is the main product and income source of Do Luong village. The size of the tea plantation is 32 ha (9.86% of total natural land), 100 kg/sao of tea is produced in a year. In Do Tan village the area of tea trees is small due to the poor quality of soil on the hills.

Fruit trees are very diverse and planted at random in home gardens. Most common types of fruit trees are litchi, longan, orange, grapefruit, custard apple, pineapple, papaya, jackfruit, etc. Litchi is the most cost productive fruit tree in Do Luong village because of its relative high price compared with other kinds of fruit.

Livestock is also a major component of the agricultural system in both Do Luong and Do Tan villages. Livestock in the two villages consists mainly of cows, buffaloes, pigs, chickens, ducks.

Economic status of households. The scarcity and low fertility of agricultural land, together with limited irrigation facilities, prevent people from growing rice or other crops in order to provide food for their own families. Due to unstable natural conditions, inadequate productive resource links and a lack of capital and land, sustainability of production systems is low. This has sustained the number of poor households in the research areas, particularly in Do Tan village. It is estimated by the local people that about 30% of households in Do Luong village and 70% of Do Tan village are poor¹³.

¹³ A poor household is defined by local people as a household with a shortage of basic food (rice) and with minimum living standards.

In addition to the general conditions of the villages, the major reasons for poverty are a lack of capital for productive activities, a lack of production expertise, a shortage of land, a high number of small children and illness. Most of the underprivileged lack cash to undertake raising livestock or farming land, either of which could increase their income and contribute to the improvement of their living standards. The poor have difficulty accessing credit due to the limited availability of loans, the high interest rates and their lack of off-farm collateral.

The main source of income for “better off” households is fruit and industrial tree gardens, reflecting the benefits of long term investment in the gardens of the villagers. The “poorer” households in this village as well as households in Do Tan have generated most of their income for living security from agricultural production. Because of variable weather patterns, this type of production is usually unstable and requires high investment. Thus, it has been unprofitable for the producers, causing them to become “poorer”.

4.2.4 Education, Training and Health Conditions

Education and Training. In Vietnam, education is compulsory until the fifth grade. In Bac Son there is one secondary school with 1,363 students and two primary schools with a combined total of 1,873 students. There is also one kindergarten with thirteen classes at the commune level and eight other kindergartens in eight villages. The classrooms for the first and second grade students of each village are located within that village. This enables children to attend school near where they live. High school students have to go 10 km to study in the high school near Soc Son district town. The number of children who stop attending school increases by age. At the time of this research (year 2000), the

number of children in Do Tan village who stopped attending school was 15 at the primary school age and 40 at the secondary school. Data of Do Luong village are not available. The number of children who stop attending high schools is much higher because there are only 45 high school students in Do Tan and 36 students in Do Luong. According to the chairmen of two villages, the number of children who leave school has tended to increase in recent years. While the main reason for children giving up study at the primary and secondary schools is due to the poor economic conditions of families, high school students usually stop attending school because of low academic ability (low academic ability is also related to poor socio-economic status) or the labour requirements of their families. The gender impact on schooling will be analyzed in the following chapter.

Health. Commune health centres are available for everybody. In Bac Son commune there is one medical clinic with one doctor and six nurses. Like other clinics in the district, it provides limited medical service to villagers due to a shortage of funding and equipment. People have to pay a fee for in-patient service at district and provincial hospitals; therefore many people can not afford it. Almost all people in Do Luong village have trachoma. The number in Do Tan is smaller. In addition, many women in Do Luong village suffer from vision impairment, and gynaecological disease is very common in women from both villages.

4.2.5 Socio-economic Development Strategies

The demographic forecast indicated that towards the year 2005, the population of Bac Son commune would be 14,280, up from 12,700 in 1999. The population growth rate would be 1.3% by the year 2005 and 1.2% by the year 2010. The commune's family

planning target for the next decade is that every family will have only one or two children. Based on the population forecast and other socio-economic situations, the People's Committee of Bac Son commune set up socio-economic development strategies for the coming years, which can be summarized as follows:

- Increase the economic growth rate with the aim of developing the economy of the commune in a sustainable manner and improve people's quality of life. This can be achieved through agricultural development and household economic programs. This will require changing plant and crop structures, increasing the number of plants and animals which have high economic potential, increasing productivity by applying scientific and technological methods and encouraging households to exchange land in order to develop different farming models.
- Complete the certificate land use and entitlement to households.
- Improve the existing irrigation system by building a new pumping station and irrigation channels in neighbouring Lai Son commune. This would have a positive effect on the irrigation situation of Do Tan village.
- Improve the infrastructure of the medical clinic in the commune.
- Improve the cultural life of the local people by building three to five village cultural centres and classrooms for kindergarten and encouraging villages to implement their Village Cultural Agreements.

4.3. Natural Resources and Environmental Conditions

4.3.1. Topography

Situated within the Tam Dao mountain range, the landform of Bac Son commune slopes downward from the northwest to the southeast. Based on the situation of the landform, Bac Son commune territory may be divided into three parts:

Mountains. The northwestern part of Bac Son commune is mountainous with steep slopes and totals about 300 ha. Forestry and agro-forestry practices may be introduced in this area.

Uplands. This is the area between the lowlands and mountains. It is comprised of gentle slopes between the hills. It occupies about 1,620 ha, of which 300 ha are upland and barren land. There is a rough area in which terraced rice paddies are dispersed among the lowland hills. In some slightly elevated areas the lack of water due to poor irrigation systems prevents crop improvement.

Lowlands. The lowland lies between the upland area and the Cong river on the east. This area is characterized by its low altitude and is relatively flat. It covers the remainder of the commune area, which is estimated to be 1,730 ha. This lowland area is considered “the rice bowl” of Bac Son commune. Located along the right side of the Cong River, is the lowland village of Do Tan.

4.2.2. Climate

Climate is a significant factor in agriculture production and in the life of Bac Son commune. The climate of the research area is the same as the Red River Delta. It is characterized by tropical monsoons with high annual temperature and humidity. The

annual mean temperature is 23.5°C. The average annual rainfall recorded in Soc Son is 1,680mm. The average annual humidity is about 85-90%. There are two main seasons in a year. The wet season runs from April to October and the dry season from November to March. About 75-80% of the total rainfall occurs during the wet season. In summer, frequent heavy rains caused by tropical cyclones and typhoons together with the topography lead to flooding. Natural disasters such as storms, drought, floods sometimes occur in the research area. In 1993 hail damaged many crops and houses in Bac Son commune. In 1998-1999, a very severe drought occurred for 9 months in Bac Son damaging all kinds of crops in the region.

4.2.3 Land Resources

For farmers living in Bac Son commune, land is an important and valuable part of their property. The total land area of Soc Son district is 30,651 ha, of which 3,630.8 ha belong to Bac Son commune. In Bac Son agricultural land is estimated to comprise 795 ha, which has been degraded by about 163 ha between 1995 and 1998. This amount of the agricultural land was converted mostly for forestry and special purposes, such as road construction and irrigation system construction (see Table 4.2).

Valleys and terraced paddy fields are all used as agricultural land. Highlands (hills and mountainous land) are mainly used for forestry, where irrigation is very difficult to implement and steep slopes are not favorable for agricultural production. The 1,911 ha forestry land area of Bac Son commune comprises about 29% of the total forestry land area of Soc Son district. In comparison with the other communes of the district, Bac Son is one of 5 communes which have the largest forestry land area.

Table 4.2 Land use in Bac Son commune, and Do Luong and Do Tan villages

(Unit: ha)

Land type	Bac Son commune		Do Luong	Do Tan
	1995	1998	1998	1998
Total land	3,631.57	3,630.81	356.00	500.00
A. Agricultural land	957.95	795.20	94.17	170.30
B. Forestry land (planted forest)	1,830.53	1,911.18	217.83	240.65
C. Special use land	454.82	536.92	2.00	7.80
D. Residential land (rural land)	207.27	207.27	42.00	81.25
E. Unused land	180.24	180.24	0.00	0.00

Source: - Bac Son commune People's Committee, 1995 and 1998
- Chairmen of Do Luong and Do Tan villages

The average area of land per capita of the whole district, including Bac Son commune, and Do Luong and Do Tan villages is shown in Table 4.3. In comparison with the whole district, it is shown that Bac Son is twice as large in total natural land per capita, and 5.5 times as large in term of forestry land per capita. The average area of agricultural land per capita of Bac Son is a little higher than that of the district. The difference in area natural land and agricultural land per capita between Do Luong and Do Tan villages is not great, but the difference is considerable with regard to forestry land, with Do Luong village having 1.47 times more forestry land area per capita than Do Tan village. This is one of the main reasons for the economic difference between these two villages.

Table 4.3 Land per capita in Soc Son district and Bac Son commune in 1999

Item	Land per capita (ha)		
	Total natural land	Agricultural land	Forestry land
Soc Son district	0.125	0.054	0.027
Bac Son commune	0.281	0.061	0.148
Do Luong village	0.231	0.061	0.141
Do Tan village	0.207	0.067	0.096

Sources: Soc Son district Statistical Unit, 1995, 1998 and 2000; Bac Son commune, 1995, 1998 and 2000; Chairmen of Do Luong and Do Tan villages

Soil erosion and soil infertility are agricultural production problems faced in the research areas. In Do Luong village, the soil is characterized by low fertility due to a thin top soil layer, acidity, and mixture with fine coarse rocks and gravel. It is used for forestry and agro-forestry practices. Upland areas still have considerable potential for increased crops and livestock production. In order to increase agricultural production in the area, the quality of the soil must be improved. Tea trees and a variety of fruit trees have increased in the village. There is also scattered planting of other tree species including eucalyptus, acacia and pine in the hill and mountainous areas.

In Do Tan village, a lowland area with alluvium soil has been formed by the Cong River. This soil is extremely fertile and moist, and thus is favourable for rice growing. Crop yields can be quite high, especially where two rice crops are possible. Unfortunately, in some agricultural land areas, where irrigation systems are poor, people can cultivate only one-rice crop per year. The quality of the soil on hills in Do Tan is much poorer than in Do Luong due to heavy soil erosion. Therefore most hill areas are used for residential settlements and eucalyptus plantation.

The land use patterns in Do Luong and Do Tan villages are summarized in Appendix 1, Map 4 and 5).

4.2.4 Water Resources

A tropical and monsoon climate characterized by two annual seasons (wet and dry), and the typical topography of the region influence the hydrological regime and water reserve patterns of Bac Son commune. There are twelve reservoirs and lakes of which the total surface water area is 64 ha, and total water capacity is 4.5 million m³. In Do Luong

village, there are six lakes and reservoirs: Ngo Da, Lim Rong, Lo Sa, Dong Cua, Ap Bo and Con Voi. In Do Tan there is only one reservoir (Cau Trien) and 2 lakes (Ao Mai and Ao Dinh). There is a large pond (Dam Ca), but it stores water only in the wet season. In the dry season this area is used for cultivating rice crops.

It is estimated that 50% of the households in the villages of Do Luong and Do Tan have private ponds which are small in size. Private ponds are mainly used for irrigation. Some larger ponds are used for raising fish in order to improve the quality of meals in the families.

The Cong is the only river in Bac Son commune. It is a small branch of the Cau River. The length of the Cong River within Bac Son commune territory is 7.6 km.

From the above analysis it can be seen that of the two research villages, the water capacity in Do Tan village is richer than in Do Luong, since Do Tan is located in the lowland area and surrounded by a river and a stream. Do Luong has faced problems with its water supply for agricultural production due to its hilly and barren topography. This landscape can not keep water for a long time and these are the main causes of soil erosion in this area.

In the research area, the underground water level depends on climate, especially on seasons of the year. The dry season with its strong sunlight, intense heat and drought months contribute to a lowering of the underground water table. This phenomenon is clear and frequently occurs in upland areas like Do Luong village. In Do Luong, wells are relatively deep (more than 10m depth). In the drought year (1989-1999) all wells had no water at all.

Before 1966 when old growth forests still existed in the commune, wild animals such as tigers, monkeys, wolves, deers, and pythons could be found in the region. Recently, only a few wild animal species such as squirrel, fox and jungle fowl are occasionally spotted. Many bird species can be found in the area at certain times of the year. The use of pesticides and chemical fertilizers in agriculture has reduced the population of fish, snakes, frogs, and many other reptile and amphibian species. The rapidly increasing rat population presents the greatest threat to agriculture in the region nowadays.

The population of domestic animals, cattle, goats, chicken, dogs, fowl and ducks has increased in the last few years in Bac Son commune.

4.4. Environmental Quality

In recent years, people living in the rural areas have begun to pay more attention to their living environment. A decline in natural resources and environmental quality was negatively influencing people's health, and has led to a heightened awareness and concern about environmental degradation.

4.4.1. Air Quality

In Bac Son commune there is no industrial pollution source, only small private sources of air pollution such as brick-kiln, lime-kiln and cooking (fuelwood burning). It is also worth mentioning the air pollution caused by the odour coming from the Nam Son solid waste disposal site, located four kilometers southwest of Bac Son commune's administrative headquarters. When the wind blows from the south it brings strong and foul smells, causing air pollution in the commune. Do Tan village suffers more from this

kind of pollution than does Do Luong. A great quantity of pesticides, sprayed on tea trees may be a latent air pollution source in the region. So far there has been no official air quality analysis done in the region.

4.3.2 Water Quality

As mentioned above, within the research area, there are no industrial establishments, therefore there is no chance of industrial waste water being discharged into the lake, reservoir or river. In rural areas like Bac Son commune, the following activities may affect water quality:

Agricultural production. The use of pesticides, chemical fertilizers and organic fertilizer may cause water contamination. This means that there is chemical residue in the water and eutrophication due to the accumulation of nutrients in the water. So far, the statistical data on the amount of pesticides used in Do Luong and Do Tan villages is not available, but the practice of tea production shows that the amount of pesticides is great.

Soil erosion (natural process) also causes high water turbulence. During the rainy season, run-off washes erode soil into lakes and reservoirs.

Living. Domestic wastewater, human faeces and untreated solid waste are discharged into the surrounding environment and cause pollution.

Water quality monitoring conducted in Do Luong and Do Tan villages in August, 2000, indicated that almost all of the physical, chemical and biological parameters of tested well water samples were below the permitted levels according to Vietnamese standards for drinking water. Many are just barely within the standard. The well water is

characterized by high acidity (low pH) and high concentrations of Manganese (Mn), Iron (Fe) and Nitrite (NO_2^-). See Table 4.4 and Table 4.5.

Table 4.4 Characteristics of underground water of wells located in Do Tan village

	S1	S2	S3	S4	S5	S6	S7	S8	VN standard TCVN 5944-1995
PH	6.35	6.03	7.31	6.96	6.75	6.57	6.54	6.31	6.5-8.5
NO_2^- (mg/l)	0.00	0.00	0.03	0.04	0.00	0.00	0.00	0.00	0.00
NO_3^- (mg/l)	5.30	1.60	2.62	0.00	2.42	2.22	1.78	0.00	10.00
SO_4^{2-} (mg/l)	1.10	2.60	3.70	1.90	0.00	1.10	0.00	0.40	-
PO_4^{3-} (mg/l)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50
NH_4^+ (mg/l)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00
Cl^- (mg/l)	62.48	82.36	90.88	59.64	51.12	28.80	79.52	68.16	250.00
Fe (mg/l)	0.00	0.52	0.12	0.78	0.00	0.25	0.00	0.00	0.30
Mn (mg/l)	0.12	0.16	0.25	0.08	0.28	0.37	0.06	0.11	0.10

Note: S1-S8: Water samples gathering from eight wells in Do Tan village

Source: Report on investigation on socio-economic aspects of Soc Son district and Bac Son commune (Vo Thanh Giang, 2000).

Table 4.5 Characteristics of underground water of wells located in Do Luong village

	S9	S10	S11	S12	S13	S14	VN standard TCVN 5944-1995
PH	6.35	6.03	7.31	6.96	6.75	6.57	6.5-8.5
NO_2^- (mg/l)	0.00	0.00	0.03	0.04	0.00	0.00	0.00
NO_3^- (mg/l)	5.30	1.60	2.62	0.00	2.42	2.22	10.00
SO_4^{2-} (mg/l)	1.10	2.60	3.70	1.90	0.00	1.10	-
PO_4^{3-} (mg/l)	0.00	0.00	0.00	0.00	0.00	0.00	2.50
NH_4^+ (mg/l)	0.00	0.00	0.00	0.00	0.00	0.00	3.00
Cl^- (mg/l)	62.48	82.36	90.88	59.64	51.12	28.80	250.00
Fe (mg/l)	0.00	0.52	0.12	0.78	0.00	0.25	0.30
Mn (mg/l)	0.12	0.16	0.25	0.08	0.28	0.37	0.10

Note: S9-S14: Water samples gathering from eight wells in Do Luong village

Source: Report on investigation on socio-economic aspects of Soc Son district and Bac Son commune (Vo Thanh Giang, 2000).

4.4.3 Solid Waste

In Do Luong and Do Tan villages, primary sources of solid waste include agricultural production, gardens and domestic waste. Agricultural production generates a large amount of solid waste, consisting of crop residues such as rice stubble, straw, trunks, leaves of maize, sugar cane, ground-nuts, and animal manure. Gardens also generate solid waste, consisting of residues from fruit and other trees caused by trimming tree branches, leaves and grass. Domestic solid waste consists of food, yard and home waste.

A large part of agricultural waste (straw, rice stubble, stems of maize, etc.) is used as food for domestic animals (cattle, pigs). Other kinds of waste like grass and leaves are used for fuelwood or composted for fertilizer. The remaining solid waste is dumped in gardens.

In Bac Son commune there is no solid waste collection system or special disposal. Consequently, open dumping is the main technique used by the community. Because solid waste disposals are not controlled by the commune authority, foul odour, diseases carried by flies, and air and water pollution have resulted. The aesthetics of the commune landscape have also been affected. Plastic and empty pesticide containers litter the commune. In Bac Son commune there would appear to be no problem with solid waste collection and disposal because there is still land available for dumping.

Chapter Five

ANALYSIS OF CURRENT STATUS OF USING AND MANAGING NATURAL RESOURCES FROM A GENDER PERSPECTIVE

Field research has comprised a significant part of this project. Field research was conducted by the author in Soc Son district, Hanoi City for three and a half months from May to August 2000. As mentioned in Chapter One, a combination of qualitative research methods, including PRA, focus group discussions and in-depth interviews, was used during the field research.

As mentioned earlier, the researcher did not use the entire PRA method for her research, but relied instead on a number of appropriate PRA techniques which were applied during the focus group discussion. The first sessions of the focus group in each village were set up using the timeline technique in order to understand the important events and factors which had a significant effect on the lives of the villages in the past. Subsequently, questions were asked about the existing natural resources in the villages. General pictures of the state of existing natural resources in Do Luong and Do Tan villages were drawn up by the participants with the support of both the researcher and secondary data. Based on these pictures, investigations about the use of different natural resources were conducted during the follow up sessions. In order to assess gender roles and relations in the use of these resources, some significant techniques were used. They included the access and control profile and the gender activity profile, which will be

described in more detail later. In addition, other gender research techniques such as women's mobility maps, seasonal diagrams, household member diagrams and gender disaggregated seasonal activities calendars were used in the gender assessment.

The field observation technique of PRA was also applied by the author throughout the entire process of conducting field work. It was used initially when the researcher took a tour around the village in order to explore the physical context of the research area. Observation helped the researcher understand the nature of the informants so that appropriate questions and issues could be developed for discussion. The observation method was especially useful during the researcher's informal visits to households. By observing the structure of trees and crops in a garden, arrangements in a household and activities of family members, the researcher could understand to a certain degree the use of natural resources as well as gender relations in that household. This helped the researcher to guide the discussion around relevant issues.

Five in-depth interviews with women were conducted by the author at each village. Each interview lasted from forty-five minutes to one hour at the interviewees' households. In combination with the observation method, a list of open-ended questions (See Appendix 2) was used flexibly to discover the diverse reasons for the challenges various women presently face. Different women also gave different suggestions for improving their situation.

Regarding informants, the author, recognizing the important role of informants during the process of conducting research, tried to choose people who met the research requirements by including a diverse range of ages, household locations, economic conditions (rich, middle, poor), and high degrees of dependence on natural resources.

Participants were carefully selected with the generous assistance of the heads of Do Luong and Do Tan villages. The willingness, enthusiasm and open-hearted disposition of informants were significant factors in successfully collecting information and data. The author fully immersed herself into the lives of the participants by staying in local households and sharing meals and daily work. This strategy enabled the researcher to build trust and gain the confidence of her informants. This approach also gave the researcher an opportunity to understand the reality of the gender relations as well as the division of labour within households. In addition to meetings, group discussions and in-depth interviews, the researcher made informal visits to the households. During such visits, through open discussions with family members, the researcher acquired a deeper understanding and insight into the feelings and opinions of people on issues of gender equality and the challenges that women face, not only within the household but also in the community. At the end of the inquiry period, the researcher was accepted in the villages in different ways by each gender group. For example, the research provided the male groups with a chance to review/assess their production relationship to natural resources and gender relations among their families and within their community. In contrast, with the female groups, the researcher was considered the first outsider with whom they could share their difficulties and wishes. The close relations that developed were evident at a farewell dinner, which the female group of Do Luong village held for the researcher after the last meeting. The dinner was simple with garden vegetables and chicken, but the atmosphere was very cozy and cheerful with the following statement made by the representative of the female group:

“We don’t know how much your research can improve our life, but we are very glad that you have come here to do research about us. You are the first outsider who has come here and asked us about our lives. Our sisters have so many difficulties as you know. We are happy to share these difficulties and our wishes with you”. (A quote from the representative of female group in Do Luong village).

In the framework of this thesis, the gender analysis is based on the Harvard Analytical Framework, which consists of the gender activity profile, the access and control profile and the influencing factors. Productive activities, reproductive activities and community work, which are done by local people everyday, were listed by male and female groups in each village. A general gender activity profile of each village was established after all listed activities were cross-checked among the groups. Each gender group was asked to estimate the amount of labour, in percentages, which men and women separately contribute for each item in the gender activity profile and the access and control profile. It is necessary to mention that in the research areas the division of labour varies and depends on the labour ability of each household, so the percentages are an estimation by the participants based on their experiences. The estimation for each activity is based on the recorded explanations of the participants, interpretation by observation and secondary data. To prevent the bias of each gender group, the researcher kept cross checking between groups, especially when there was a big difference in the estimations of male and female groups in the same activity. In the combined sessions of focus group discussions, the final gender activity profiles and access and control profiles were established based on a consensus of both men and women. While these final profiles will be used in the thesis as the main sources for gender analysis, the different estimations of male and female groups in profiles are also presented in order to show the difference in perception of men and women on the same issues.

In short, in gender analysis and women's empowerment the research methodology employed is in many ways as significant as the data collected, so description of the author's position and informal learning from this method will influence the presentation of the data. The following is the status of the current use and management of natural resources in the research areas from a gender perspective.

5.1 Natural Resource Use and Management in Do Luong Village

5.1.1 Gender Division of Labour

As mentioned in Chapter Three, under the implementation of the Land Law, the household has become a primary unit for agricultural production, responsible for income generation, the division of labour, and the coordination of production. Therefore, the division of labour varies and relies on the availability of labour in each household. The gender division of labour in a household is evident both within and between activities. In general, the division between men and women in a household is clearly segregated in some productive activities and is overlapping in others. When the roles of men and women are overlapping, men and women tend to have more equitable relations.

In Do Luong village, rice, tea and fruit trees are the main sources of income for households. The gender division of labour in the production of these crops and trees is shown in Table 5.1a. The data shown in this table were reflected the consensus achieved by male and female participants in the combined group. While the estimation of male and female groups is the same or nearly the same in many productive activities, differences can be found in some activities. These differences will be presented in Table 5.1b and

5.1c with the aim to clarify the different perceptions men and women had regarding the same activities. The tables of differences show only those with more than 5% different.

Table 5.1a The combined male and female group's report of estimated labour division in productive work between men and women in Do Luong village
(Unit: %)

Productive activities	Adult female	Adult male	Child female	Child male
Ploughing	20	80		
Sowing seeds for seedlings	20	80		
Transplanting rice	80	10	10	
Fertilizing	70	30		
Weeding	70	20	10	
Spraying pesticides for rice	10	90		
Crop assessment	40	60		
Cutting rice	60	30	5	5
Rice transporting	45	45	5	5
Extracting seeds (from the rice ears)	30	70		
Exposing rice to the sun	40	45	10	5
Growing and caring for other food crops (cassava, sweet potatoes, ground-nuts, etc.)	80	15	5	
Picking tea leaves	60	20	10	10
Tea processing	30	30	20	20
Watering	30	70		
Spraying pesticides on tea and fruit trees	10	90		
Preparing land in the home garden	30	60	5	5
Preparing land in the hill garden	40	55	2	3
Working in tree nursery	30	70		
Layering and grafting tree branches	10	90		
Selecting seeds (varieties & quality)	40	60		
Planting	30	60		10
Weeding the hill gardens	40	35	15	10
Fertilizing hill garden and home garden	50	40	5	5
Harvesting fruit	45	45	5	5
Trimming tree branches	20	80		
Preparing manure	70	20	5	5
Fishing	5	80		15
Breeding animals	10	90		

Table 5.1b Female group's report of estimated labour division in productive work between men and women in Do Luong village

(Unit: %)

Productive activities	Adult female	Adult male	Child female	Child male
Fertilizing	75	25		
Crop assessment	45	55		
Extracting seeds (from the rice ears)	30	70		
Exposing rice to the sun	45	45	5	5
Preparing land in the hill garden	40	55	2	3
Layering and grafting tree branches	15	85		
Selecting seeds (varieties & quality)	40	60		
Weeding the hill gardens	45	30	15	10

Table 5.1c Male group's report of estimated labour division in productive work between men and women in Do Luong village

(Unit: %)

Productive activities	Adult female	Adult male	Child female	Child male
Fertilizing	70	30		
Crop assessment	40	60		
Extracting seeds (from the rice ears)	25	75		
Exposing rice to the sun	40	45	5	10
Preparing land in the hill gardens	35	60		5
Layering and grafting tree branches	10	90		
Selecting seeds (varieties & quality)	35	65		
Weeding the hill gardens	40	35	15	10

Rice, and other food and food crops farming: There is no significant difference in evaluation between the male group and the female group in rice cultivation activities. Women have primary responsibility for many activities in rice cultivation: selecting rice seeds, transplanting seedlings, fertilizing rice, weeding and cutting rice. Men are primarily responsible for tasks considered too heavy or risky, such as ploughing, sowing rice seeds for seedlings and spraying pesticides. During the harvest season, men also

contribute labour in rice transporting, extracting rice from the rice ears and exposing rice to the sun. Children are also often involved in harvest activities.

In Do Luong village, rice is the staple crop and cassava ranks second among food crops. Cassava is often grown in the foothills, where the soil is not fertile enough for planting tea. Other food crops like sweet potato, ground-nuts and green beans are grown in small areas. Men usually contribute little labour in cultivating these food crops. Women are primarily responsible for these crops.

Tea production: 32 ha of tea plantation areas in Do Luong village are distributed amongst an estimated 98% of the total households. The interviewees have estimated that in about 50% of the households, half of the family income is from tea production. Thus, Do Luong villagers considered tea as a “hunger eradicating and poverty reducing” tree. Tea is the dominant cash crop in the village and requires the most labour in every family. According to interviewees, each household, which has 50% of its income from tea production and spends an average of one third of every month on tea production.

The tea production process consists of several steps: land preparation and maintenance, planting (about once every 15 years), hewing (annually), watering, fertilizing, spraying pesticides, weeding, covering the tea trees at certain time, picking tea leaves, processing and selling products. Among these steps, men are usually responsible for land preparing, planting, hewing, watering and spraying pesticides while women are mainly responsible for weeding, covering, picking tea leaves and selling products. It is worth mentioning that the small number of women who are involved in spraying pesticides are mostly widows. Children contribute a considerable amount of labour by picking tea leaves after their class hours. The quality of tea depends very much on the

roasting process and the heat quality. But the first requirement to ensure high grade tea is the quality of fresh tea leaves, which must be picked at the right time and be processed the same day the leaves are picked. Tea processing requires the involvement of at least three family members: one roasts tea leaves, one crumples tea leaves and the other takes care of the fire. In most cases, women are responsible for the roasting because according to them they are more skilled at it; husbands are responsible for crumpling tea leaves and children usually take care of the fire. All of this keeps the family very busy during the days of tea processing. Usually the family members who are involved in tea processing begin work in the late afternoon and finish at about two hours before midnight, during which time other members are responsible for other tasks such as cleaning the house, preparing food for animals, washing, etc.

Gardening activities. These include preparing the land, planting trees, watering, fertilizing, trimming, weeding, layering and grafting tree branches, working in tree nurseries, harvesting, etc. All the interviewees agreed that spraying pesticides and layering and grafting tree branches are mostly done by men. Although there are some differences between the male group and the female group in estimating the labour contributions in gardening activities (See Table 5.1b and Table 5.1c), the differences are not great. While men still are more responsible than women for land preparation, tree planting, selecting seeds and working in tree nurseries, women with the help of children do more weeding, fertilizing and harvesting which are time consuming activities.

In Do Luong village, an estimated 50% of households have been allocated forestland. These households have a responsibility to plant and care for trees in the allocated areas.

These responsibilities are usually undertaken by men due to the nature of the forestry work, which requires physical strength.

Other activities. Men also are considered to be mostly responsible for animal breeding and fishing. Participants noticed that the few women who are involved in such activities are usually widows. Women have responsibility for preparing manure. Manure is usually composted from cattle manure mixed with straw and grass. Cutting grass requires a lot of time and is the responsibility of women and children.

Reproductive activities. The division of reproductive activities in Do Luong village is illustrated in Table 5.2a (results of combined group). The differences between gender groups are shown in Table 5.2b and in Table 5.2c.

Table 5.2a The combined male and female group's report of estimated labour division in reproductive work between men and women in Do Luong village

Unit: %

Reproductive activities	Adult female	Adult male	Child female	Child male
Cooking	50	20	20	10
Washing	80	10	7	3
House cleaning	50	45	5	
Preparing food for animals	70	10	10	10
Selling/buying products	90	10		
Child care	55	45		
Collecting fuel-wood	50	20	15	15
Caring for animals	50	30	10	10
Cleaning breeding facilities	30	60	10	
Cattle grazing	10	10	40	40

Table 5.2b The female group's report of estimated labour division in reproductive work between men and women in Do Luong village

Unit: %

Reproductive activities	Adult female	Adult male	Child female	Child male
House cleaning	55	35	10	
Child care	65	35		
Cleaning breeding facilities	35	55	10	

Table 5.2c The male group's report of estimated labour division in reproductive work between men and women in Do Luong village

Unit: %

Reproductive activities	Adult female	Adult male	Child female	Child male
House cleaning	45	50	5	
Child care	50	50		
Cleaning breeding facilities	30	60	10	

According to the assessment of the local people, women are mainly responsible for most reproductive activities: cooking, washing, cleaning the house, caring for and feeding animals and collecting fuel-wood. Men contribute by caring for and educating children and cleaning animal pens. Although agreeing that women contribute more labour than men do in reproductive work, men argued that they contribute more labour than women estimated in some activities such as house cleaning, child caring, and cleaning breeding facilities. Herding cattle to pastures is done by children, both boys and girls.

Selling and buying goods in the market is regularly done by women. Men go to the market only in the event that they need to buy some equipment, about which their wives do not know the quality and technical requirements. Markets provide women with a source of income from the sale of goods as well as a common venue to socialize and exchange information.

Fuel-wood is an issue in Do Luong village because tea processing consumes a great amount of fuel-wood. Collecting fuel-wood is the responsibility of women and children. Tree branches, eucalyptus leaves and gleichenia are sources of fuel-wood. Only 20 percent of households in Do Luong village have enough fuel-wood, which is available in their private gardens and forest gardens, to meet the fuel demand. In other households, women and children have to go to the forest, which is at least two to four kilometers away, to collect gleichenia and other kinds of fuel-wood. Collecting takes about half of a day each time and women or children have to spend about 10 days every month on this type of work.

Community work:

Table 5.3 Self-report of estimated labour division in community work between men and women in Do Luong village

Unit: %

Community works	Adult female	Adult male	Child female	Child male
Weddings	50	50		
Funerals	50	50		
Village meetings	35	65		
School meetings	40	60		

There is no difference between the male group and the female group in their assessments of community work. Although both men and women are involved in community work, the contribution of men is greater than that of women. At village meetings, men usually outnumber women. Women attend village meetings in cases where their husbands are busy or out of the village. In the case where guests or visitors come to a family, the reception is usually the responsibility of the husband. This

demonstrates the position of the husband as the head of the family. Their wives, though, always join the receptions if they do not have special necessary work to do at that time.

Gender divisions of labour in Do Luong village demonstrate that men are responsible for the bulk of the work tending to fruit trees and forests while women are responsible for the bulk of the work on all agricultural crops including rice, cassava, potatoes, sweet potatoes, ground-nuts and beans, and for most of domestic work. Although men's tasks concentrate on heavy work, they have more leisure time while women have less physical but more time consuming tasks. Such divisions of labour between men and women have had an impact on their agricultural and environmental knowledge, which will be discussed later.

There are different opinions of interviewees about the actual gender roles in Do Luong village. Some families still maintain the traditional labour division patterns, whereby men do not do domestic work and make most decisions. Many families clearly organize their labour along non-traditional patterns in response to a number of pragmatic factors, often centering on profit maximization and labour availability.

5.1.2 Access to and Control over Resources

Within the framework of this thesis, the term "access" refers to the right to use a resource, be it land, water and irrigation systems, tools and technology, money and credit or education and information. The term "control" refers to the right to make decisions over the resources and the benefits that derive from them.

The status of access to and control over resources and benefits to the male and female combined group in Do Luong village is shown in Table 5.4a. The separate assessments of the female group and the male group are provided in Table 5.4b and 5.4c.

Table 5.4a The combined male and female group's report of access to and control over resources by men and women in Do Luong village

Unit: %

	Access		Control	
	Female	Male	Female	Male
Resources				
• Land	50	50	50	50
• Water	50	50	40	60
• Tools	45	55	40	60
• Technology	30	70	30	70
• Money/credit	60	40	40	60
• Education	35	65	35	65
• Employment	50	50	50	50
• Political activities	30	70	30	70
Benefits				
• Cash	60	40	40	60
• Assets	40	60	40	60
• Basic needs	53	47	50	50
• Education	45	55	45	55
• Political power	40	60	40	60

Table 5.4b Female group's report of access to and control over resources by men and women in Do Luong village

Unit: %

	Access		Control	
	Female	Male	Female	Male
Resources				
• Land	50	50	50	50
• Water	50	50	40	60
• Tools	40	60	40	60
• Technology	30	70	30	70
• Money/credit	60	40	40	60
• Education	30	70	30	70
• Employment	50	50	50	50
• Political activities	30	70	30	70
Benefits				
• Cash	55	45	40	60
• Assets	40	60	40	60
• Basic needs	60	40	60	40
• Education	40	60	40	60
• Political power	40	60	40	60

**Table 5.4c Male group's report of access to and control over resources
by men and women in Do Luong village**

Unit: %

	Access		Control	
	Female	Male	Female	Male
Resources				
• Land	50	50	50	50
• Water	50	50	40	60
• Tools	50	50	40	60
• Technology	30	70	30	70
• Money/credit	70	30	40	60
• Education	35	65	35	65
• Employment	45	55	45	55
• Political activities	20	80	20	80
Benefits				
• Cash	70	30	30	70
• Assets	40	60	40	60
• Basic needs	50	50	50	50
• Education	45	55	45	55
• Political power	35	65	35	65

Land. Land is the most valuable natural resource for the people in Do Luong village. According to the Land Law of 1993 and based on the availability of the land fund, Do Luong allocated agricultural land and forestland to the villagers in 1993. Each villager regardless sex, age, ethnicity or religion received 672m² of agricultural land. Children who were born after the land allocation in 1993 have no agricultural land. The head of each household receives land use certification on behalf of the whole family. Land allocation to each household usually consists of several plots of varying qualities of land. Therefore, there is equality between households in terms of land quality.

While an average amount of agricultural land is allocated to each farmer, forestland allocation is based on several principles. First, the individuals or households are allocated the area of hill land which they used to cultivate or exploit before 1993. It is necessary to

mention that after decollectivization in 1986 great areas of forest and hill land were eroded and bared, and became land without (or with very low) productive capacity. People were encouraged to improve the quality of land and to cultivate it. Second, forestland is allocated to the households which are located nearby. Based on these principles the area of forestland allocation is not equal between households. It is estimated that 50 percent of households have forestland and the amount of land varies between households.

From a gender perspective, it is clear that men and women in Do Luong village have equal access to land. In practice, this is somehow different. While equal ownership of land by all household members is the principle of the Land Law, the rights of each member are not clearly identified (Scott, 1999:166). According to the Land Law of 1993, land users have rights to exchange, transfer, lease, inherit and mortgage their land. Looking at the right of land inheritance in the most rural families in Vietnam, Scott concludes that “often only the sons in a family will inherit land” and “a daughter might be given a portion of her parents’ land if the family has abundant land or few sons” (ibid.). The land inheritance patterns in Do Luong are not an exclusive case. Most girls in Do Luong village are married to men living within the same or neighbouring villages so they still can cultivate their own portion of land or share benefits from that portion of land with their parents until they receive a new land allocation. In other cases, when a daughter goes to live in another commune, district or province after marriage, she can sell or rent her portion of the household’s allocation. These opportunities are generally denied because of internal family relationships and customs.

Control over use of the land such as decisions on crop and tree varieties to be planted are usually discussed by both husband and wife. Generally, the wife makes decisions about rice and other crop varieties to be planted and the husband decides the tree varieties. While in many places in Vietnam women's right to be co-holders of land certificates are ignored by their husbands (Nguyen Hoang Trang, 1999:138), in Do Luong village land can not be transferred, mortgaged or sold without agreement of both husband and wife. This shows at least a potential equality between men and women in control over land.

In Do Luong village, five percent of the total land area is considered common land which is used for construction of common facilities such as irrigation systems, schools, clinics, roads, etc. and as reserves for other needs that might arise. When common land is not used for such purposes, it is tendered for agricultural production. The tender contributes to the social welfare fund of the village. Poor people have no chance of tendering common land due to financial limitations.

Water resources. The scarcity of water limits Do Luong people's access to water. Most households rely on ground water resources. While both men and women have equal access to water resources, men have more control over these resources. This seems rational because in Do Luong village irrigation is mostly done by men.

All of the six lakes and reservoirs in Do Luong village are common property. As common land, the water surface of lakes and reservoirs is tendered for fish cultivation and poor people are not able to access these resources. Water from these lakes and reservoirs can be accessed by all villagers for agricultural production.

Access to clean water is a problem in Do Luong village. Water taken from wells is not treated, only boiled. Many people drink unboiled water. In many households wells are located very close to the pig-pens. Sanitation takes place only when the wells dry out in the drought season.

Employment, tools and technology. In Do Luong village, land is relatively abundant compared with other villages in Bac Son commune so opportunities for men and women to find employment are the same. Both men and women have equal access to tools, but men often have more control of them. The situation of access to and control over technology is different. Opportunities for women to access technology are limited for several reasons. First, women have a lower level of education than men. Second, most training courses concerning technology are held in the morning, the time when most women are busy selling or buying products. Third, most training courses are held at the commune level so it requires women to spend more time to get there. Fourth, women are primarily responsible for domestic tasks so they feel that men can not do domestic work as efficiently as women. Finally, the concept that “the husband should be respected” is a traditional way of thinking among women, so they feel that the husband should attend the training course first. Women’s limited access to technology has led to less control over it.

Money and credit. Women are more privileged than men with respect to access to money and credit because they are responsible for selling and buying goods and agricultural products for the household. While both a husband and wife can borrow money from banks, women can also access some small loans at other funds such as the “Fund of the Women Association” and the “Fund for Hunger Eradication and Poverty Reduction”.

“I can borrow money from the Women's Association for raising pigs, but I do not do that. I am afraid that I can not repay the money. My pigs grow very slowly and easily become sick. I am not successful in raising pigs”.
(A quote from an interview with a poor woman in Do Luong village).

Women are generally in charge of holding the household purse. Wives have autonomous decision-making control over small daily expenditures for the family. Husbands tend to have decision-making control over large expenditures, however, they need to have their wives' agreement.

“There is always a discussion between my wife and I about taking a loan. We discuss how much we need to borrow and how to use that loan. Both of us have to sign the application form, but I am the person to go to the bank to borrow”. (A quote from one man in Do Luong village).

Education, information and political representation. Theoretically, men and women have equal access to education, but in practice women have fewer opportunities for education than men have. The daughters are usually the first ones who have to give up their study if families do not have enough money for their children to go to school. It is also the daughters who are not allowed to go to school because they can help much more than the sons in doing domestic and some agricultural work.

The same holds true for access to information. Although both men and women have access to information, the reality is that men are much better positioned to access information than are women. Men attend village meetings more often than women. Men have more chances to go outside the commune for extended periods of time, which exposes them to diverse sources of information while women usually exchange information mainly in the markets. Men also have more time to spend together and get information through informal chats. Men are able to access information from television and radio more frequently than women because they have more leisure time.

“My husband watches a news program on television every evening. I have to finish domestic work in the evening, but I watch television when there is a movie”. (A quote from a young woman in Do Luong village).

Obviously, women have less leisure time to watch television. Even when they have time, they prefer to watch movies rather than academic or scientific programs. This was agreed on by all women during the group discussions. This phenomenon is also the reason for women’s lack of access to information compared with men. Further investigation shows that the root cause of men having more access to and control over information than women is their higher level of education in comparison with women’s.

Due to their heavy workload and a shortage of knowledge and education, women have less access than men to political representation. Women’s limitation also stems from the traditional thinking that “the wife should not have a higher position than her husband”.

“None of our sisters evolved as the leaders in committees of the village and commune. Men have a higher level of education than we do. They also have greater mobility so they know much more than we do. Leadership is more suitable for men than women”. (A quote from a woman in Do Luong village).

Benefits. It is possible to say that men and women have relatively equal access to and control over the benefits of production, such as cash and basic needs. Concerning assets, men and women have equal access to, but not control over them. Most assets are dominated by men. Consequently women suffer a loss when they divorce their husbands.

From the above analysis, it is apparent that there is a relatively high degree of gender equity in terms of most resources and benefits. Information, education, training and technology are important exceptions. Although gender differences using and controlling resources as well as in the division of labour vary from one household to the next,

generally, it is possible to summarize these on a map of gender resources as a typical model in Do Luong (See Appendix 1, Map 6).

5.1.3 Gender Differentiated Knowledge about Natural Resources and Environment

Men's and women's daily division of roles and responsibilities as well as differences regarding the use of resources has significantly impacted each group's knowledge of natural resources and the environment.

Being primarily responsible for rice and other food crop cultivation, women are much more knowledgeable about plant varieties, diseases, growth processes and productivity. In contrast, experience in caring for fruit trees has provided men with knowledge about choosing plants, manipulating tree growth processes and controlling some diseases. Men's and women's knowledge about tea cultivation is remarkably similar, yet only women are skilled in tea processing.

The women in Do Luong village listed 53 species of plants used for medical purposes while the men's group could name only about thirty species. Women indicated that most of the species could be found in the home gardens and some in the forests.

Soil erosion is a problem in Do Luong village due to its geographical characteristics. While both men and women are aware of this problem, men are more knowledgeable than women about arranging tree patterns on hill gardens to avoid erosion.

As mentioned before, pesticides are of greatest environmental concern for Do Luong people, although the negative impacts of pesticides in their village are not as severe as in other rural places in Vietnam. The adverse impacts of pesticides on the environment are

understood by both men and women. These include declining populations of amphibians, earthworms, crickets and snakes, all of which help to improve the quality of the soil and are considered “friends” of farmers. Local people also mentioned the potential contamination of pesticides in the ponds which receive runoff from tea plantations. Awareness about the negative impacts of pesticides on human health is illustrated by men who take responsibility for spraying pesticides. Unfortunately, using protective equipment during spraying pesticides is not considered important. Most men wear only respirators during the spraying process. Some men are without respirators and wear short clothes while spraying. Some households avoid spraying pesticides on tea plantations around their houses in order to protect their families from the harmful effects of pesticides. The women’s group also discussed the effects of pesticide residue in tea during the tea processing. Visual impairment is common to most women in Do Luong village (estimated 80 percent of women but only 30% of men suffered from this problem). They predict that one of the causes is the influence of water evaporation during tea processing. A lot of pesticides are residual on tea. So far, there is no scientific research on this issue. To provide a conclusion concerning this kind of pollution would require further research.

5.2 Natural Resource Use and Management in Do Tan Village

5.1.1 Gender Division of Labour

Like Do Luong village, the division of labour varies and relies on labour availability in each household in Do Tan village. Situated in a lowland area, Do Tan has a larger area of rice cultivated land than Do Luong. The primary income of Do Tan comes from rice and

other food crops such as maize, ground peanuts, beans, cassava and taro. The analysis of the gender division of labour mainly focuses on crop production activities, reproductive activities and community work.

Table 5.5a The combined male and female group's report of estimated labour division in productive work between men and women in Do Tan village

Unit: %

Productive activities	Adult female	Adult male	Child female	Child male
Ploughing	35	65		
Sowing seeds for seedlings	20	80		
Transplanting rice	90		10	
Fertilizing	70	10	10	10
Weeding	80		15	5
Spraying pesticides on rice crops	10	90		
Crop assessment	50	50		
Cutting rice	75	10	10	5
Rice transporting	40	50		10
Extracting seeds (from the rice ears)	35	65		
Exposing rice to the sun	40	40	10	10
Preparing land for secondary crops	40	60		
Caring for secondary crops	50	45	5	
Harvesting secondary crops	50	50		
Selecting seeds (varieties & quality)	40	60		
Working in tree nursery	30	70		
Layering and grafting tree branches	20	80		
Planting	35	65		
Weeding home gardens	40	60		
Watering	30	70		
Harvesting fruit	40	60		
Trimming tree branches	25	75		
Preparing manure & cutting grass	60	10	20	10
Fishing	10	80		10
Breeding animals	10	90		

Table 5.5b The female group's report of estimated labour division in productive work between men and women in Do Tan village

Unit: %

Productive activities	Adult female	Adult male	Child female	Child male
Ploughing	35	65		
Cutting rice	75	10	10	5
Preparing land for secondary crops	40	60		
Caring for secondary crops	60	35	5	
Harvesting secondary crops	55	45		
Selecting seeds (varieties & quality)	50	50		
Planting	35	65		
Harvesting fruit	50	50		

Table 5.5c The male group's report of estimated labour division in productive work between men and women in Do Tan village

Unit: %

Productive activities	Adult female	Adult male	Child female	Child male
Ploughing	25	75		
Cutting rice	65	20	10	5
Preparing land for secondary crops	50	50		
Caring for secondary crops	50	45	5	
Harvesting secondary crops	50	50		
Selecting seeds (varieties & quality)	40	60		
Planting	20	80		
Harvesting fruit	40	60		

Rice and secondary crop farming. Some activities are considered women's work. These include transplanting rice, weeding and preparing manure. Adult men very rarely do these types of work. In terms of other productive activities such as rice cutting and fertilizing, men sometimes participate. All of the above activities are mainly the responsibility of women with minimal support from children. Men are primarily responsible for activities which are considered heavy such as ploughing, preparing land and sowing rice seeds for seedlings, watering and spraying pesticides. Even so, the proportion of women involved

these kinds of activities is higher in comparison with Do Luong (ploughing: 35% and sowing rice seed: 20%). Both men and women are equally responsible for preparing food crop lands, selecting seeds and planting and harvesting activities. In tables 5.5b and 5.5c men's estimation of their labour contribution is higher than women's in some activities.

A combined group of males and females estimated the gender differentiated contributions of labour in annual cultivation activities. These figures are presented in Table 5.6¹⁴. According to the table, on average, men contribute 80 labours (working days) per year while women contribute 252 labours. This means that women have to work about three times as long as men. In addition, women are still primarily responsible for most reproductive activities (See Appendix 3, No.10). In July, it appears that men are not involved in any cultivation practices. In February, March, April, June and September men contribute a small proportion of labour, which is mainly in preparing the land.

Garden activities. The garden area of each household is not large in Do Tan village. Generally, gardens are not very well organized. Some gardens contain mostly banana trees. Sweet potatoes are also planted in home gardens for the purpose of feeding pigs. Fruit trees are planted mainly for domestic consumption. Few households generate income from home gardens. The number of households having large tea plantations is very limited. Men are more responsible for garden activities: layering and grafting tree branches, and working in tree nurseries, while women are involved in planting vegetables and harvesting fruits.

¹⁴ The author did not do the same research in Do Luong village because the difference between men and women in contributing labour to cultivation activities was not significant.

Table 5.6 The combined male and female group's report of estimated labour contribution between men and women in cultivation activities in Do Tan village

(Unit: labour*)

Months \ Crops	1		2		3		4		5		6		7		8		9		10		11		12	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Summer rice							1	0	4	0	0	5	0	3	0	3	0	2	2.5	2.5				
Spring rice	0	6	0	4	0	3	2	0	2.5	2.5											1	0	5	0
Tea	7	5	3	7	3	17	0	17	0	17	0	17	0	17	3	17	3	17					7	5
Maize															6	5	0	5	2	0	2	0	0	4
Peanuts	6	0	0	2	0	4	0	3	0	4														
Beans	6	0	0	2	0	2	0	3	0	6														
Cassava	4	2			0	2															3	7		
Turo			0	3							3	3									4	4		
Total	23	13	3	25	3	28	3	23	6.5	29.5	3	22	0	20	9	25	3	24	4.5	2.5	10	11	12	9

Total: Male: 80 labours; Female: 252 labours

* Note: In the research area, people consider one labour equivalent to one working day.

Other activities. Both the female and male groups had the same estimation of labour for raising fish, fishing, and animal breeding. These activities are primarily the responsibility of men. Cutting grass for composting manure is often done by women and children, and requires considerable time.

Reproductive activities.

Table 5.7 The combined male and female group's report of estimated labour division in reproductive work between men and women in Do Tan village

Unit: %

Reproductive activities	Adult female	Adult male	Child female	Child male
Cooking	50	40	10	
Washing	50	20	20	10
House cleaning	40	40	10	10
Preparing food for animals	60	25	10	5
Caring for animals	50	35	10	5
Selling products	95	5		
Buying products/goods	95	5		
Child care	50	50		
Collecting fuel-wood	40		40	20
Cleaning breeding facilities	40	60		10
Cattle grazing	10	10	40	40

Table 5.7b The female group's report of estimated labour division in reproductive work between men and women in Do Tan village

Unit: %

Reproductive activities	Adult female	Adult male	Child female	Child male
Cooking	55	35	10	
Washing	50	20	20	10
Preparing food for animals	60	20	10	10
Caring for animals	50	35	10	5
Child care	60	40		

Table 5.7b The male group's report of estimated labour division in reproductive work between men and women in Do Tan village
Unit: %

Reproductive activities	Adult female	Adult male	Child female	Child male
Cooking	50	40	10	
Washing	40	30	20	10
Preparing food for animals	50	30	10	10
Caring for animals	45	40	10	5
Child care	40	60		

Women in Do Tan village are primarily responsible for reproductive activities. Going to the market to buy and sell agricultural products is the work of women. They are also primarily responsible for washing. Cooking, caring for children and cleaning the house are shared by both wife and husband.

The secondary income of most households in Do Tan comes from livestock. Interviewees estimated that livestock comprises approximately 30 percent of total income and the other 70 percent comes from rice and other food crops. Each household usually raises 2-3 pigs. Pigs are not only a source of household income, but also a source of manure, which is very important for rice and other crop cultivation. Women have more responsibility than men for activities that are affiliated with raising pigs and other livestock such as preparing food, feeding and caring for animals. The male group argued that they contribute more labour to these activities than the female group estimated. Herding cattle to grazing pastures is the responsibility of children, both boys and girls.

Although coal is the main source of energy for cooking, people in Do Tan still collect gleichenia for additional energy. This work is the responsibility of women and children. Gleichenia is collected from about an eight to nine kilometer radius from the household.

Women and children usually go there by bicycle and then have to walk into the forest to collect wood. Collecting one load of gleichenia usually takes about six hours. Women collect gleichenia in their down time from agricultural work while children do it on Sundays when they do not have classes. During summer holidays, collecting gleichenia is the main task for children.

Community work.

Table 5.7 Self-report of estimated labour division in reproductive work between men and women in Do Tan village

Unit: %

Community works	Adult female	Adult male	Child female	Child male
Weddings	50	50		
Funerals	50	50		
Village meetings	40	60		
School meetings	40	60		

Women and men are equally involved in community affairs such as funerals wedding and meetings, but not in village and school meetings. Like Do Luong village, guest reception is primarily the responsibility of the husband, but the wife is also involved to a lesser extent.

Looking at all the activities, it is clear that in Do Tan village there is great inequality between men and women in terms of labour. Women are burdened with the bulk of the workload.

5.2.2 Access to and Control over Resources

The estimation of access to and control over resources is demonstrated in the Table 5.8a, Table 5.8b and Table 5.8c.

Table 5.8a The combined group's report of access to and control over resources by men and women in Do Tan village

Unit: %

	Access		Control	
	Female	Male	Female	Male
Resources				
• Land	50	50	40	60
• Water	50	50	40	60
• Tools	50	50	40	60
• Technology	65	35	65	35
• Money/credit	55	45	40	60
• Education	40	60	40	60
• Employment	35	65	35	65
• Political activities	30	70	30	70
Benefits				
• Cash	50	50	45	55
• Assets	40	60	35	65
• Basic needs	50	50	50	50
• Education	45	55	45	55
• Political power	35	65	30	70

Table 5.8b The female group's report of access to and control over resources by men and women in Do Tan village

Unit: %

	Access		Control	
	Female	Male	Female	Male
Resources				
• Land	50	50	40	60
• Water	50	50	40	60
• Tools	40	60	40	60
• Technology	70	30	70	30
• Money/credit	55	45	40	60
• Education	40	60	40	60
• Employment	30	70	30	70
• Political activities	30	70	30	70
Benefits				
• Cash	50	50	50	50
• Assets	40	60	40	60
• Basic needs	50	50	50	50
• Education	40	60	40	60
• Political power	35	65	30	70

Table 5.8c The male group's report of access to and control over resources by men and women in Do Tan village

Unit: %

	Access		Control	
	Female	Male	Female	Male
Resources				
• Land	50	50	40	60
• Water	50	50	40	60
• Tools	50	50	40	60
• Technology	65	35	65	35
• Money/credit	55	45	35	65
• Education	45	55	45	55
• Employment	40	60	40	60
• Political activities	30	70	30	70
Benefits				
• Cash	55	45	40	60
• Assets	40	60	35	65
• Basic needs	50	50	40	60
• Education	50	50	50	50
• Political power	30	70	30	70

Land. Because it belongs to the same administrative commune of Bas Son, Do Tan village has the same principles regarding access to land. This means that there is equality between men and women in terms of the amount and quality of agricultural land regardless age, ethnicity and religion. Based on the large area of agricultural land, each villager is allocated an area of 792 m². Land allocation finished in 1993, so children who were born after that do not have agricultural land. Land use certification to households is still ongoing. Although the head of the household receives certification on behalf of the household members, all household members have equal rights in land exchange, transfer, lease, inheritance and mortgage. Women in Do Tan village face the same challenge as women in Do Luong village with respect to the inheritance of land.

The areas of residential land and home gardens vary from one household to the next, based on the area which the household had before. Each household has to pay a tax

equivalent to 7.2 kg of rice for 400 m² of residential land. Households which have an area larger than 400m² of residential land, have to pay a tax equivalent to 1.8kg of rice per sao for additional area.

Women and men in Do Tan are equal in controlling land. In almost every household, husbands and wives have discussions about the use of land, especially in the case of land exchanges, transfers, leases and mortgages.

The area of Do Tan village consists of about 220 ha of hill land and outside-dyke land, which is called common land and used for grazing purposes. Unfortunately, a large area of hill land has been encroached upon by certain villagers for residential purposes. Consequently, the area for cattle grazing has declined. For a village that relies primarily on rice cultivation like Do Tan, traction and manure of cows and buffaloes are significant sources so grazing land is very important for reproduction. The decrease of grazing land area has had a great impact on children who have the primary responsibility for cattle grazing as they have to spend more time taking cattle further afield. Interviews with local people as well as the local authority indicate that so far the local authority has no solution for this problem.

Water resources and irrigation systems. Located on the bank of the Cong River and serving as the location for the pumping station, Do Tan village has the advantage of having water resources. In principle, every villager has the right to access the water resources, but in practice, there are some limitations. The limitations can be explained by several reasons. First, the price of water pumping is relatively high compared with the price of rice due to uncompleted irrigation canals which lead to a loss of water and a high

price for electricity. Second, the time required by households to pump water varies. This creates difficulties in operating the pumping station. Third, the pumping station operates under control of the local authority (the Bac Son commune), and there is disagreement about management between the community and the local authority. Finally, there is a lack of awareness among local people about the need for water conservation. Therefore, the problem lies not only in the inequality of access and control, but more basically in the overall level of access by the local people.

With regard to drinking water, it is accurate to say that the level of access to and control over clean water in Do Tan is low. Tests indicate that the quality of drinking water in Do Tan is not high. In many households wells are located in proximity to pig-pens so the quality of well water is lowered because of the influence from pens. All households use well water without treatment. Wells are rarely sanitised, and drinking unboiled water is a common habit among villagers.

Tools and technology. Men and women are equal in access to and control over tools. In contrast to Do Luong village, technology is more readily available and used by women in Do Tan. The explanation given by participants is that most training courses which are organized by the communal authority concern new seed varieties or techniques of rice cultivation and other food crops, and that because women primarily do these activities, they usually attend such training courses.

“Women are primarily responsible for the cultivation of rice and food crops so they need to know how to use the tools. They do more cultivation activities than us so they attend the training workshops more than us. Training workshops on new varieties and husbandry are necessary for them”. (A quote from a man in Do Tan village).

Employment. While employment is not an issue in Do Luong village, it is very critical in Do Tan. Due to the limited agricultural land and an increasing population, cultivation work demands only two thirds of the total available labour in the village, yet it is mostly done by women. According to the self-assessment conducted by the people, although employment opportunities for men are greater than those for women, generally the opportunities for both genders are limited. The quality of employment is also an issue.

In Do Tan village, there are about 200 people regularly involved in waged work or work unrelated to agricultural production. The types of work and number of people involved are as follows:

- Making bricks: 20 people from the age of 18 to 20 (males and females)
- Carpenters and bricklayers: 30 males
- Washing out gold (in other provinces): 15 males
- Carrying sand: about 60 people (males and females)
- Collecting and selling fuel-wood: 16 people (males and females)
- Scavenging: 68 people (39 males and 29 females)

(Source: Data are provided by the Chairman of Do Tan village)

Added to these totals are a great number of people who are involved in these types of work on a part-time basis. Of all the types of employment mentioned above, scavenging is the most dangerous. A large number of scavengers are adult women and men, but children and the elderly also partake in this work. They work under tremendously polluted conditions without any protection, which puts their physical health at risk.

Money and credit. Women, being responsible for selling and buying agricultural products and goods, have more access to money than do men. In most households, husbands and wives usually discuss the larger expenditures, but husbands make the final decision.

Women have more opportunities to take out loans. In addition to the loan sources available for every farmer such as the Agricultural Bank and the Fund of Hunger Eradication and Poverty Reduction, women in Do Tan village have special loan sources from the Women's Association and CIDSE organization and they also have control over money borrowed from these agencies.

"I like to borrow money from the CIDSE Fund. I do not want to borrow much money because I am afraid that I can not pay it back. The CIDSE Fund is good for me. I can pay back the same proportion of both the loan and the interest once every two weeks. The total of the loan and interest lasts for one year". (A quote from one woman in Do Tan village).

"There are several funds available for us to borrow from. Most poor women like me borrow money for raising pigs and buying seeds and pesticides. For us the interest is still high so we do not want to borrow". (A quote from a woman in Do Tan village).

Education, information and political representation. As in Do Luong village, girls and boys have equal rights to education, but in practice girls have less access than boys do. This has resulted from traditional thinking that girls can do more domestic work than boys and therefore families should invest more in a boy's education than a girl's. In addition, household economic conditions often force girls to give up studies earlier than boys.

"We have many economic difficulties. I have 3 children at the school age. I want to send all of them to school, but I do not have enough money to buy books and pay tuition fees for them. My oldest daughter has to give up her study. In our village many families have the same problem. If in a family there are three or four children at school age, at least one of them has to give up study." (A quote from a man in Do Tan village).

The level of the education of women also influences their participation in political activities. In Do Tan village none of the village leaders are women. This lack of women in the political arena is still justified by women's workload burden, which consumes a lot of time.

The situation of access to information in Do Tan village is similar to Do Luong. Village meetings are the main source of information exchange. Before the meetings, men and women often share their cultivation experiences and difficulties. For women, markets are another site for information transfer. In the markets women get information about new pesticides, rice seeds, and social information. It is also in the market that women exchange their experiences in cultivation: the production of rice, maize, cassava, beans, how to treat pest diseases, etc. Television and radio programs are the sources from which men get information on production, political and social news.

Benefits. While most benefits such as cash from agricultural products, assets and basic needs are equally accessed by women and men, men still prefer to control these benefits. Even so, wives' opinions about large expenditures are often respected by their husbands. Sons usually inherit assets from their parents. Daughters have limited control over assets, because the thinking that "girls are daughters of other families" therefore "they should receive assets from their parents in law" is still very common in many families. Consequently, daughters usually receive a very small amount of assets compared with their brothers. A husband's preference in controlling the benefits of the family demonstrates his role as the head of the household.

"I am the head of my family so I must control everything. I have power in the family. My power is respected by my wife and children. But I often have discussions with my wife. Her opinion is very important". (A quote from a man in Do Tan village).

5.2.3 Gender Differentiated Knowledge on Natural Resources and Environment

Although men are less involved than women in rice cultivation activities, men's and women's knowledge about rice and other food crops such as maize, beans, peanuts, potatoes and taro are not much different. Women have a deeper knowledge of selecting and preparing rice seeds while men only know the general process.

Both men and women in Do Tan agree that the quality of agricultural land in the village is much improved nowadays. While men do not consider pesticides to be an environmental problem for their village, women worry about pest diseases especially rat diseases and the decrease in the population of snakes, earthworms, and amphibians, which is seen by women as a negative impact of pesticides. Women also mentioned that they do not use straw as food for cattle the way they used to some years ago because the residue of pesticides in straw may cause harm to cattle's health. Villagers were much more concerned with the quality of well water and air pollution, which may be affected by the Nam Son solid waste disposal site, which is located about 4-5 km from their village.

5.3 Comparison between Do Luong and Do Tan Villages

There are some similarities between the two villages, which can be summarized as follows. The first similarity can be seen in the availability and use of some resources and benefits. While women and men have relatively equal access to production resources (i.e. land and water), cash, and basic needs, men still manage these resources more than women do. Women in both villages have the advantage over men in accessing money and credit, and are disadvantaged in accessing education, information and politics. The

second similarity is that women are more responsible for most rice and food crops and productive and reproductive activities while men are responsible for gardening activities and heavy and high risk work (ploughing, sowing seeds and spraying pesticides) (the residue of pesticides in tea is not considered by the local people to be a high risk). The third similarity is the relative equality between men and women in community work. And the fourth is women's workload burden.

In addition to these four similarities are a number of differences. The first major difference between two villages can be found in access to and control over technology. While in Do Luong village men have greater access and control than women, in Do Tan village, it is contrary. The reasons can be explained that in Do Tan village rice and other food crops are the main source of income; most of the training courses deal with new varieties or techniques of crop cultivation and these crops are primarily the domain of women. In Do Luong village, rice is the staple crop but most income comes from tea production and fruit. As a result, the improvement of tea and fruit production, which rely heavily on technology, receives significant attention from men, as they are in charge of gardening activities.

The second big difference in the two villages is found in the division of labour, especially in garden activities. Although men in both Do Luong and Do Tan villages are involved in gardening, the nature of their roles is quite different. In Do Luong village, rice is the staple crop and most household income comes from tea and fruit trees, so the division of labour in Do Luong village (women are responsible for rice and food production, and men for gardening activities) fits the way that production is organized in that village. The intended division of labour seems to bring into play traditional

perceptions of gender roles, advantages in order to ensure maximum benefits for the households. In Do Tan village, home gardens are much smaller than in Do Luong and the poor organization of these gardens reflect that men's labour contribution is minute. This reveals a great inequality in the division of labour between men and women in Do Tan village.

The other difference is the greater number of people involved in waged labour in Do Tan village. In Do Luong village, there is only a small number of people employed to pick tea leaves. The number in Do Tan is much larger, especially the number of people who scavenge.

5.4 Socio-economic and Institutional Constraints on Women

It is necessary to mention that women in both Do Luong and Do Tan villages perceive their lives nowadays to be much better than in the past. In particular, electricity, which reached their village in 1995, has improved living conditions and reduced a great amount of work for both men and women. Instead of watering by hand, using electric pumps helps people to save a lot of time and labour. Electric threshing machines help reduce the amount of time needed to extract rice.

The current socio-economic development policies of the Vietnamese government, which include the Land Law and other agricultural policies, create opportunities for households to confidently develop their economy. Unfortunately, in order to meet the increasing demands for basic needs such as food, clothes, shelter and education, most households in the two villages extensively and intensively cultivate their land. Under such an economic demand, women have traditionally work labouriously and

painstakingly to make the most of opportunities to increase the family income. For example, in order to save money women in Do Tan village go to the forest to collect gleichenia for fuel-wood instead of buying coal for cooking. Thus, poor women's workload burden increases. Consequently, because of an increased workload, women face time restrictions which adversely impact their reproductive labour. These "economies" also have a negative impact on women's health care. If women's health degenerates, their livelihoods and those of their families will not be sustainable.

In addition, patriarchal ideas still influence the attitudes of both men and women, although not as strongly as in the past. Many women, especially middle-aged and older women, perceive that "it is not necessary to invest in higher education for girls" and "serving husbands and children is women's responsibility".

"Being women, we have to be responsible for housework. If a husband helps his wife to do housework, that woman is lucky. If he does not help, it's OK because it is not his work." (A quote from a middle-aged woman in Do Tan village).

Such an opinion is still common among women in both villages and leads to an increase in women's workloads which in turn restricts women's participation in the political and social sphere and activities for self-improvement. Consequently, women's voices are less effective.

In principle, there is no political, social and economic discrimination against women. On the contrary, women's participation in all kinds of activities is encouraged according to some documents in each locality. But in reality, practical opportunities for women's participation in such activities (including technology) are lacking.

Women's lack of education, which is rooted in feudalism, together with other factors such as economic conditions, workloads and the influence of patriarchy, limits their ability to access information and technology, which has a great impact on the sustainability of their livelihoods.

In short, the socio-economic and institutional constraints on women in Do Luong and Do Tan villages can be summarized in Figure 5.1. Women's constraints, which are caused by the negative impacts of socio-economic development policies, are seen by women and men in two villages as contemporary ones that can be overcome with the support of the government. The root cause of constraints is a patriarchal ideology. Increasing women's and men's awareness about the negative impacts of patriarchy requires time, the support of governmental and international agencies and the conscious efforts of the women and men themselves.

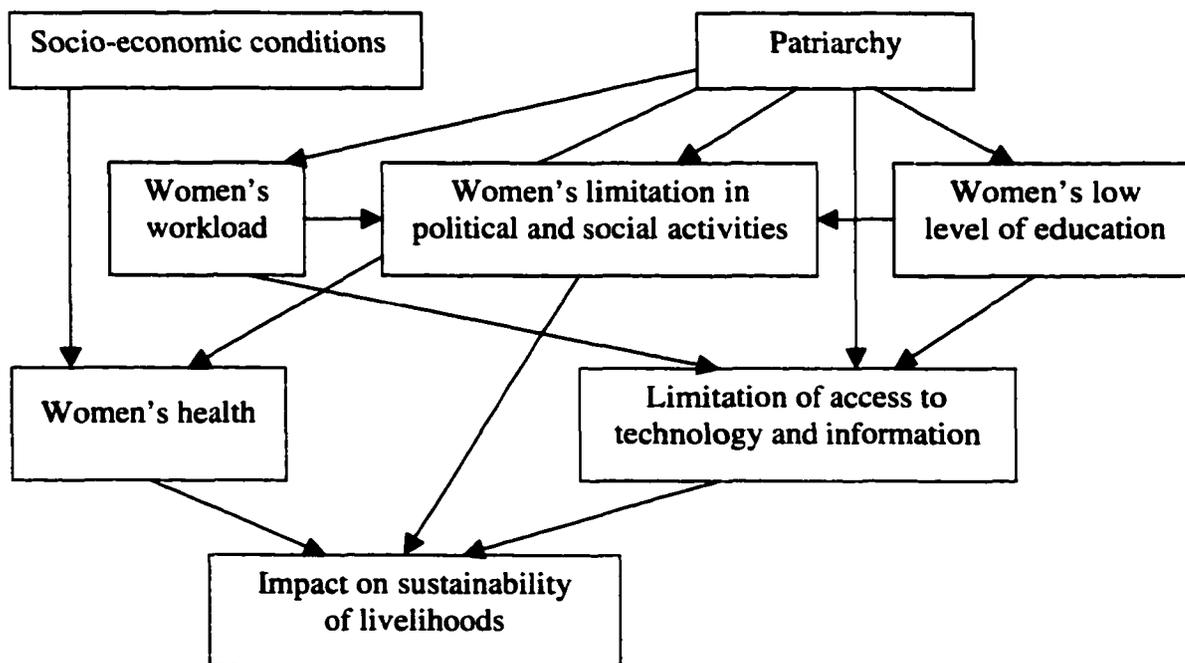


Figure 2: Scheme of socio-economic and institutional constraints on women

Chapter Six

CONCLUSIONS AND RECOMMENDATIONS

In Bac Son commune, particularly in Do Tan and Do Luong villages, land and water are the main natural resources that local people rely on to develop their economy. During the renovation period, under the influence of the socio-economic development policies, these natural resources have been intensively and extensively exploited by households in order to meet the increasing demand. Socio-economic policies also affect gender relations within and between households with respect to using and managing natural resources. This chapter is written with the aim of presenting conclusions about the status of using and managing natural resources in Do Luong and Do Tan village from a gender perspective. Further, recommendations are proposed with a view to promoting the sustainability of livelihoods and the conservation of the communities' natural resources.

6.1. Conclusions

There are some small differences in the perceptions of men and women in the two research villages concerning their roles and contributions in natural resource management. This could be explained by the nature of the divisions of labour, which have been based on the traditional attitudes about abilities and skills associated with each gender in order to achieve maximum benefits for the households. In principle, women are responsible for rice and primarily secondary food crop cultivation and men are primarily responsible for gardening activities. Men are involved in ploughing and spraying pesticides, which are considered heavy and high-risk work. Women continue to be

responsible for domestic activities and collecting fuel-wood. However, there is no evidence that these roles have been shown generally to lead to gender conflict. Still, the division of gender roles is a very important factor to consider in development projects. Identifying the specific nature of gender roles helps to involve both genders and so empower both men and women in development.

Equality between men and women has not been practically achieved in the research areas. The lack of regulations on land inheritance put daughters at a disadvantage in inheriting land from their parents. The policy of tendering common land for agriculture production prevents poor people from accessing this type of land. It also prevents people from using common land for collecting fuel-wood and grazing, which are mainly the responsibility of women and children. Thus, it is possible to say that the gender discrimination, which is shown to exist intra-household and against poor households, still exists in the research areas.

Sustainability of livelihoods in the two villages is low, especially in Do Tan village, despite the fact that poverty has been reduced and the quality of life of local people has been much improved in recent years. This conclusion is based on several features. First, basic needs, such as clean water, sanitation, health examinations, and access to education and information are still lacking. Second, there is poor access to technology. Third, poor people have limited access to credit. Fourth, there is a shortage of employment opportunities and consequently people are forced to do high risk work such as scavenging. This is very important for a purely agricultural village with a large population and a limited cultivation area like Do Tan village. Fifth, women's heavy workload leaves them little time for recreation, relaxation, or further education. Finally,

sustainable livelihoods are negatively affected by unsustainable production practices of local people. In both villages natural resources have been used and managed primarily for the purpose of increasing production. There is a lack of concern for the sustainable use and management of resources, which is demonstrated by the poor management of water resources, a haphazard use of pesticides, a lack of integrated pest management, and inefficient construction of forest gardens and home gardens, particularly in Do Tan village.

In spite of the fact that the position of women in the households has been increasing, traditional patriarchal attitudes are still very obvious in many responses. Examining attitudes is not the primary objective of this research. However, there is no doubt that these attitudes affect the level of women's education, and question of control as well as their families. These attitudes are also one of the main constraints on women in developing sustainable and equitable resources management practices. These attitudes could be changed by improving the gender awareness of both women and men.

In conclusion, through the information and arguments presented through this thesis, it has become evident that to promote more sustainable development both village well being and the increased empowerment of women are desirable and necessary. While progress has been made in empowering women, my recommendation will show areas in which this empowerment can be improved. The research methodology of this thesis might contribute as an initial step of that empowerment process since it was the first time the voice of women in the two villages was heard. Before this thesis was completed, there were some development activities initiated in the research villages in order to promote sustainable livelihoods of the local people such as training courses on pesticide use and

water conservation training courses. Care is being taken to ensure that women are involved in an equitable way in these activities.

Questions for further research

In academic terms, the thesis attempts to make a contribution to gender equitable sustainable development in the area studied and to the literature on the topic on gender issues in natural resource management and environment protection, a literature which is still quite limited in Vietnam. Further research might be on the influence of *Doi Moi* policies on the process of achieving equality between men and women in practice. Two other further questions suggested by the research are (i) what effect would changing gender division of labour have on the achievement of gender equity and (ii) what is the relationship between woman-headed households and sustainable livelihoods in Vietnam.

6.2. Recommendations

The following recommendations are designed with the aim of enhancing equality between men and women and achieving sustainable development including the enhancement of equality in gender roles since both depend on the ability of the villagers to sustainable livelihoods. Some recommendations are directed to general socio-economic empowerment. While most of the recommendations are suggested to local authority, a number of them are suggested to the central level.

6.2.1 Recommendations Directed to the Local Level.

Land management.

The local authority should assign the entitlement of land to households as soon as possible so people can be encouraged to cultivate their land. Although in Do Luong and Do Tan villages women and men have relatively equal rights to access land, it is necessary to illustrate this equality on the land certificates. This means that the names of both a husband and a wife should be written on the land certificate. This will help ensure the land user rights of women and help women access credit more easily.

The local government should develop ways to enable poor people to keep their agricultural land, rather than selling it. If poor people become landless and have to work for wage labour, their livelihoods will be even more at risk.

The current practice of tendering common land for the purpose of agricultural production in order to generate funds for social welfare is a strategy that helps the local authority partially meet its current challenges. However, a certain amount of common land should be set aside for common purposes such as grazing and fuel-wood collecting. For purely agricultural villages like Do Luong and Do Tan the grazing area is very important for reproduction. The management of this common area should be the responsibility of a particular social organization which is affiliated with the activities of that area, for example women's organizations, since grazing and collecting fuel-wood are currently a primary responsibility of women and children. This would also increase women's control over an important resource.

Water management.

Both Do Luong and Do Tan villages are facing challenges with water resources. As a long-term strategy, the local authority should continue its current construction of the irrigation systems with more pumping stations and larger channels so that the area of irrigation can be expanded. In the short-term, efficiency of water use should be encouraged. This can be done by improving the irrigation channel systems as well as private ponds in each household, and increasing the awareness of local people about the use and conservation of water. The local authority should work in close cooperation with village people in managing common ponds and pumping stations in order to maximize the supply capacity of pumping stations.

Pesticides management.

It is necessary to strictly regulate the use of pesticides. The local authority should have announcements about types of pesticides that are banned by the government, via available information transfers such as megaphones, village meetings, posters, etc. Training courses on the safe use of pesticides should be provided. Currently, pesticides are bought and used privately by households; increasing the awareness of local people about pesticides is significant. Although most women in both villages are not involved in spraying pesticides, providing knowledge about pesticides for them is necessary not only because women have a great influence on their husbands and sons who are primarily responsible for spraying, but also because of the pesticide residue in tea and the probable health effects on women.

Technology transfer.

Changing plant and crop structure, and increasing the number of plant and animals which have a high economic potential, are strategies of the local authority to increase economic growth and to improve the life of households. Technology is a means of implementing these strategies. Women should be involved more in technological transfer and women's issues need to be considered carefully in technological programs. Training about the appropriate agricultural technologies should be directly offered to women and the time that training courses are offered needs to correspond with women's work schedules. Some change in gender work roles could allow women more flexible schedules.

Improve practical needs.

Practical needs such as clean water, sanitation conditions and primary health care should be improved. This can be done through a range of measures:

- Local people should be educated on the rational allocation of kitchens, pigsties and wells.
- People should be encouraged to use groundwater for domestic use and to drink boiled water.
- Wells should be sanitized regularly.
- Solid waste should be hygienically disposed
- The infrastructure of medical clinics should be improved.

Fuel-wood is also an issue in the research areas. Alternative fuel resources such as coal, kerosene and gas are still considered expensive compared with fuel-wood, which is

available and free of charge. To discover more energy efficient cookers is proposed as the solution to reduce the quantitative consumption of fuel-wood. In addition, this would also reduce women's workload as it would reduce the time spent collecting fuel-wood.

In order to resolve surplus labour issues, alternative livelihoods should be considered over un-healthy employment (scavenging is an example). This can be done through creating small enterprises, which use local materials and make the most of agricultural by-products. Because scavenging is becoming increasingly common due to the fact that money earned is immediate and amounts to more than what can be earned in other forms of employment available in Bac Son commune, education for young people, both male and female, about the negative health impacts of scavenging is a critical requirement. Perhaps, healthier ways to trade used materials could be developed.

Create credit sources.

The local authority should find more credit sources which can provide loans with lower interest rates. There are now some credit plans available in Do Luong and Do Tan villages, but most of them have high interest in comparison with the benefit which can be made from the loan. This prevents poor people from having access to credit. For poor women's groups, in addition to a lower interest loan it is necessary to organize training programs, which guide people to efficiently use the loan and address the fear and reluctance around borrowing. Training courses on animal husbandry, bee-keeping and mushrooming would promote useful small enterprises.

Increase access to education.

Although local communities have incentives to encourage their children to go to school without discrimination by sex, in practice, in both villages the number of girls quitting school is higher than the number of boys. The consequences of the lack of education of girls should be discussed in village meetings in order to change the attitudes of parents about inequalities between girls and boys in education, and subsequently reduce the number of girls giving up school. Parents should be encouraged to create opportunities for their daughters to continue study by reducing the workload of girls. The local government should strengthen programs, which support children of poor families to go to school by covering the costs for tuition, textbooks and notebooks, and classroom repair and maintenance.

Increasing gender and environmental awareness.

Women's issues should be addressed in all development activities and programs of the local authority. Although the current gender division of labour within households is seen as suitable for the economic development of each locality, men should be provided education on the flexibility of gender roles and encouraged to become more involved in domestic tasks, which have traditionally been considered women's responsibilities. The local authority should create opportunities for women to become involved in social activities. A women's forum would promote the exchange of ideas and experiences of women in neighbouring villages, cultural festivals, etc. It would also encourage women's self education and awareness. Awareness about equal rights between man and women should be enhanced not only in villagers but also among local authority officials because

only when the officials have awareness about gender will gender issues in development activities and programs be raised and addressed.

In order to increase people's awareness concerning environment and natural resource protection and sustainable development, women as well as men should be provided with necessary information on the issues of natural resources, environment and environmental protection. Women should also be encouraged to participate more in the protection of a clean living environment through programs on clean water, environmental sanitation, the use and maintenance of hygienic facilities, protecting and caring for the environment, and individual sanitation.

Women's participation in decision-making.

Women should have specific management positions at the village, commune and district levels. This will enable women to have their voices heard and will facilitate women's participation in social and political decision making. The villages would benefit from women's knowledge in the means of their expertise.

6.2.1 Recommendations Directed to the National Level.

Gender issues should be given higher priority in rural development programs and projects. Women's issues in particular should be considered significant factors in the process of formulating development strategies. To achieve these goals will require policy-makers, researchers as well as practitioners to have a better awareness and understanding of gender issues.

Government should denounce inequality between men and women through intensive communication activities and establish efficient measures to implement gender equality

policies. Education on equality between men and women should be incorporated into public education programs so that the ideology of patriarchy will be minimized among the younger generations.

In order to ensure the sustainability of livelihoods in rural areas, land entitlement should be completed as soon as possible. The government should formulate more concrete regulations on the rights of land users so that women will not be at a disadvantage in land inheritance.

Women's needs, priorities and interests should be given more attention in the political discourse. In order to hear and address their special requirements the government should create more opportunities for women's involvement in community political and management affairs. A certain number of management positions at commune and district levels should be assigned to women as the government has done at the national level.

There is a need to demonstrate to rural people, including women, that the future of their livelihoods depends on the present use of renewable resources and that livelihoods can only be guaranteed as long as people use sustainable practices and take protective actions. Currently, the number of men that seek waged family income also impacts negatively on women who stay at home and must assume responsibility for all agricultural and domestic tasks. Sustainable livelihoods will be more effectively achieved if the government creates more employment opportunities in rural areas so that both men and women can increase family income and can share domestic works and the education their children. The government should create more support policies, designed to help women entering non-traditional jobs.

Rural women's empowerment should be increased through facilitating women's self-reliance. Recent technical change in agriculture has had different effects on men and women. Fewer women than men are trained and experienced with new technology and this limits their role as agricultural producers. Therefore, government should implement special programs which upgrade women's skill in new and appropriate technology. Government should also create equal opportunities for women and girls in education and training in all areas.

6.2.3 Recommendations for the International Level

This thesis provides evidence to support the view that development projects should take into account different gender roles and different expertise between men and women. People involved in development projects should work in both encouraging the change of gender role to allow more equality between men and women, and access to the expertise of each gender. In addition, women generally have lower education, longer working hours than men and exercise less power than men; therefore, special effort should be made so that development projects benefit and empower women.

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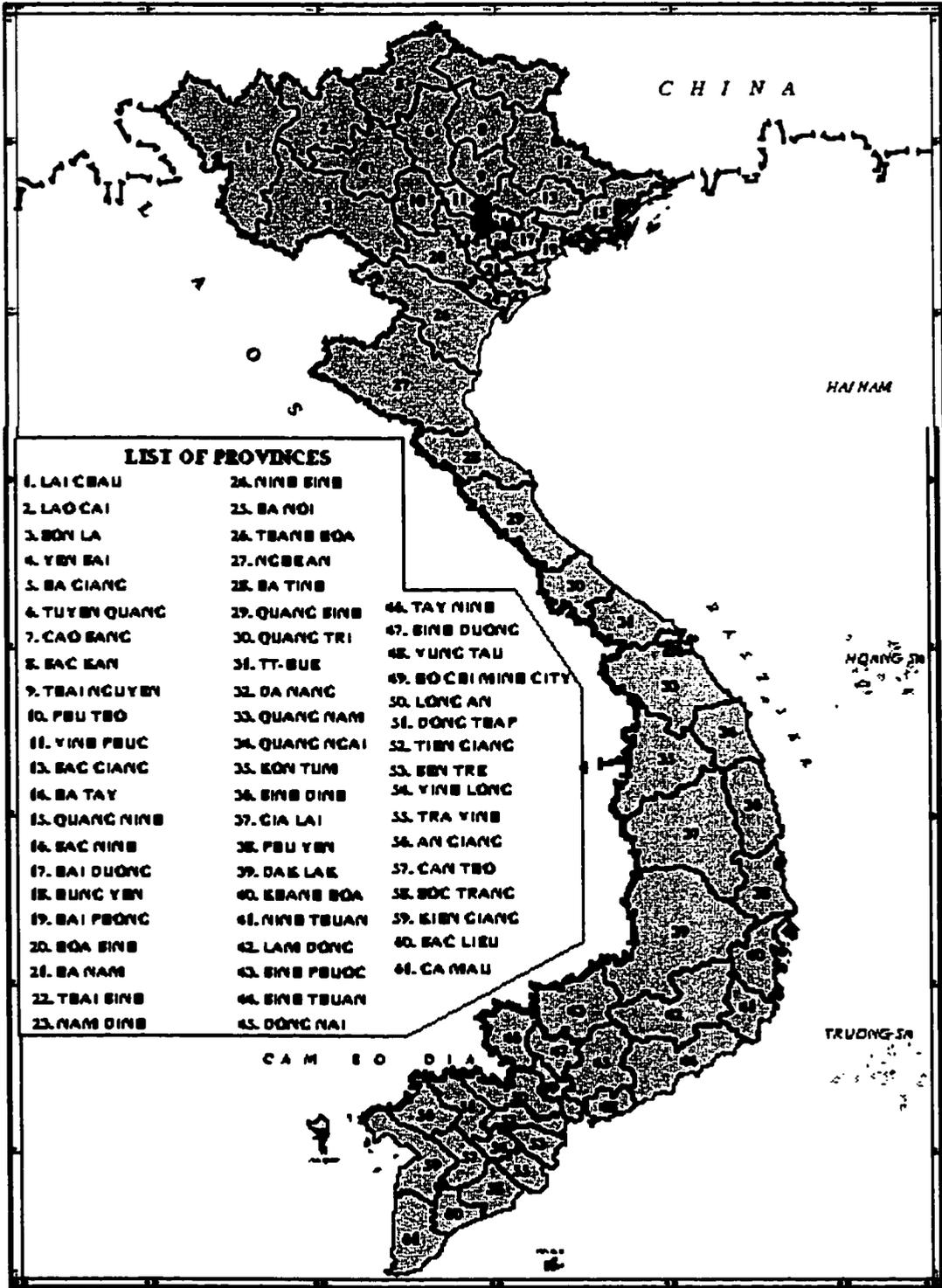
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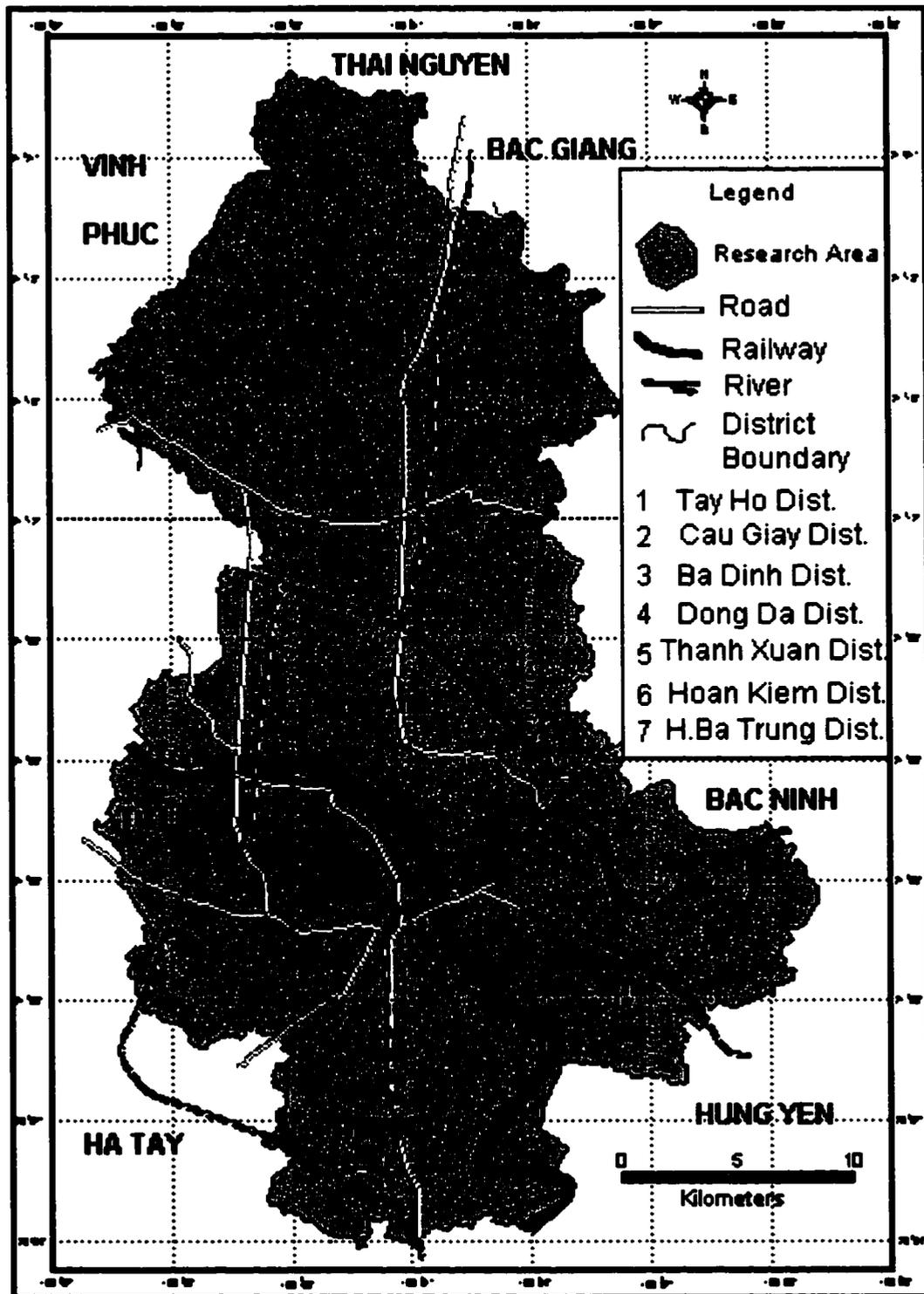
APPENDIX I

- 1. Map of Provinces of Vietnam**
- 2. Map of Administrative Districts of Hanoi**
- 3. Map of Administrative District of Soc Son, Hanoi**
- 4. Scheme of Land Use in Do Luong Village, Bac Son Commune**
- 5. Scheme of Land use in Do Tan Village, Bac Son Commune**
- 6. Scheme of Gender Disaggregated Resource Use in a Typical Household in Do Luong Village, Bac Son Commune**

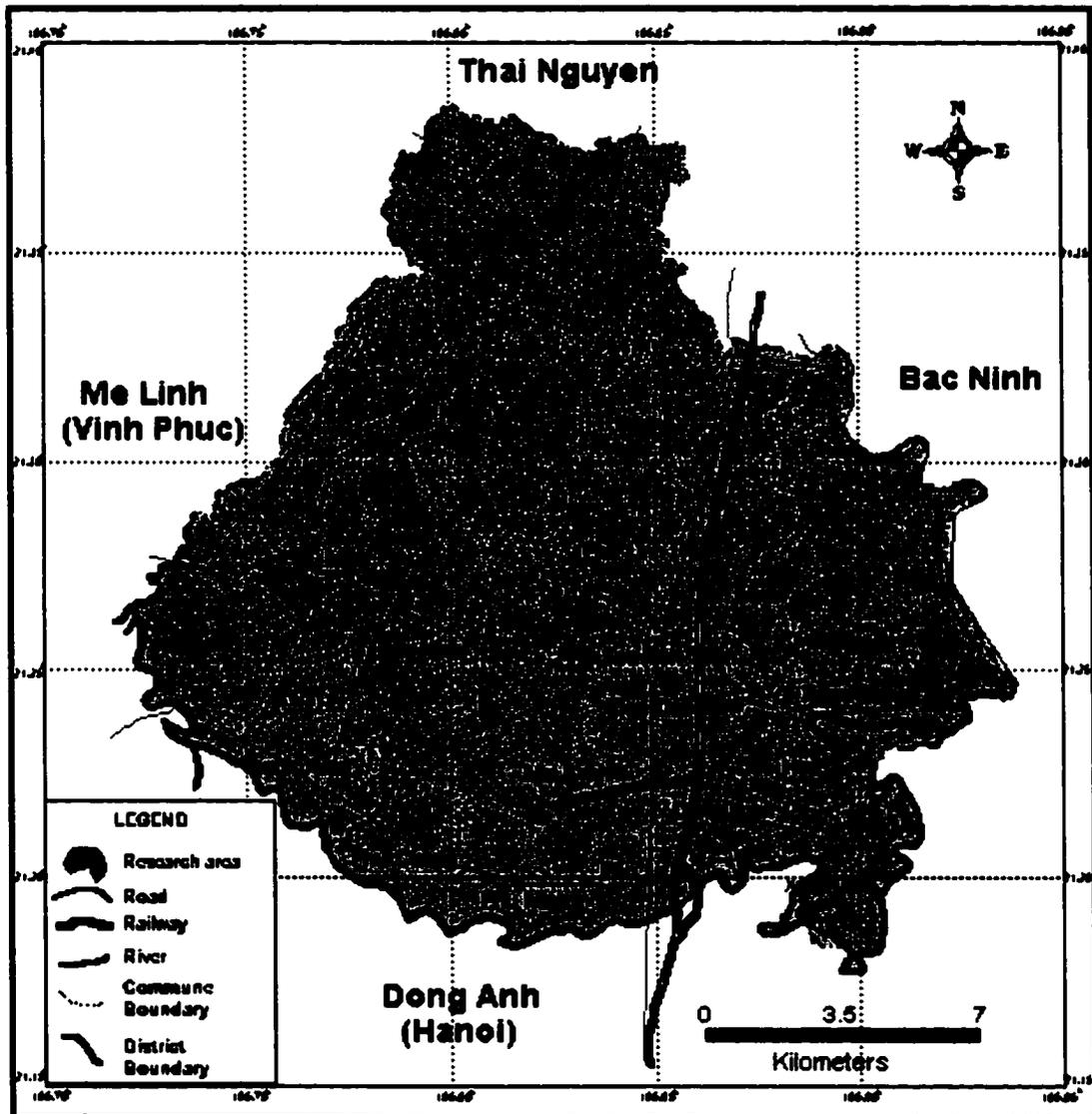
MAP OF PROVINCES OF VIETNAM



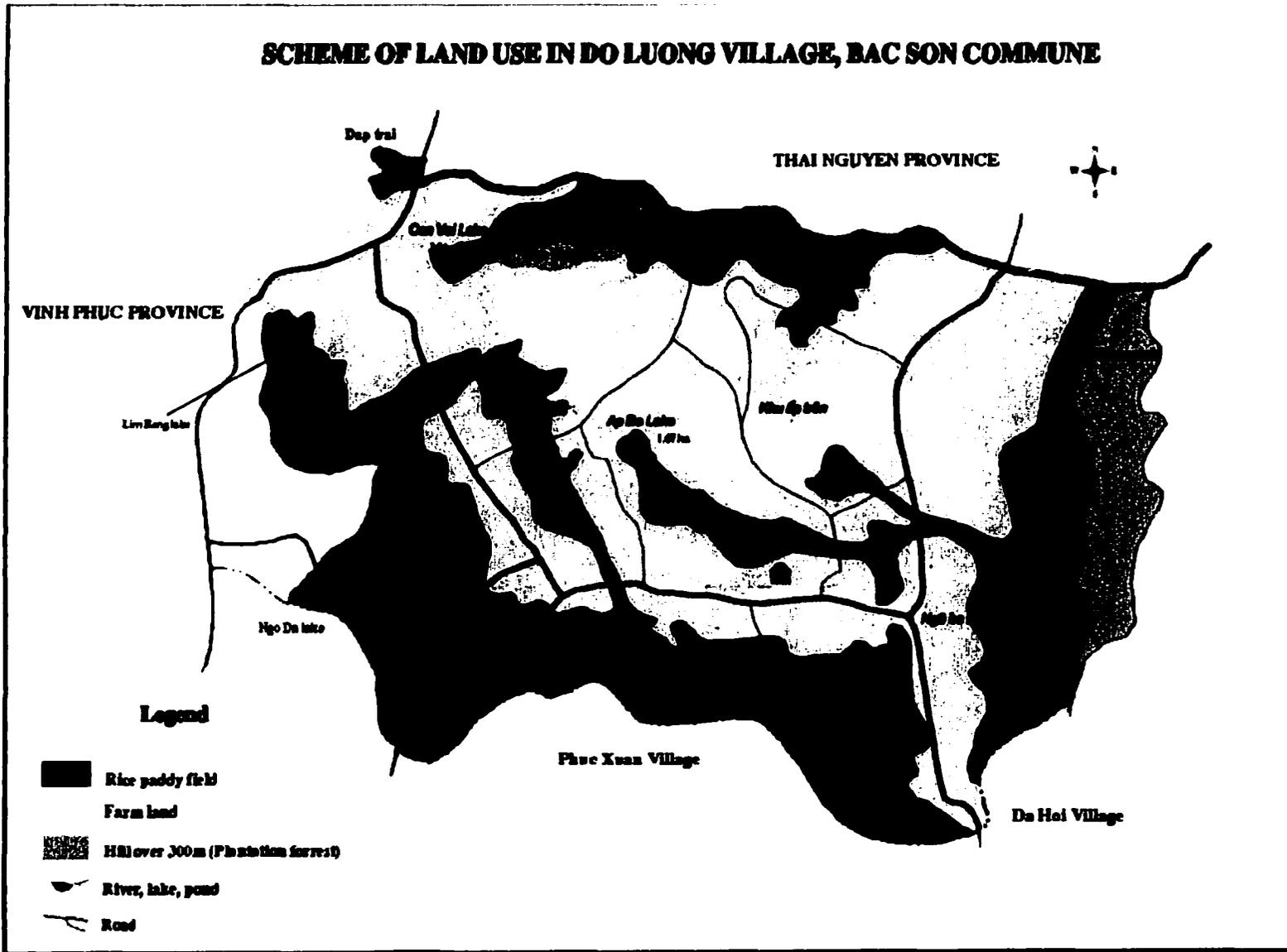
MAP OF ADMINISTRATIVE DISTRICTS OF HANOI



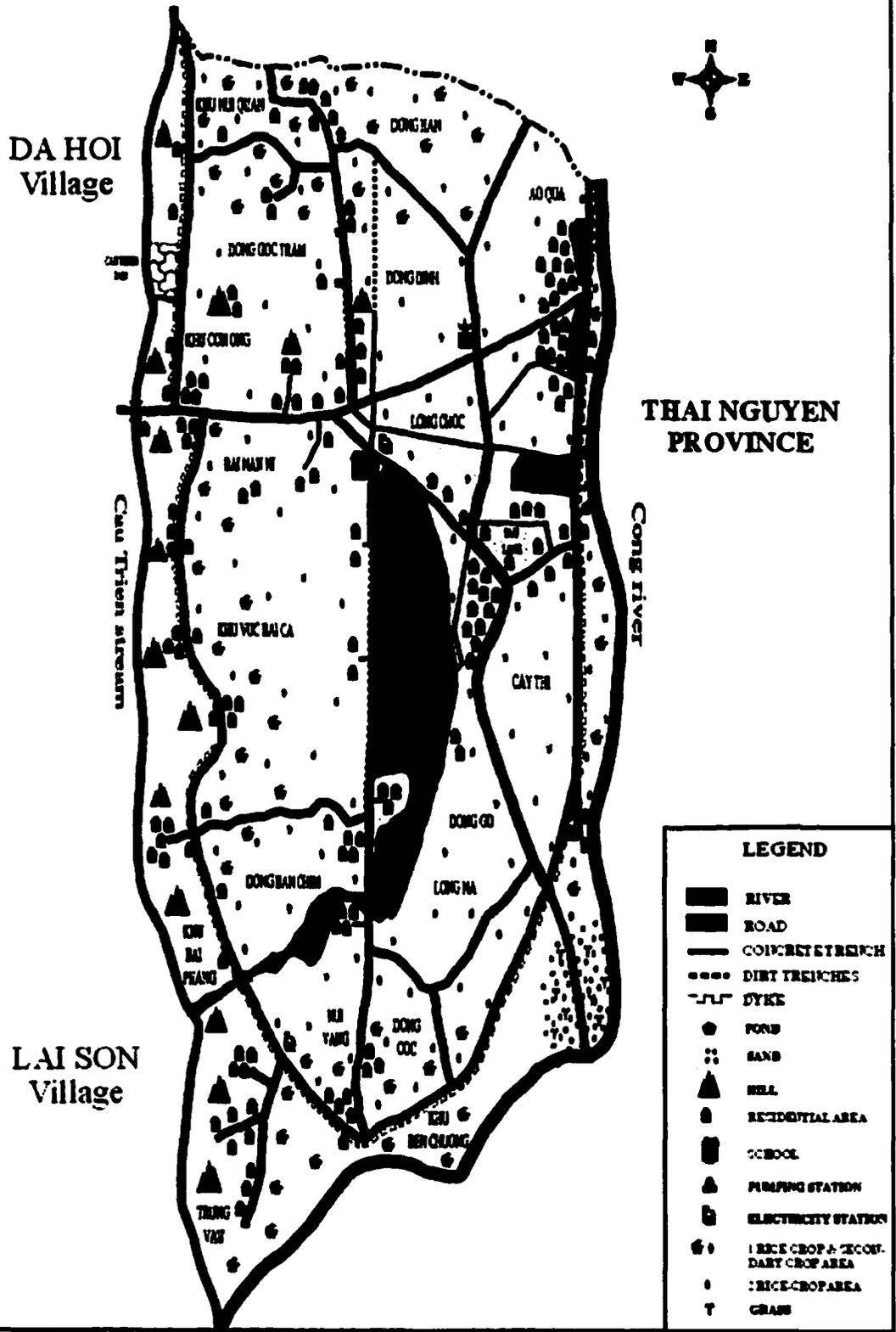
MAP OF ADMINISTRATIVE DISTRICT OF SOCSON, HANOI



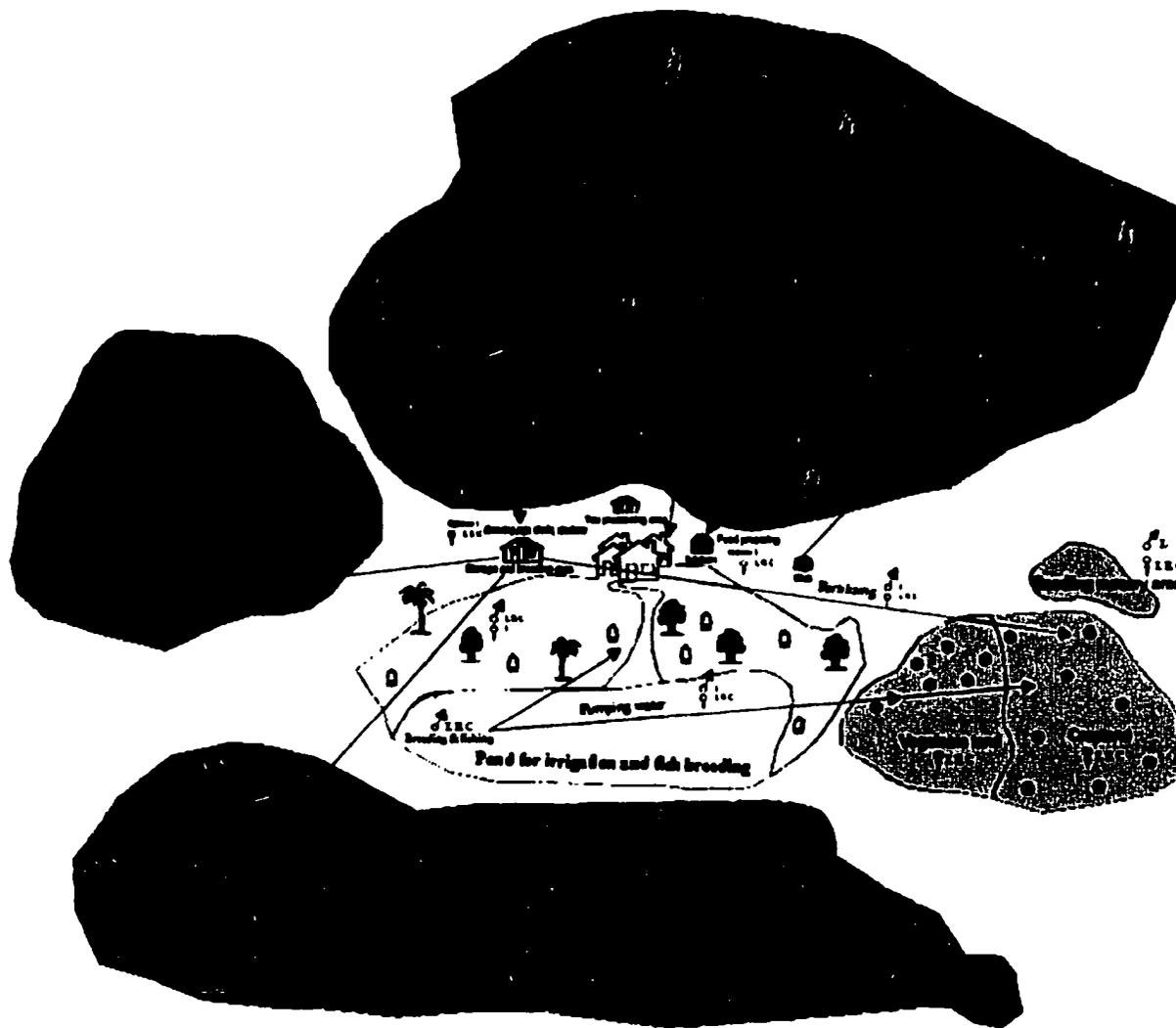
SCHEME OF LAND USE IN DO LUONG VILLAGE, BAC SON COMMUNE



SCHEME OF LAND USE IN DO TAN VILLAGE, BAC SON COMMUNE



**SCHEME OF GENDER DISAGGREGATED RESOURCE USE IN A TYPICAL HOUSEHOLD
IN DO LUONG VILLAGE, BAC SON COMMUNE**



LEGEND	
	Pinh
	Acacia
	Eucalyptus
	Cassava
	Grain
	Glutinous rice
	Tea
	Labour
	Responsibility
	Control

APPENDIX II

QUESTIONNAIRE FOR A FIELD RESEARCH IN VIETNAM

(May to August, 2000)

1. Questions to the district authority on:

- The socio-economic situation of the district; the implementation of agricultural policies.
- The existing status of natural resources in the district (land, water, forest, etc.)
- Environmental issues, especially the most critical environmental problems.
- The operation of existing social organizations.
- The activities of the Women's Association; women's challenges in socio-economic development.
- Further socio-economic strategies/policies.

2. Questions to the commune authority on:

- The socio-economic situation of the commune; the implementation of agricultural policies.
- Land allocation and land management issues; forest land, agriculture land
- Water issues: water use; the management of lakes, reservoirs and irrigation systems.
- Environmental issues: disease, pesticide management, environment pollution
- The operation of the Women's Association. Women's challenges in socio-economic development. Strategies for resolving women's issues.
- The ideas of commune officials about gender issues.
- The strategic plan for socio-economic development of the commune.

3. Guided questions for focus groups interviews

- What do you think about the equity between men and women in your community?
- What are the difficulties you (men/women) face in accessing and controlling natural resources (water, land, forest, biodiversity, etc.)?
- Why is it difficult for women to participate in social and political works? Could you identify the reasons for those difficulties?
- How could you overcome the difficulties?

4. Guided questions for in-depth interviews:

- How many people are in your family?
- How large is your cultivated land/forest area/water?
- What type of land do you have?
- How do you cultivate that land/forest?
- Who is responsible for each type of production activities in your household?
- Who is responsible for each type of the reproductive activities in your family (rearing children, cooking, washing, collecting fuel wood, etc)?
- Who in your family usually attend village meetings/marriage, funeral, etc.
- Who does more work in your family?
- Why do you have such division of labour in your family?
- What grade are your children in?
- Did any of your children give up school? What is the reason?
- Who makes final decisions on important matters in your family? (large expenditures, education of children, marriage, building a house, selling land, etc.)

- **Who in your family contributes more to the family income?**
- **Who works more in your family?**
- **Are you pleased with the current division of labour in your family? If not, how do you plan to change the current labour division in your family?**
- **How you and your wife/husband spend free time?**
- **What challenges do you face in fulfilling your responsibilities?**
- **What do you think about equality between men and women in your family and your community?**
- **What is your suggestion to achieve gender equality?**
- **What do you expect from the local and central authority for improving your quality of life?**

APPENDIX III

- 1. Profile of gender disaggregated activities in Do Luong village
(reported by the combined female and male group)**
- 2. Profile of gender disaggregated activities in Do Luong village
(reported by the female group)**
- 3. Profile of gender disaggregated activities in Do Luong village
(reported by the male group)**
- 4. Profile of access to and control over resources in Do Luong village
(reported by the combined female and male group)**
- 5. Profile of access to and control over resources in Do Luong village
(reported the female group)**
- 6. Profile of access to and control over resources in Do Luong village
(reported the male group)**
- 7. Profile of gender disaggregated activities in Do Tan village
(reported by the combined female and male group)**
- 8. Profile of gender disaggregated activities in Do Tan village
(reported by the female group)**
- 9. Profile of gender disaggregated activities in Do Tan village
(reported by the male group)**
- 10. Seasonal Activities Calendar in Do Tan village**
- 11. Profile of access to and control over resources in Do Tan village
(reported by the combined female and male group)**
- 12. Profile of access to and control over resources in Do Tan village
(reported by the female group)**
- 13. Profile of access to and control over resources in Do Tan village
(reported by the male group)**

№ 1. CÁC HOẠT ĐỘNG THEO GIỚI

Thôn Đô Lương, xã Bắc Sơn, huyện Sóc Sơn

(Nhóm: nam + nữ) (♂ + ♀)

Các hoạt động sản xuất	Nữ trưởng thành	Nam trưởng thành	Nữ trẻ em	Nam trẻ em
Cày bừa	20%	80%		
Gieo mạ, cấy lúa	20%	80%		
Bón phân	70%	30%		
Làm cỏ lúa	70%	20%		
Phun thuốc sâu cho lúa	10%	90%		
Gặt lúa	60%	30%	5%	5%
Phơi thóc	40%	45%	10%	5%
Hái chè	60%	20%	10%	10%
Rang chè	30%	30%	20%	20%
Tưới cây, chè	30%	70%		
Phun thuốc sâu cho chè và cây ăn quả	10%	90%		
Làm đất trong vườn nhà	30%	60%	5%	5%
Làm đất trên đồi	40%	55%	2%	3%
Ươm giống	30%	70%		
Triết, ghép cành	10%	90%		
Chọn giống	40%	60%		
Trồng cây	30%	60%		10%
Rẫy cỏ trong vườn, trên đồi	40%	35%	15%	10%
Bón phân trong vườn, trên đồi	50%	40%	5%	5%
Thu hoạch hoa quả	45%	45%	5%	5%
Chặt, tía cành	20%	80%		
Làm phân	70%	20%	5%	5%
Đánh cá	5%	80%	5%	15%
Phối giống cho gia súc	10%	90%		
Cấy lúa	80%	10%	10%	
Thăm đồng	40%	60%		
Vận chuyển lúa	45%	45%	5%	5%
Đập lúa	30%	70%		
Trồng & chăm sóc cây màu	80%	15%	5%	

CÁC HOẠT ĐỘNG THEO GIỚI
Thôn Đô Lương, xã Bắc Sơn, huyện Sóc Sơn (tiếp theo)

Các hoạt động tái sản xuất	Nữ trưởng thành	Nam trưởng thành	Nữ trẻ em	Nam trẻ em
Nấu ăn	50%	20%	20%	10%
Giặt giũ	80%	10%	7%	3%
Dọn dẹp nhà cửa	50%	45%	5%	
Chuẩn bị thức ăn cho gia súc	70%	10%	10%	10%
Đi chợ mua/bán sản phẩm	90%	10%		
Chăm sóc con cái	55%	45%		
Lấy củi	50%	20%	15%	15%
Chăm sóc giá súc, gia cầm	50%	30%	10%	10%
Vệ sinh chuồng trại	30%	60%	10%	
Chăn thả gia súc	10%	10%	40%	40%
Các hoạt động xã hội				
Cưới xin	50%	50%		
Ma chay	50%	50%		
Họp làng	35%	65%		
Họp phụ huynh	40%	60%		

No2. CÁC HOẠT ĐỘNG THEO GIỚI
Thôn Đô Lương, xã Bắc Sơn, huyện Sóc Sơn
(Nhóm nữ). (7)

Các hoạt động sản xuất	Nữ trưởng thành	Nam trưởng thành	Nữ trẻ em	Nam trẻ em
Cày bừa	20%	80%		
Gieo mạ, cấy lúa	20%	80%		
Bón phân	70%	30%		
Làm cỏ lúa	75%	15%	10%	
Phun thuốc sâu cho lúa	10%	90%		
Gặt lúa	65%	35%		
Phơi thóc	45%	45%	5%	5%
Hái chè	60%	20%	10%	10%
Rang chè	30%	30%	20%	20%
Tưới cây	30%	70%		
Phun thuốc sâu cho chè và cây ăn quả	10%	90%		
Làm đất trong vườn nhà	30%	60%	5%	5%
Làm đất trên đồi	40%	55%	2%	3%
Ươm giống	30%	70%		
Triết, ghép cành	15%	85%		
Chọn giống	35%	65%		
Trồng cây	30%	60%		10%
Rẫy cỏ trong vườn, trên đồi	45%	30%	15%	10%
Bón phân trong vườn, trên đồi	50%	40%		10%
Thu hoạch hoa quả	45%	45%	5%	5%
Chặt, tỉa cành	20%	80%		
Làm phân	70%	20%		
Đánh cá	10%	80%		10%
Phối giống cho gia súc	10%	90%		
Cấy lúa	80%	10%	10%	
Thăm đồng	45%	55%		
Vận chuyển lúa	45%	45%	5%	5%
Đập lúa	30%	70%		
Trồng & chăm sóc cây màu	80	10%	0%	0%

CÁC HOẠT ĐỘNG THEO GIỚI
Thôn Đô Lương, xã Bắc Sơn, huyện Sóc Sơn (tiếp theo)

Các hoạt động tái sản xuất	Nữ trưởng thành	Nam trưởng thành	Nữ trẻ em	Nam trẻ em
Nấu ăn	55%	15%	20%	10%
Giặt giũ	80%	5%	10%	5%
Dọn dẹp nhà cửa	55%	35%		
Chuẩn bị thức ăn cho gia súc	75%	5%	10%	10%
Đi chợ mua/bán sản phẩm	90%	10%		
Chăm sóc con cái	65%	35%		
Lấy củi	55%	15%	15%	15%
Chăm sóc gia súc, gia cầm	50%	30%	15%	5%
Vệ sinh chuồng trại	35%	55%	10%	
Chăn thả gia súc	10%	10%	40%	40%
Các hoạt động xã hội				
Cưới xin	50%	50%		
Ma chay	50%	50%		
Họp làng	35%	65%		
Họp phụ huynh	40%	60%		

No. 3 CÁC HOẠT ĐỘNG THEO GIỚI
 Thôn Đô Lương, xã Bắc Sơn, huyện Sóc Sơn
 (Nhóm: Nam). (♂)

Các hoạt động sản xuất	Nữ trưởng thành	Nam trưởng thành	Nữ trẻ em	Nam trẻ em
Cày bừa	15%	85%		
Gieo mạ, cấy lúa	15%	85%		
Bón phân	70%	30%		
Làm cỏ lúa	70%	15%	15%	
Phun thuốc sâu cho lúa	10%	90%		
Gặt lúa	60%	30%		
Phơi thóc	40%	45%	5%	10%
Hái chè	55%	25%	10%	10%
Rang chè	30%	30%	20%	20%
Tưới cây	25%	75%		
Phun thuốc sâu cho chè và cây ăn quả	10%	90%		
Làm đất trong vườn nhà	25%	65%		
Làm đất trên đồi	35%	60%		
Ươm giống	25%	75%		
Triết, ghép cành	10%	90%		
Chọn giống	35%	65%		
Trồng cây	30%	60%		10%
Rẫy cỏ trong vườn, trên đồi	40%	35%	15%	10%
Bón phân trong vườn, trên đồi	45%	40%	5%	5%
Thu hoạch hoa quả	45%	45%	5%	5%
Chặt, tía cành	20%	80%		
Làm phân	75%	15%	10%	
Đánh cá	5%	80%		15%
Phối giống cho gia súc	10%	90%		
Cấy lúa	80%	10%	10%	
Thăm đồng	40%	60%		
Vận chuyển lúa				
Đập lúa	25%	75%		
Trồng & chăm sóc màu	80%	15%	5%	

CÁC HOẠT ĐỘNG THEO GIỚI
Thôn Đô Lương, xã Bắc Sơn, huyện Sóc Sơn (tiếp theo)

Các hoạt động tái sản xuất	Nữ trưởng thành	Nam trưởng thành	Nữ trẻ em	Nam trẻ em
Nấu ăn	50%	20%	20%	10%
Giặt giũ	80%	10%	2%	3%
Dọn dẹp nhà cửa	45%	50%	5%	
Chuẩn bị thức ăn cho gia súc	70%	10%	10%	10%
Đi chợ mua/bán sản phẩm	90%	10%		
Chăm sóc con cái	50%	50%		
Lấy củi	50%	20%	15%	15%
Chăm sóc giá súc, gia cầm	45%	35%	10%	10%
Vệ sinh chuồng trại	30%	60%		
Chăn thả gia súc	10%	10%	40%	40%
Các hoạt động xã hội				
Cưới xin	50%	50%		
Ma chay	50%	50%		
Họp làng	35%	65%		
Họp phụ huynh	40%	60%		

№.4 TIẾP CẬN VÀ KIỂM SOÁT TÀI NGUYÊN

Thôn Đô Lương, xã Bắc Sơn, huyện Sóc Sơn, Hà Nội

(Nhóm: nam + nữ). (♂ + ♀)

	Tiếp cận		Kiểm soát	
	Nữ	Nam	Nữ	Nam
A. Tài nguyên				
• Đất đai	... 50% ...	... 50% ...	... 50% ...	... 50% ...
• Nước	... 50% ...	... 50% ...	... 40% ...	... 60% ...
• Công cụ sản xuất	... 45% ...	... 55% ...	... 40% ...	... 60% ...
• Kỹ thuật	... 30% ...	... 70% ...	... 30% ...	... 70% ...
• Tiền/vốn	... 60% ...	... 40% ...	... 40% ...	... 60% ...
• Giáo dục	... 35% ...	... 65% ...	... 35% ...	... 65% ...
• Việc làm	... 50% ...	... 50% ...	... 50% ...	... 50% ...
• Các hoạt động chính trị	... 30% ...	... 70% ...	... 30% ...	... 70% ...
B. Nguồn lợi				
• Tiền mặt	... 60% ...	... 40% ...	... 40% ...	... 60% ...
• Tài sản	... 40% ...	... 60% ...	... 40% ...	... 60% ...
• Các nhu cầu cơ bản	... 53% ...	... 47% ...	... 50% ...	... 50% ...
• Giáo dục	... 45% ...	... 55% ...	... 45% ...	... 55% ...
• Quyền hạn về chính trị	... 40% ...	... 60% ...	... 40% ...	... 60% ...

No. 5 TIẾP CẬN VÀ KIỂM SOÁT TÀI NGUYÊN

Thôn Đô Lương, xã Bắc Sơn, huyện Sóc Sơn, Hà Nội

(Nhóm: Nữ) (♀)

	Tiếp cận		Kiểm soát	
	Nữ	Nam	Nữ	Nam
A. Tài nguyên				
• Đất đai	... 50% ...	... 50% ...	... 50% ...	... 50% ...
• Nước	... 50% ...	... 50% ...	... 40% ...	... 60% ...
• Công cụ sản xuất	... 40% ...	... 60% ...	... 40% ...	... 60% ...
• Kỹ thuật	... 30% ...	... 70% ...	... 30% ...	... 70% ...
• Tiền/vốn	... 60% ...	... 40% ...	... 40% ...	... 60% ...
• Giáo dục	... 30% ...	... 70% ...	... 30% ...	... 70% ...
• Việc làm	... 50% ...	... 50% ...	... 50% ...	... 50% ...
• Các hoạt động chính trị	... 30% ...	... 70% ...	... 30% ...	... 70% ...
B. Nguồn lợi				
• Tiền mặt	... 55% ...	... 45% ...	... 40% ...	... 60% ...
• Tài sản	... 40% ...	... 60% ...	... 40% ...	... 60% ...
• Các nhu cầu cơ bản	... 60% ...	... 40% ...	... 60% ...	... 40% ...
• Giáo dục	... 40% ...	... 60% ...	... 40% ...	... 60% ...
• Quyền hạn về chính trị	... 40% ...	... 60% ...	... 40% ...	... 60% ...

№.6 TIẾP CẬN VÀ KIỂM SOÁT TÀI NGUYÊN

Thôn Đồ Lương, xã Bắc Sơn, huyện Sóc Sơn, Hà Nội

(Nhóm : Nam) (♂)

	Tiếp cận		Kiểm soát	
	Nữ	Nam	Nữ	Nam
A. Tài nguyên				
• Đất đai	...50%...	...56%...	...50%...	...50%...
• Nước	...50%...	...50%...	...40%...	...60%...
• Công cụ sản xuất	...50%...	...50%...	...40%...	...60%...
• Kỹ thuật	...30%...	...70%...	...30%...	...70%...
• Tiền/vốn	...70%...	...30%...	...40%...	...60%...
• Giáo dục	...35%...	...65%...	...35%...	...65%...
• Việc làm	...45%...	...55%...	...45%...	...55%...
• Các hoạt động chính trị	...20%...	...80%...	...20%...	...80%...
B. Nguồn lợi				
• Tiền mặt	...70%...	...30%...	...36%...	...70%...
• Tài sản	...40%...	...60%...	...40%...	...60%...
• Các nhu cầu cơ bản	...50%...	...50%...	...50%...	...50%...
• Giáo dục	...45%...	...55%...	...45%...	...55%...
• Quyền hạn về chính trị	...35%...	...65%...	...35%...	...65%...

№.7 CÁC HOẠT ĐỘNG THEO GIỚI

Thôn Đò Tân, xã Bắc Sơn, huyện Sóc Sơn

Nhóm: Nam + Nữ (♂ + ♀)

Các hoạt động sản xuất	Nữ trưởng thành	Nam trưởng thành	Nữ trẻ em	Nam trẻ em
Cày bừa	35%	65%		
Gieo mạ	20%	80%		
Cấy lúa	90%		10%	
Bón phân	70%	10%	10%	10%
Làm cỏ lúa	80%		15%	5%
Phun thuốc sâu cho lúa	10%	90%		
Thăm đồng	50%	50%		
Gặt lúa	75%	10%	10%	5%
Phơi thóc	40%	40%	10%	10%
Làm đất ruộng màu	40%	60%		
Ươm giống	30%	70%		
Triệt, ghép cành	20%	80%		
Chọn giống	40%	60%		
Trồng cây	35%	65%		
Rẫy cỏ trong vườn	40%	60%		
Bón phân				
Tưới cây	30%	70%		
Thu hoạch hoa quả	40%	60%		
Chặt, tía cành	25%	75%		
Cắt cỏ, làm phân	60%	10%	20%	10%
Đánh cá	10%	80%		10%
Phối giống cho gia súc	10%	90%		
<i>Vận chuyển lúa</i>	40%	50%		10%
<i>Đập lúa</i>	35%	65%		
<i>Chăm sóc ruộng màu</i>	50%	45%	5%	
<i>Thu hoạch ruộng màu</i>	50%	50%		

CÁC HOẠT ĐỘNG THEO GIỚI
Thôn Đò tân, xã Bắc Sơn, huyện Sóc Sơn (tiếp theo)

Các hoạt động tái sản xuất	Nữ trưởng thành	Nam trưởng thành	Nữ trẻ em	Nam trẻ em
Nấu ăn	50%	40%	10%	
Giặt giũ	50%	20%	20%	10%
Dọn dẹp nhà cửa	40%	40%	10%	10%
Chuẩn bị thức ăn cho gia súc	60%	25%	10%	5%
Đi chợ mua/bán sản phẩm	95%	5%		
Chăm sóc con cái	50%	50%		
Lấy củi	40%		40%	20%
Chăm sóc giá súc, gia cầm	50%	35%		
Vệ sinh chuồng trại	40%	60%		10%
Chăn thả gia súc	10%	10%	40%	40%
Các hoạt động xã hội				
Cưới xin	50%	50%		
Ma chay	50%	50%		
Họp làng	40%	60%		
Họp phụ huynh	40%	60%		

№. 8 CÁC HOẠT ĐỘNG THEO GIỚI
Thôn Đò Tân, xã Bắc Sơn, huyện Sóc Sơn
Nhóm : Nữ

Các hoạt động sản xuất	Nữ trưởng thành	Nam trưởng thành	Nữ trẻ em	Nam trẻ em
Cày bừa	35%	65%		
Gieo mạ	20%	80%		
Cấy lúa	90%		0%	
Bón phân	75%	15%	5%	5%
Làm cỏ lúa	85%		10%	5%
Phun thuốc sâu cho lúa	10%	90%		
Thăm đồng	50%	50%		
Gặt lúa	75%	10%	10%	5%
Phơi thóc	40%	40%	10%	10%
Làm đất ruộng màu	40%	60%		
Ươm giống	30%	70%		
Triết, ghép cành	20%	80%		
Chọn giống	50%	50%		
Trồng cây	35%	65%		
Rẫy cỏ trong vườn	45%	55%		
Bón phân				
Tưới cây	30%	70%		
Thu hoạch hoa quả	50%	50%		
Chặt, tía cành	25%	75%		
Cắt cỏ, làm phân	65%	10%	20%	5%
Đánh cá	10%	80%		10%
Phối giống cho gia súc	10%	90%		
Vai chuyển lúa	40%	50%	5%	5%
Đắp lúa	35%	65%		
Chăm sóc ruộng màu	60%	35%	5%	
Thu hoạch ruộng màu	55%	45%		

№. 9 CÁC HOẠT ĐỘNG THEO GIỚI
Thôn Đô Tân, xã Bắc Sơn, huyện Sóc Sơn
 Nhóm : Nữ (57)

Các hoạt động sản xuất	Nữ trưởng thành	Nam trưởng thành	Nữ trẻ em	Nam trẻ em
Cày bừa	25%	75%		
Gieo mạ	15%	85%		
Cấy lúa	90%		10%	
Bón phân	70%	10%	10%	10%
Làm cỏ lúa	90%		10%	
Phun thuốc sâu cho lúa	10%	90%		
Thăm đồng	45%	55%		
Gặt lúa	65%	20%		
Phơi thóc	40%	45%	5%	10%
Làm đất ruộng màu	35%	65%		
Ươm giống	30%	70%		
Triết, ghép cành	15%	85%		
Chọn giống	40%	60%		
Trồng cây	20%	80%		
Rẫy cỏ trong vườn	40%	60%		
Bón phân				
Tưới cây	25%	75%		
Thu hoạch hoa quả	40%	60%		
Chặt, tía cành	20%	80%		
Cắt cỏ, làm phân	60%	10%	20%	10%
Đánh cá	10%	40%		
Phối giống cho gia súc	10%	90%		
Vận chuyển lúa	35%	55%	5%	5%
Đập lúa	30%	70%		
Chăm sóc ruộng màu	50%	45%	5%	
Thu hoạch ruộng màu	50%	50%		

CÁC HOẠT ĐỘNG THEO GIỚI
Thôn Đò tân, xã Bắc Sơn, huyện Sóc Sơn (tiếp theo)

Các hoạt động tái sản xuất	Nữ trưởng thành	Nam trưởng thành	Nữ trẻ em	Nam trẻ em
Nấu ăn	50%	40%	10%	
Giặt giũ	40%	30%	20%	
Dọn dẹp nhà cửa	40	40	10%	10%
Chuẩn bị thức ăn cho gia súc	50%	30%	10%	10%
Đi chợ mua/bán sản phẩm	95%	5%		
Chăm sóc con cái	40%	60%		
Lấy củi	40%		40%	20%
Chăm sóc giá súc, gia cầm	45%	40%	10%	5%
Vệ sinh chuồng trại	40%	60%		10%
Chăn thả gia súc	10%	10%	40%	40%
Các hoạt động xã hội				
Cưới xin	50%	50%		
Ma chay	50%	50%		
Họp làng	40%	60%		
Họp phụ huynh	40%	60%		

No. 11 TIẾP CẬN VÀ KIỂM SOÁT TÀI NGUYÊN

Thôn Đò Tân, xã Bắc Sơn, huyện Sóc Sơn, Hà Nội

(Nhóm: nam + nữ). (♂ + ♀)

	Tiếp cận		Kiểm soát	
	Nữ	Nam	Nữ	Nam
B. Tài nguyên				
• Đất đai	... 50% ...	... 50% ...	... 40% ...	... 60% ...
• Nước	... 50% ...	... 50% ...	... 40% ...	... 60% ...
• Công cụ sản xuất	... 50% ...	... 50% ...	... 40% ...	... 60% ...
• Kỹ thuật	... 65% ...	... 35% ...	... 65% ...	... 35% ...
• Tiền/vốn	... 55% ...	... 45% ...	... 40% ...	... 60% ...
• Giáo dục	... 40% ...	... 60% ...	... 40% ...	... 60% ...
• Việc làm	... 35% ...	... 65% ...	... 35% ...	... 65% ...
• Các hoạt động chính trị	... 30% ...	... 70% ...	... 30% ...	... 70% ...
B. Nguồn lợi				
• Tiền mặt	... 50% ...	... 50% ...	... 45% ...	... 55% ...
• Tài sản	... 40% ...	... 60% ...	... 35% ...	... 65% ...
• Các nhu cầu cơ bản	... 50% ...	... 50% ...	... 50% ...	... 50% ...
• Giáo dục	... 45% ...	... 55% ...	... 45% ...	... 55% ...
• Quyền hạn về chính trị	... 35% ...	... 65% ...	... 30% ...	... 70% ...

No. 12 TIẾP CẬN VÀ KIỂM SOÁT TÀI NGUYÊN

Thôn Đò Tân, xã Bắc Sơn, huyện Sóc Sơn, Hà Nội

Nhóm: Nữ (♀)

	Tiếp cận		Kiểm soát	
	Nữ	Nam	Nữ	Nam
B. Tài nguyên				
• Đất đai	.. 50% ..	... 50% ..	... 40% ..	.. 60% ..
• Nước	.. 50% ..	... 50% ..	... 40% ..	.. 60% ..
• Công cụ sản xuất	.. 40% ..	... 60% ..	... 40% ..	.. 60% ..
• Kỹ thuật	.. 70% ..	... 30% ..	... 70% ..	.. 30% ..
• Tiền/vốn	... 55% ..	... 45% ..	... 40% ..	.. 60% ..
• Giáo dục	.. 40% ..	... 60% ..	... 40% ..	.. 60% ..
• Việc làm	.. 30% ..	... 70% ..	... 30% ..	.. 70% ..
• Các hoạt động chính trị	... 30% ..	... 70% ..	... 30% ..	.. 70% ..
B. Nguồn lợi				
• Tiền mặt	.. 50% ..	... 50% ..	... 50% ..	.. 50% ..
• Tài sản	.. 40% ..	... 60% ..	... 40% ..	.. 60% ..
• Các nhu cầu cơ bản	.. 50% ..	... 50% ..	... 50% ..	.. 50% ..
• Giáo dục	.. 40% ..	... 60% ..	... 40% ..	.. 60% ..
• Quyền hạn về chính trị	... 35% ..	... 65% ..	... 30% ..	.. 70% ..

№. 13 TIẾP CẬN VÀ KIỂM SOÁT TÀI NGUYÊN

Thôn Đò Tân, xã Bắc Sơn, huyện Sóc Sơn, Hà Nội

Nhóm: Nam (♂)

	Tiếp cận		Kiểm soát	
	Nữ	Nam	Nữ	Nam
B. Tài nguyên				
• Đất đai	.. 50% ..	.. 50% ..	.. 40% ..	.. 60% ..
• Nước	.. 50% ..	.. 50% ..	.. 40% ..	.. 60% ..
• Công cụ sản xuất	.. 50% ..	.. 50% ..	.. 40% ..	.. 60% ..
• Kỹ thuật	.. 65% ..	.. 35% ..	.. 65% ..	.. 35% ..
• Tiền/vốn	.. 55% ..	.. 45% ..	.. 35% ..	.. 65% ..
• Giáo dục	.. 45% ..	.. 55% ..	.. 45% ..	.. 55% ..
• Việc làm	.. 40% ..	.. 60% ..	.. 40% ..	.. 60% ..
• Các hoạt động chính trị	.. 30% ..	.. 70% ..	.. 30% ..	.. 70% ..
B. Nguồn lợi				
• Tiền mặt	.. 55% ..	.. 45% ..	.. 40% ..	.. 60% ..
• Tài sản	.. 40% ..	.. 60% ..	.. 35% ..	.. 65% ..
• Các nhu cầu cơ bản	.. 50% ..	.. 50% ..	.. 40% ..	.. 60% ..
• Giáo dục	.. 50% ..	.. 50% ..	.. 50% ..	.. 50% ..
• Quyền hạn về chính trị	.. 30% ..	.. 70% ..	.. 30% ..	.. 70% ..