Sustainability of Industrial Forest Plantations and Indigenous Land Rights in the Philippines

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ABSTRACT

In the Philippines, forest management two decades ago was mainly aimed at addressing the need for economic growth. There was low priority accorded to the long-term sustainability and inherent environmental functions of the country's forests as well as social equity issues over the use of these resources. Sustainable development and the management of forest resources during that time was nothing more than just a concept used by academicians, ecologists, and forestry professionals. Forest management also ignored the concerns and interests of the forest dwellers particularly the indigenous people. It was not until the late 70s and early 80s when the effects of deforestation and rapid depletion of forest resources impacted on the country's economic, social, and environmental wellbeing, did the country realise the need to sustainably manage these resources. The need to consider the economic and social wellbeing of the forest dwellers particularly the indigenous people, also started to be recognised.

The growing consciousness on the need to balance development with environmental protection, and the inherent need to sustain the flow of benefits from the country's forest resources, has become the main rationale in developing sustainable forest management policies. The primary vision was to adopt forest management policies that can help ensure that various benefits that can be derived from the forests would cater to the needs of the greatest number of Filipinos in the longest period of time without compromising the environment. The development of industrial forest plantations has been one of the major forest management strategies designed in support of such vision in the management of the country's forest resources.

This study was undertaken to provide an understanding of industrial forest plantations as a forest management strategy in the Philippines and how it impacts on indigenous people and local communities. Using a qualitative research approach, case studies of three industrial forest plantations were analysed to investigate the impact of industrial forest plantations on indigenous

people and local communities. The case studies were also used to examine the degree to which industrial forest plantations have been achieving economic, social, and environmental objectives by identifying and examining the factors that may enhance or hamper its sustainability as a forest development strategy.

This study concluded that there is a growing role for industrial forest plantations in the sustainable management of forest resources in the Philippines. This role derives from the need to develop alternative sources of timber to the rapidly depleting sources from the natural forests, bringing socio-economic development in the upland areas in the country, and promoting environmental rehabilitation. As a forest management strategy, industrial forest plantations can promote social equity by recognising the rights of indigenous people over their land and the use of resources therein and by encouraging local community participation in the development process, which in a way helps strengthen local institutions. It was shown in this study that the integration and definition of property rights of indigenous people in any upland development programme is a critical factor that seriously affects the success and sustainability of any forest management strategy. The success of any forestry programme can only be achieved if supported by effective institutional and policy framework.

Finally, it was concluded that industrial forest plantations could only be sustainable if as a policy strategy, it has been designed to consider the "bottom up" perspective where local needs, community values, and indigenous rights are consistent with the overall national goals of sustainable development.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

GLOSSARY

1) **Agroforestry** - a sustainable management for land, which increases overall production, combines agricultural crops, tree crops, and forests plants, and animals or livestock simultaneously or sequentially with the cultural patterns or the local population.

2) **Alienable and Disposable land** (A & D) - those lands of the public domain which have been classified and declared as not needed for forest purposes.

3) **Barangay** - The smallest local government unit consisting of several villages or communities

4) **Biodiversity** - the diversity of life forms, either flora or fauna, at all biological levels.

5) **Brushland** - land which is predominantly covered with shrub growth or short, stunted trees or shrubs.

6) **Distress Syndrome** - refers to the irreversible process of biotic systems breakdown, such as forest systems, leading to termination of the system even before its life span is attained.

7) **IFMA** - a contractual agreement entered into by the DENR and a qualified applicant that devolves to the applicant the responsibility for the following:
   - Invest in, manage and protect a defined area of land under the DENR jusrisdiction;
   - Establish, manage, and utilise industrial forest plantations in specified locations within the area primarily to supply the raw material requirements of forest-based processing and energy related industries; and
   - Improve, manage, and protect residual forests in the area and to utilise on a sustainable basis timber and non-timber forest products from the residual forests.

8) **IFMA Area** - a defined area of land under the jurisdiction of the DENR covered by an IFMA.

9) **Industrial Forest Plantation** - any tract of land predominantly planted to timber producing species including rubber and/or non-timber species such as rattan and bamboo.

10) **Kaingin** - a portion of the forest land which is subjected to shifting cultivation or permanent slash and burn cultivation having little or no regard to prevent soil erosion.

11) **Lease Agreement** - a privilege granted by the State to a person or a company to utilise and manage forest resources within any forest land with the right of occupation and possession over the same, to the exclusion of others, except the government, but with the corresponding obligation to develop, protect, and rehabilitate the same in accordance with the terms and conditions set forth in the agreement.

12) **Logged-over areas** - land areas in indigenous forests, which have been previously subjected to logging activities.

13) **Multiple-Use Forest Management** - the development, protection, and harmonious utilisation of the various beneficial uses of the forest.

14) **Open and Denuded land** - land that has been depleted of its natural forest cover and is predominantly covered with grasses, herbaceous species or bare soil.

15) **Pruning** - removing branches including live branches flush with the stem to promote the growth of knot free timber.

16) **Pulong-pulong** - A local term used in ALSONS, which refers to a small group community discussion.

17) **Regalian Doctrine** - a doctrine of medieval origin which, recognises that all lands and natural resources in the public domain belong to the state.

18) **Residual Natural Forest** - a contiguous area of ten hectares or more of undisturbed dipterocarp/natural forest which has an average basal area of at least five square meters per hectare.

19) **Rotation period** - the period to grow trees from planting to a harvestable stage to clearfelling.

20) **Sawlog** - a log suitable in size and quality for the manufacture of sawn timber.

21) **Selective Logging System** - the systematic removal of mature, over-mature, and defective trees in such manner as to leave an adequate number and volume of healthy residual trees of the desired species necessary to assure a future crop of timber, and forest cover for the protection and conservation of soil and water.

22) **Stumpage** - a pricing system whereby the price point is the standing tree. Also, the value of standing timber when all harvesting costs have been paid.

23) **Sustained Yield** - the continuous or periodic production of forest products with intervention when necessary to achieve at the earliest practicable time an approximate balance between growth and harvest.

24) **Thinning** - the process of culling out some trees in a stand usually those of inferior quality, before maturity or clearfelling to improve the quality in terms of growth and form of potential crop trees.

ABBREVIATIONS

1. **ADB** - Asian Development Bank
2. **AFF** - Agroforestry Tree Farm Lease
3. **ALSONS** - Alcantara and Sons Incorporated
4. **ANR** - Assisted Natural Regeneration
5. **AOP** - Annual Operations Plan
6. **BFD** - Bureau of Forest Development
7. **BFI** - Bukidnon Forests Incorporated
8. **CADC** - Certificate of Ancestral Domain Claim
9. **CADT** - Certificate of Ancestral Domain Title
10. **CALC** - Certificate of Ancestral Land Claim
11. **CALT** - Certificate of Ancestral Land Title
12. **CBFM** - Community-Based Forest Management
13. **CENRO** - Community Environment and Natural Resources Office
14. **CFMA** - Community Forest Management Agreement
15. **CSC** - Certificate of Stewardship Contract
16. **CTF** - Communal Tree Farm
17. **DAF** - Department of Agriculture and Food
18. **DAR** - Department of Agrarian Reform
19. **DAO** - DENR Administrative Order
20. **DECS** - Department of Education Culture and Sports
21. **DENR** - Department of Environment and Natural Resources
22. **DILG** - Department of Interior and Local Government
23. **DOH** - Department of Health
24. **DOJ** - Department of Justice
25. **DPWH** - Department of Public works and Highways
26. **DSWD** - Department of Social Welfare and Development
27. **EIA** - Environmental Impact Assessment
28. **EIS** - Environmental Impact Statement
29. **EO** - Executive Order
30. **FAR** - Family Approach to Reforestation
31. **FAO** - Food and Agriculture Organization of the United Nations
32. **FMB** - Forest Management Bureau
33. **FOM** - Forest Occupancy Management
34. **GDP** - Gross Domestic Product
35. **ICC** - Indigenous Cultural Communities
36. **IEC** - Information, Education, and Communication Campaign
37. **IEMSD** - Integrated Environmental Management for Sustainable Development
38. **IFMA** - Integrated Forest Management Agreement
39. **IFP** - Industrial Forest Plantation
40. **IP** - Indigenous People
41. **IPRA** - Indigenous People's Rights Act
42. **ISFP** - Integrated Social Forestry Programme
43. **ITTO** - International Tropical Timber Organization
44. **ITP** - Industrial Tree Plantation
45. **ITP** - Industrial Tree Plantation

46. **IUCN** - International Union for the Conservation of Nature and Natural Resources
47. **KCDFI** - Kapalong Cultural Development Foundation
48. **MAI** - Mean Annual Increment
49. **NALCO** - Nasipit Lumber company
50. **NEDA** - National Economic and Development Authority
51. **NGO** - Non-Government Organization
52. **NZODA** - New Zealand Official Development Assistance
53. **PENRO** - Provincial Environment and Natural Resources Office
54. **PCSD** - Philippine Council for Sustainable Development
55. **PD** - Presidential Decree
56. **PHP** - Philippine Pesos (currency in the Philippines)
57. **PICOP** - Pulp and Paper Industries Corporation of the Philippines
58. **PLA** - Pasture Lease Agreement
59. **PMPFD** - Philippine Master Plan for Forestry Development
60. **PO** - People's Organization
61. **PROMANBATA** - Provident, Manobo, Banua-on, Talaandig, Foundation
62. **PSSD** - Philippine Strategy for Sustainable Development
63. **PTFI** - Provident Tree Farms Incorporated
64. **RA** - Republic Act
65. **SIFMA** - Socialized Integrated Forest Management Agreement
66. **TLA** - Timber License Agreement
67. **UNCED** - United Nations Conference for Environment and Development
68. **WB** - World Bank
69. **WCED** - World Commission for Environment and Development

LIST OF APPENDICES

CHAPTER 1

1 INTRODUCTION

1.1 BACKGROUND

The decline in the world's forests has led many countries to seek various strategies to mitigate the impact of this decline on their economies and environment. Forest resources have various environmental and economic functions that support the socio-economic development of many countries, particularly in the third world where most of the world's tropical forests can be found. It has been widely recognised in third world countries that tropical forests are major resources that can propel and stimulate economic growth and development. Even developed countries, although they are not directly dependent economically on the tropical forest resources of developing countries have consumption patterns that are equally dependent from these resources. As forest resources are being depleted, the long-term potential of developing countries to maintain economic growth and promote a wholesome environment is being jeopardised.

The effect of deforestation, which is the main cause of forest depletion, is now causing alarm in different countries across the globe. The growing awareness of the many interrelationships between deforestation and land degradation, floods, drought, famine, and rural poverty, particularly in the developing countries, have created an urgent need to find means of sustainably managing the remaining natural forests. One method has been the development of sustainable forest plantations. The need for sustainable development approaches to manage forest resources has become apparent in the light of this growing global concern on the accelerated rate of forest depletion. The crises brought about by the rapid depletion of these resources impacts on the economy as well as on the environment, and has a disproportionate impact on indigenous people.

The Philippines is one of the countries seriously affected by the rapid depletion of its forest resources. The country's forests are considered the centrepiece of its natural resource base and the forestry sector has been viewed as one of the major factors contributing to its economic growth. Forestry activities also support a large number of people by providing an estimated 292,000 full-time jobs. Recent estimates show that nearly 10 million people rely on forests for their livelihood (Vitug, 1996). However, over the years the forestry sector's contribution to the country's economy has been declining considerably. The forestry sector contributed 12.5% of the country's Gross Domestic Product (GDP) in 1970, but this dropped to only 1.3% in 1990 (ADB, 1994). The decline is attributed to the rapid depletion of forest resources as a result of; large-scale commercial logging, land conversion, illegal logging and timber poaching, which are mainly characterised by exploitative approach to utilisation. Unsustainable upland farming brought about by a continuously growing population in the uplands further aggravated the depletion in forest resources.

The severe impacts of deforestation are gradually diminishing the important contributions of forestry to the economic and environmental well being of the country. The total loss of forest cover between 1969 and 1993 was estimated at 4.8 million hectares (ADB, 1994). This rate corresponds to an average annual deforestation rate as high as 300,000 hectares per year in the late 1960s, which was reduced to 150,000 hectares per year in the 1980s, and in recent estimates down to 100,000 hectares per year (DENR, 1994).

These annual rates of deforestation have been acknowledged to be among the highest in the world. In 1991, the Department of Environment and Natural Resources (DENR) estimated that only 3.88 million hectares are the remaining forest cover or 19% of the country's total land area, of which only 0.87 million hectares are identified as virgin forests (ADB, 1994).

1.2 RATIONALE

1.2.1. Dwindling Resources and the Role of Industrial Forest Plantations

The consequences of rapid forest depletion and the subsequent measures towards conservation imposed by the Government have shaken up the entire forest industry. The available timber resources continue to decrease and as log production follows a downward trend, the number of Timber License Agreements (TLAs) has been drastically reduced from 230 in 1977 to only 28 in 1993 (ADB, 1994).

The decline and the uncertainty regarding the availability of wood supplies have brought investments in forest industries to almost standstill. The production of logs sharply decreased from 4.5 million cubic meters in 1983 to only 1.4 million cubic meters in 1992, or an average decline of 11% per year (Fronda, 1994). This has caused many wood processing plants to close down which has resulted in a loss of employment opportunities and foreign exchange earnings for the country (DENR, 1990). This situation has also forced the importation of logs as a short-term solution to augment local supply of wood to meet local demands. Furthermore, the government has also acknowledged that, as a long term solution, the development of large-scale industrial forest plantations will be one of a number of major strategies designed to ensure a sustainable and adequate supply of wood to support the requirements of local forest-based industries (DENR, 1994). It was thought that without adequate forest plantations to augment the supply of wood from indigenous forests, the country will not attain sustainability in forestry (Sanvictores, 1997).

The dwindling supply of forest resources and economic opportunities in forest development has set the premise for the government to develop a strategy for the development of large-scale forest plantations and to encourage private sector participation. The strategy drew interest during the late 1980s from private investors wanting to develop industrial forest plantations, which would have both production and forest rehabilitation objectives.

Hence, by the end of 1997 there were 233 Industrial Tree Plantation (ITP) leases/Integrated Forest Management Agreements (IFMA) and 115 Tree Farm leases issued by the government to private individuals and corporations covering estimated areas of 524,676 hectares and 15,951 hectares, respectively (Phil. Forest Management Bureau, 1997).

1.2.2 The Need for Sustainable Approaches in Forest Management

The development of industrial forest plantations is a response to the growing recognition on the need to manage forest resources for their economic as well as the environmental benefits. There may be difficulties in balancing development and environmental protection in the management of forest resources, but it is now impossible to separate economic development from environmental issues. The growing acceptance of this development principle is one of the underlying factors that has led the Philippine government to adopt sustainable development approaches in developing policies and strategies for the management of its forest resources. As an emerging development paradigm, 'sustainable development' is becoming a dominant framework in developing and pursuing forest management policies, which are to be based on effective and equitable use of the country's forest resources. The government saw the need to shift development approaches towards those that could provide opportunities to attain economic development and at the same time promote the sustainable management of forest resources. The development of industrial forest plantations has been perceived as a one of the major forest management strategies that attempt to integrate and balance economic and environmental goals.

1.2.3 The Development of Industrial Forest Plantations as a Policy Strategy

The shift in development approaches towards sustainable forest management requires the development of policies and strategies that integrates development with environmental goals.

In the Philippines, it has been recognised that planning and program implementation in natural resources development is highly sectoralised, comprising; economic, social, and environmental sectors. The lack of coherence among these sectors and inadequate recognition of their inextricable links has resulted in policy conflicts and unbalanced development.

The development of industrial forest plantations as a policy strategy is viewed as one of the major sustainable development approaches in forest management that can provide good prospects for sustainable management and development of forest resources. The loss of natural forests has made it inevitable that the development of forest plantations of fast growing species will play an increasingly important role in supplying the country's future wood requirements while helping reforest badly denuded lands resulting from severe deforestation. Relative to this, the Master Plan for Forestry Development noted that in order to meet the demands for all types of wood in the country an estimated 1.4 million hectares of forest plantations should be established by the year 2000 (DENR, 1991). Industrial forest plantations are expected to play major role in developing alternative sources of timber due to the rapidly depleting supply from the natural forest.

1.2.4 Land Tenure and the Rights of Indigenous People

In industrial forest plantation development, access to land resources is a key issue. Private individuals and corporations involve in forest development, lease the areas intended for forest plantation development from the government for a period of 25 years. However, there is a problem of security of tenure over these areas given that they are also located within the ancestral domains of indigenous cultural communities (ICC).

An estimated 12 million Filipinos belong to indigenous cultural communities (ICCs) or Indigenous People (IP) consisting of 110 ethno-linguistic groups. They constitute 10% of the Philippine population and are found all over the Philippine archipelago and that they are concentrated in upland forest zones.

Throughout the country, the indigenous people are claiming about 10 million hectares of ancestral lands that includes areas currently developed into large-scale industrial forest plantations. They consider the land sacred and communal ownership is the general rule. They see the land as symbolising their historical identity. It is an ancestral heritage that is to be defended and preserved for future generations. Ownership of the land is vested upon the community as a whole and the right to ownership is acquired through ancestral occupation and active production. The indigenous people believe that the land does not belong to only one generation but should be preserved for all future generations. Over the years, the indigenous people's dependence on the land has been continuously threatened because vast tracts of ancestral domains have been opened by the government to logging, large-scale industrial forest plantations, mining, pasture, and agriculture (Austria, 1996).

The 1987 Philippine Constitution recognises the rights of indigenous people as communities and provides for the protection of their "rights to their ancestral lands to ensure their economic, social, and cultural well-being" (Philippine Constitution, 1987). However, the government's policy on the development of industrial forest plantations does not have sufficient provisions relative to dealing with ancestral lands and ancestral domain claims within the areas of forest plantations. This leads to inconsistency in land use and potential development conflict.

1.3. AIMS AND OBJECTIVES

The aim of this study is to examine the impacts of industrial forest plantations on indigenous cultural communities (ICCs) and upland communities within the context of sustainable development and analyse how this forest management strategy can be sustainable. The study will focus on particular issues related to land tenure and rights of indigenous cultural communities, socio-economic impact on upland communities, and the implications of large-scale industrial forest plantation development on the management of remaining natural forests.

1.3.1 Thesis Objectives

To attain the above-mentioned thesis aim the study will investigate within the context of the existing institutional framework, the potential contribution of large-scale industrial forest plantations in the Philippines as part of its forest management strategy. The study has the following specific objectives:

- *To identify and examine the different factors specifically related to land tenure and the rights of indigenous cultural communities (ICCs) that may enhance or hamper the development of industrial forest plantations in Mlndanao;*

- *To analyse the socio-economic impact of industrial forest plantation development on indigenous people and the upland communities in Mindanao using three case studies in the provinces of Bukidnon, Davao del Norte, and Agusan del Sur;*

- *To investigate the degree to which industrial forest plantations are addressing economic, social, and environmental objectives in line with the sustainable development principles;*

- *To review the institutional framework and planning processes involve in the development of industrial forest plantations as a forest management strategy in Mindanao, Philippines; and*

- *To examine the impact of forest plantation development on the management of remaining natural forests.*

1.4 METHODOLOGY AND RESEARCH APPROACH

In achieving the thesis goals and objectives this study used sustainable development as the main theoretical basis for analysing the sustainability of industrial forest plantations. The study used a research approach that considered two primary strategies, namely: (a) literature review, and (b) case studies of three industrial forest plantations in Central and Northern, Mindanao, Philippines.

Some individuals who have knowledge on industrial forest plantation development and the relevant policies were also interviewed to gain

understanding of the institutional context of industrial forest plantations as a policy strategy.

1.4.1 Literature Review

A general literature review dealing with sustainable development as well as sustainable forest management systems was undertaken to provide a world perspective on sustainability issues in forestry and sustainable forest management. A local literature review was also carried out to determine the different approaches on sustainable development being undertaken in the Philippines and to examine the policy framework and strategies applied in sustainable forest management.

1.4.2 Case Study Analysis

Three case studies of industrial forest plantations in different geographical locations within Mindanao, Philippines, were identified specifically in the provinces of Bukidnon, Davao del Norte, and Agusan del Sur. These case studies provide the context for analysing issues and processes involved in the forest plantation development as well as the planning, policy formulation and actual policy implementation, and their impacts on the long-term sustainability of industrial forest plantations.

Village Survey Interview

Survey interviews were carried out in the case study, to analyse the socio-economic impact of industrial forest plantation development on the upland communities. The analysis focused on issues related to land tenure and the property rights of indigenous people as well as on the socio-economic impacts of industrial forest plantations. It was carried out through the used of prepared survey questionnaires which addressed issues related to land ownership and land tenure, the impact of forest plantations on the villages, and socio-economic issues.

The survey interviews were conducted in the villages and generated the basic data and information, which were used to examine the different factors that

have impacted on the indigenous cultural communities and on the sustainability of industrial forest plantations.

Interview with Key Informants

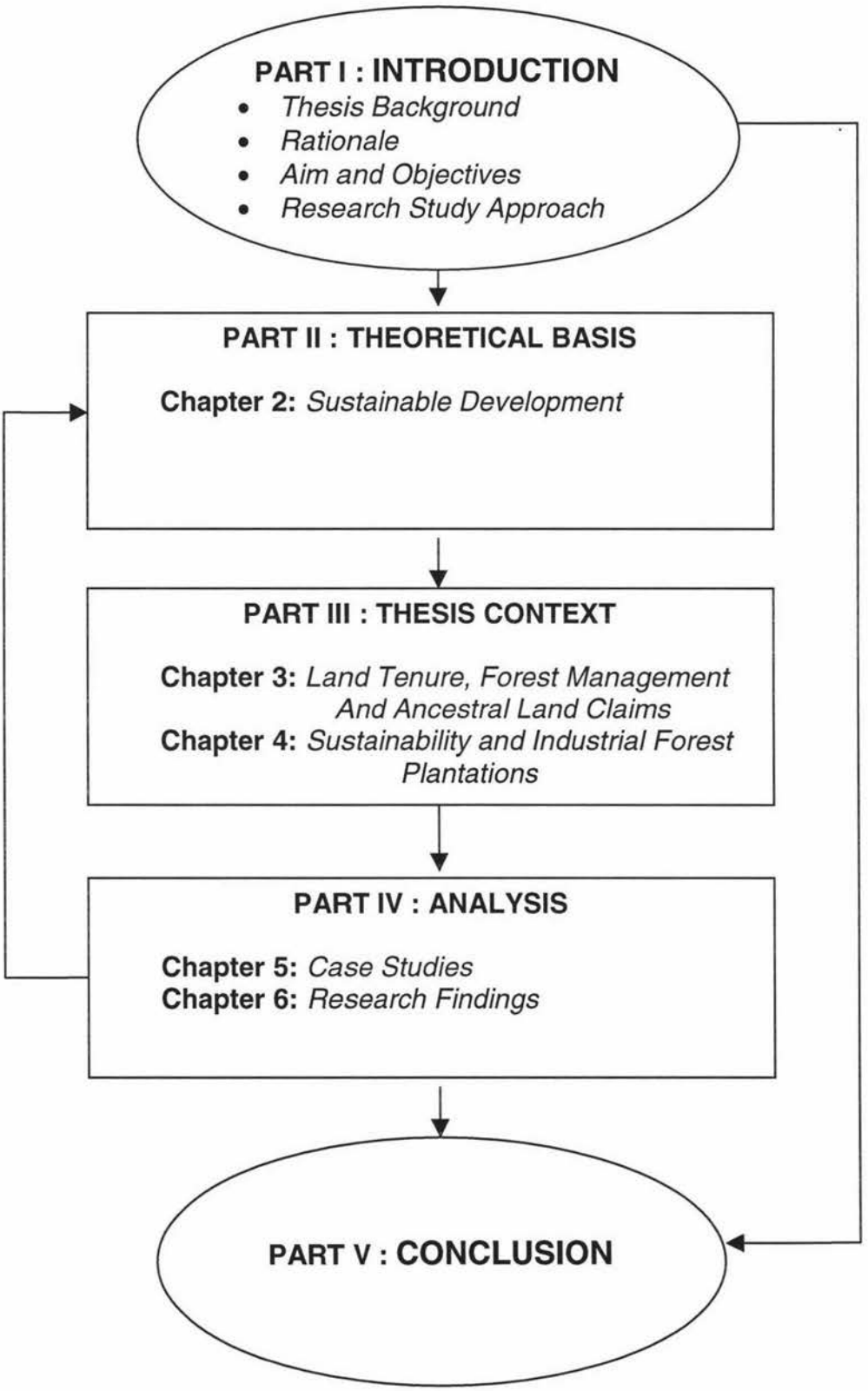
Informal interviews with officials of the Department of Environment and Natural Resources (DENR), Forest Management Bureau (FMB), and some of the major stakeholders in the development of industrial forest plantations have also been undertaken to analyse the implications of policy on the sustainability of the plantations. This part of the research focused on seeking information and understanding of the institutional framework and the policy planning processes involved in the development of industrial forest plantation.

1.4.3 Thesis Conceptual Framework

Figure 1.1 shows the conceptual framework of this thesis and the process in which the impact of industrial forest plantations on indigenous people and its sustainability as a forest management strategy was analysed.

- Part I establishes the background and rationale of the study;
- Part II will set the theoretical basis of the research;
- Part III will provide the context in relation to the aim and objectives of the study;
- Part IV will assess the impacts of industrial forest plantations on indigenous people using three industrial forest plantations as case studies. This part also investigates the factors that may affect the sustainability of industrial forest plantations as a forest management strategy; and
- Part V draws the summary and conclusion on the impact of industrial forest plantations on indigenous cultural communities and upland communities, as well as on how industrial forest plantations can be a sustainable strategy in forest management.

Figure 1.1: The conceptual thesis framework.



CHAPTER 2

2 SUSTAINABLE DEVELOPMENT

2.1 SUSTAINABLE DEVELOPMENT - A WORLD VIEW

Human activities aimed at promoting development have brought about a serious depletion of natural resources and the subsequent deterioration of the environment. These concern for the problems on the world's natural resources and these activities pose for the environment led to the development of the concept of sustainable development, which has the twin challenges of development and the environment. Muschett (1997) notes that the concept of sustainable development was originally applied to 'sustained yield' to enable the harvest of renewable resources such as forests and fisheries, at the same rate as nature (assisted by human management) was able to replenish. According to Pearse (1993, cited in Adamowicz, et. al) it was in the context of forests that the principles of sustained yield resource management were developed in the 18th century in Europe and incorporated into standard management practice. Hence, the same author argued that forestry might have provided environmental activists with a model of harmonising economic demands with nature's natural productivity.

The concept of 'sustained yield' explains that there are always limits as to what nature permits without damaging the ecological system and the resource base. Hence, the present day concept of sustainable development implies that in order to achieve sustainability, the assimilative capacity of the environmental system should always be taken into consideration in all human activities that involve the use of natural environmental resources. The assimilative capacity of the environmental system determines the carrying capacity for supporting population and economic activity.

The ascendancy of the concept of sustainable development emerged as a result of the increasing manifestations of development and environmental impacts of various human activities that are experienced globally. Environmental problems associated with development started to be recognised during the early 1970s and were brought to world attention through the Stockholm Conference on the Human Environment in 1972 (Grubb, et al. 1993). The term 'sustainable development' was first highlighted during the debates in the Stockholm Conference where the important outcome was to promote the development of national environmental policies.

However, the notion of sustainable development as a development paradigm originated with the World Conservation Strategy in 1980, presented by the International Union for the Conservation of Nature and Natural Resources. But, the first major attempt to bring together environment and development issues as a major focus towards a pathway of sustainable development is the World Commission for Environment and Development (WCED) report in 1987 otherwise known as "Our Common Future" or the Brundtland Commission report. After the Brundtland Commission Report in 1987, various countries started to develop their respective action programs directed towards the environment, which focuses on concerns about environmental problems associated with economic development.

The WCED report recognised sustainable development as a development pattern where the environment is seen not as an obstacle to growth but rather as an aspect that needs to be reflected in policies if growth is to be sustained. The Brundtland Commission's definition of sustainable development emphases the need to ensure that development "meets the needs of the present without compromising the ability of the future generations to meet their own needs" (WCED, 1987: 8). It has become the most quoted and prominent among of the various definitions of sustainable development. It provides the wider view of promoting development and a standard of living that does not impair the future ability of the natural resource base and the environment to provide life sustenance and life support systems.

The term 'sustainable development' has been ambiguous and confusing in its operational definition. Thus, a variety of interests have adopted the term sustainable development in pursuing their objectives but the fact remains that there is no common definition as to what it means. Each interest group; businessmen, industrialists, economists, ecologists, etc. have adopted their own interpretation, interpretations that sometimes may exclude important key elements such as social equity considerations, economic efficiency in the use of resources, and environmental protection. For instance, Lele (1991) noted that most people use sustainable development interchangeably with ecologically sustainable or environmentally sound development. He further asserts that this interpretation is characterised by, sustainability being understood as ecological sustainability; and a conceptualisation of sustainable development as a process of change that focuses solely on ecological sustainability as an objective. While there is no clear and strong agreement as to a common definition of sustainable development, it is acknowledged that there are strong links and relationships between the challenges of environment and development.

The varying definitions and interpretations of sustainable development carry a common element in recognising development as a means of meeting basic human needs with the inherent need to acknowledge that it should be within the limits of the environment. The various interpretations also carry the common principle that sustainable development is not only a means in attaining economic and environmental sustainability but, a sustainable society. Tisdell (1988) suggests that the popularity of the concept of sustainable development reflects the view that if economic development is to be sustained the ecological systems on which economic production relies also need to be sustainable. Ukpolo (1994) also notes that the focal point of sustainable development concerns the ability to attain and enjoy a high level of economic development, while protecting the earth's resources for future generations. The concept of sustainable development promises a positive view of environmental action having as parallel goals environmental quality and economic growth.

The United Nations Conference for Environment and Development (UNCED) in 1992, was another major international event where sustainable development

became the centre theme focusing on issues related to environment and development. Among other things related to the environment and development, one of the important factors that led to the "Earth Summit" in Rio de Janeiro were issues related to the serious destruction of the world's forests. Agenda 21, which was one of the most important declarations signed during the conference, covers the sustainable development and management of the world's forests. The Agenda 21 includes statements, which outline major global actions to minimise effects of environmental problems as well as keeping development activities within the limits of the environment's carrying capacity. According to Koch and Grubb (1993), Agenda 21 intended to set out an international programme of action for achieving sustainable development in the 21st century. Agenda 21 seeks to make recommendations on the measures to be taken to integrate environment and development concerns. This global agenda presents a broad view of issues pertaining to sustainable development, including statements as the basis for action, objectives, recommended activities, and means of implementation which are based on experience and analysis of issues combined with the interests brought forward by both developed and the third world countries. As a document, Agenda 21 is a global blueprint for development, which sets out the process for operationalising sustainable development at local levels. Sitarz (1993:1) asserts that the document is the first global plan to confront the economic and ecological problems of the late 20th century, and aims to help "humanity forge its way into the next century by proceeding more gently upon the earth".

Aside from Agenda 21, the UNCED also adopted the "treaty for the conservation and sustainable development of the world's forests" which is the non-legally binding statement of Forest Principles. Although the forest treaty is a non-legally binding statement it has nevertheless provided for a global consensus on the management, conservation and sustainable development of all types of forests (Johnson, 1993). The treaty has become the basis on which most countries have designed their respective sustainable development approaches in the development and management of their forests.

2.1.1 The Economic Perspective on Sustainable Development

The economic perspective views sustainable development within the framework of economic growth for development. This perspective of sustainable development focuses on resource allocation and the interrelationship between economic growth and environmental sustainability. Economic sustainability considers the physical inputs into production and emphasises environmental life-support systems without which neither production nor humanity could exist. This view recognises the idea that any costs of development which do not consider ecological limits become obstacles in attaining sustainability, and as Redclift (1987) describes, it can become injurious both to life-support system and serve to reduce the future resource base. The economic perspective of sustainable development reveal that market mechanisms alone do not necessarily bring about sustainable development. Barbier (1987) also note that sustainable economic development is designed and implemented in accordance with the needs and capabilities of people who are to benefit from it. Economic sustainability focuses on the aspects of the natural resource base that provide physical inputs, both renewable and exhaustible into the production process (Goodland, 1995).

The economic perspective on sustainable development focuses on bringing together development and environmental concerns but the tendency for economic growth to dominate the environmental issues still exists. According to Redclift (1987) the concentration on 'growth' has served to obscure the fact that resource depletion and unsustainable development are direct consequences of growth itself. Costanza (1991) also argues that the most obvious danger of ignoring the role of nature in economics is that nature is the economy's life support system and by ignoring it we may inadvertently damage it beyond its ability to repair itself. Sustainable economic development is dependent on a healthy ecosystem. An ecosystem is said to be healthy when it is free from "distress syndrome", stable and sustainable, that is if it is active and maintains its autonomy over time and is resilient to stress (Costanza et al 1992, cited in Constanza 1995). An ecosystem is experiencing the "distress syndrome" if it is subjected to the irreversible process of systems breakdown that leads to

termination of the system before its life span is attained. Hence, the ecosystem that is subjected to distress syndrome cannot support an economic system.

Economic development therefore, which is an improvement in the quality of life without necessarily causing an increase in quantity of resources consumed, may be sustainable when development that is within the limits of the environment is achieved. Sustainable development requires a change in the content of growth, to make it less material and energy intensive and more equitable in its impact (Muschett, 1997). The World Commission for Environment and Development (WCED) observes that in a global, 'open' economy, the interactions between the economic and natural systems affect transfers at regional levels from one region to another (WCED, 1987). For example, the consumption pattern and demand for wood and wood products by developed countries can cause problems of economic equity and put more pressure on the tropical forests of some developing countries with tropical forests like the Philippines which has been exporting timber products to the developed countries.

2.1.2 The Social Perspective on Sustainable Development

The social approach of sustainable development focuses on the issue of addressing basic human needs, and that development should be within the framework of meeting these basic needs. The social perspective of sustainable development aims to achieve a physically sustainable and a just and equitable society. This concept of development recognises the important interrelationships between environmental sustainability and an equitable society. The 1987 Brundtland Commission noted, that meeting the basic needs of all people should be the goal of development, and that only a protected and carefully nurtured environment can sustain human aspirations. This implies that sustainable development should consider processes that must be undertaken so that future generations can enjoy what the current generation now enjoys (Jalal, 1993). Redclift (1987) also argues that poverty reduction is the primary goal of sustainable development even before environmental quality can be fully

addressed. But it is also important to recognise that the fulfilment of human needs also depends on environmental factors.

The social perspective on sustainable development links the interrelationship of human needs, development, and environmental problems. There is therefore a reciprocal link between poverty and environment, poverty being seen as a major cause and effect of global environmental problems (WCED, 1987). According to Dampier (1982) many experiences in third world countries show that environmental degradation impoverishes those dependent directly on the natural environment. The developing world is experiencing environmental problems that originate from the lack of development, and arising from the struggle and attempts to overcome conditions of extreme poverty. Lele (1991) also noted, that many human activities are currently reducing the long term ability of the natural environment to provide goods and services, as well as adversely affecting current human health and well-being. It is becoming obvious that poverty is devastating the lives of millions of people all over the world, particularly in the developing countries. According to Sage (1994) some 340 million people fall below the poverty line. The majority of the poor are also located in the most ecologically fragile, low resources areas marked by limited arable land of low potential (Sage: cited in Redclift and Sage, 1994). These areas are often subject to the risks of natural hazards and environmental degradation. Leonard (1989) also noted that 60% of the developing world's poorest people live in rural area or urban areas of high ecological vulnerability. These are usually areas which are highly susceptible to soil erosion, low fertility, floods, and other ecological disasters.

The Philippines like most developing countries has a population that is growing faster than its ability to create jobs and provide economic opportunities. The country has an annual population growth rate of 2.2% (Phil. Statistical Yearbook, 1992). The cycle of poverty starts when the people are poorly fed and poorly educated and they try to earn a living through means that are familiar and accessible to them. With limited access to resources they cut down trees until there are very few trees left to be cut, they till the soil until it is depleted, fish the rivers, lakes and seas, and the waters are depleted of fish.

This is further aggravated by large-scale and wide spread exploitation of natural resources by commercial firms, which contributes to resource depletion and the degradation of the environment. When the quality of the environment deteriorates, the quality of life also deteriorates because nature can no longer support the livelihood of people. When this happens, people start to move to other places and seek better economic opportunities. Most often they move to the forests and start clearing trees to produce land capable of use for agriculture.

In the Philippines, there has been severe inequity over the use of forest resources, which resulted to extreme poverty among the upland dwellers. Dugan (1993) noted that the hope that wealth derived from forests would fuel comprehensive economic development has not been realised. Most of the profits accruing from forestry have been invested in condominiums, banking, and other urban enterprises. Meanwhile, rural poverty is the typical condition in most of the forest-rich provinces. Moreover, poverty is also conspicuous in areas that were formerly major sources of timber and other forest products.

Poverty seems to be recognised as a cause of degradation and not just a consequence. Environmental degradation according to Lele (1991) is very often caused by poverty, because the poor have no option but to exploit resources for short-term survival. Elliott (1994) also believes that inequalities in access to resources threaten prospects for sustainable development in many ways. Inequality in access to resources only allows a minority of people globally, within each country and even at the community level to use resources in a wasteful manner or in ways which causes environmental damage. Inequality in access to resources forces large numbers of people in poverty which can leave them with no choice but to degrade and destroy the resource base on which their future livelihood depends.

The Asian Development Bank noted that the countries in Asia and the Pacific with the most severe environmental problems are also the countries with the largest concentrations of poor people (Jalal, 1993). The situation of widespread poverty if not properly addressed will put greater pressure on existing natural

resources and aggravate the already deteriorating environment. The Brundtland Commission noted that poverty has been exacerbated by the unequal distribution of land and the rapid rise in population. These factors and the "growing demand for the commercial use of good land have pushed many subsistence farmers onto poor land and robbed them of any hope of participating in their nation's economic lives" (WCED, 1987: 28). These have caused further destruction of forests to give way for the expansion of land for agriculture and to support the farmers' subsistence.

The incidence of widespread poverty is no longer inevitable. According to the WCED "poverty is not only an evil in itself, but sustainable development requires meeting the basis needs of all and extending to all the opportunity to fulfil their aspirations for a better life" (WCED, 1987: 8). Accordingly, equity for the poor can be mitigated by effective citizen participation. It is widely recognised that addressing poverty is a major requisite for any sustainable development programme. This development goal has been emphasised in Agenda 21 (Agenda 21: 3.1), which states that:

> "*A specific anti-poverty strategy is...one of the basic conditions for ensuring sustainable development. An effective strategy for tackling the problems of poverty should cover demographic issues, enhanced health care and education, the rights of women, the role of youth and of indigenous people and local communities and a democratic participation process in association with improved governance". (Agenda 21: in Osborn and Bigg, 1998:31).*

For Sustainable development to achieve its goals, it is imperative that the process of development must be participatory. People's participation is important particularly in defining the notion of what is sustainable in terms of human needs, and focusing on ways in which local-level participation can be attained. Local people always know the local context better than any outsider. According to Vivian (1995) participatory development includes the involvement of local people in defining the goals and how this can form the basis of more successful approaches to reach such goals. People who directly depend on natural resources for their livelihood, if they have been successful in establishing a sustainable mode of production, develop methods to ensure the conservation of their environment. Such resource management systems, which

include local-level participation eventually, lead to ecologically sustainable patterns of resource use.

2.1.3 The Environmental Perspective on Sustainable Development

The environmental perspective of sustainable development focuses primarily on the preservation of the ecosystem and takes an 'ecocentric' view. It argues that preservation of nature is vital to the existence of all species on earth including human species and their future. This view of sustainability looks at human activities as inherently unsustainable and the main causative factor for many environmental problems.

The World Conservation Strategy suggested three ecological principles for environmental sustainability: maintenance of essential ecological processes and life-support systems, the preservation of genetic diversity, and the sustainable utilisation of species and resources (IUCN, 1980). Based on these principles, it can be seen that the notion of sustainable development was adopted partly as a means of promoting nature preservation and conservation (Adams, 1990).

The preservation of natural resources is considered fundamental to achieving environmental equilibrium, which is seen as the main goal of environmental sustainability. This notion of sustainability emphasises the principle of carrying capacity. According to Rees (1990:20), for human society, carrying capacity is the "maximum rate of resource consumption and the waste discharge that can be sustained indefinitely in a defined planning region without progressively impairing ecological productivity and integrity. Related to this view is the observation by Panayotou (1995) that in countries with low population densities and low levels of economic activity, forests represent the dominant form of land use. As the population grows and economic activity expands, the forests are being cleared to obtain construction materials, fuelwood, and for agricultural cultivation. However, as the rural population increases and the economy opens up to international trade, deforestation may result from overharvesting for timber and fuelwood and from land clearing for agriculture, unless more attractive alternatives are made available (Panayotou, 1995). Hence, as the development

process takes off, resource depletion accelerates, environmental pollution begins to accumulate at an increasing rate, as the natural assimilative capacity of the environment becomes overloaded with pollutants (Panayotou, 1995). A study on the Philippines by the World Resources Institute indicated that between the 1970s to the early 1980s, a large number of people migrated to forest lands and coastal areas causing severe degradation of natural resources in those areas (Cruz and Repetto: cited in Jalal, 1993).

The environmental perspective on sustainable development considers the ecosystem to be an important component of the environment. The diversity of species is necessary for the normal functioning of ecosystems and the biosphere as a whole (Rees, 1990). According to Miller (1991) the basic life-support systems are in the ecosystems and the biosphere and the price we pay for simplifying, maintaining, and protecting them is high. It includes time, money, increased use of matter and energy resources, loss of genetic biodiversity, and loss of natural landscape (Miller, 1991).

A more humanistic or communalist view on sustainable development called eco-development, focuses on the notion of intergenerational equity. This notion gives emphasis to the environmental management base of a system, which meets human needs but preserves environmental resources and makes them available for future generations. This means that any human activity dependent on the consumptive use of ecological resources cannot be sustained indefinitely if it uses not only the annual production of the biosphere or the 'interest' but also cuts into the standing stock or the 'capital'. It requires a pattern of consumption for ecosystem goods and services that leaves sufficient amount of natural resources for the needs of the future generations. The global ecosystem, which is the source of all the physical, chemical and biological resources, is finite and has now reached a stage where its regenerative and assimilative capacities has become strained (Campbell and Heck, 1997).

2.2 SUSTAINABLE DEVELOPMENT - THE PHILIPPINE FRAMEWORK

The Philippines has responded to the call for global action to implement sustainable development. The country's strategy for sustainability is embodied in two major policy documents: the Philippine Strategy for Sustainable Development (PSSD) and the Philippine Agenda 21.

The more revealing lessons learned during the past two decades particularly concern the various impacts of development on the environment. These lessons include those learned from the recent natural disasters, such as: the killer floods that claimed 5,000 lives and damaged property in Ormoc, Leyte in 1991; the mining disaster in Marinduque in 1996 that caused irreversible damage to the environment; severe droughts experienced every year in some parts of the country that have been deforested. These disasters have contributed to the Philippines' growing environmental awareness and were among the reasons that further strengthened the adoption of sustainable development as a principle for development. The country saw the need to strengthen and reorient its traditional development concepts, with particular emphasis directed towards environmental protection. Even before the United Nations Conference on Environment and Development in 1992, the Philippines was already beginning to be attuned to the emerging worldview on sustainable development. In 1979, Rafael Salas, a known Filipino environmentalist, saw the global trend when he said:

> *"We are tending globally towards a more holistic view of development with its emphasis on relating environmental factors to programmes. Population growth and development patterns not only affect demand for resources but also generate environmental changes, which will have repercussions on the future carrying capacity of the earth. At the global level, it is not only necessary to take into account the resources required to feed, clothe, and shelter a growing population but also the type of technology which will this possible without worsening the environment"*
> *(PSSD, 1989:1).*

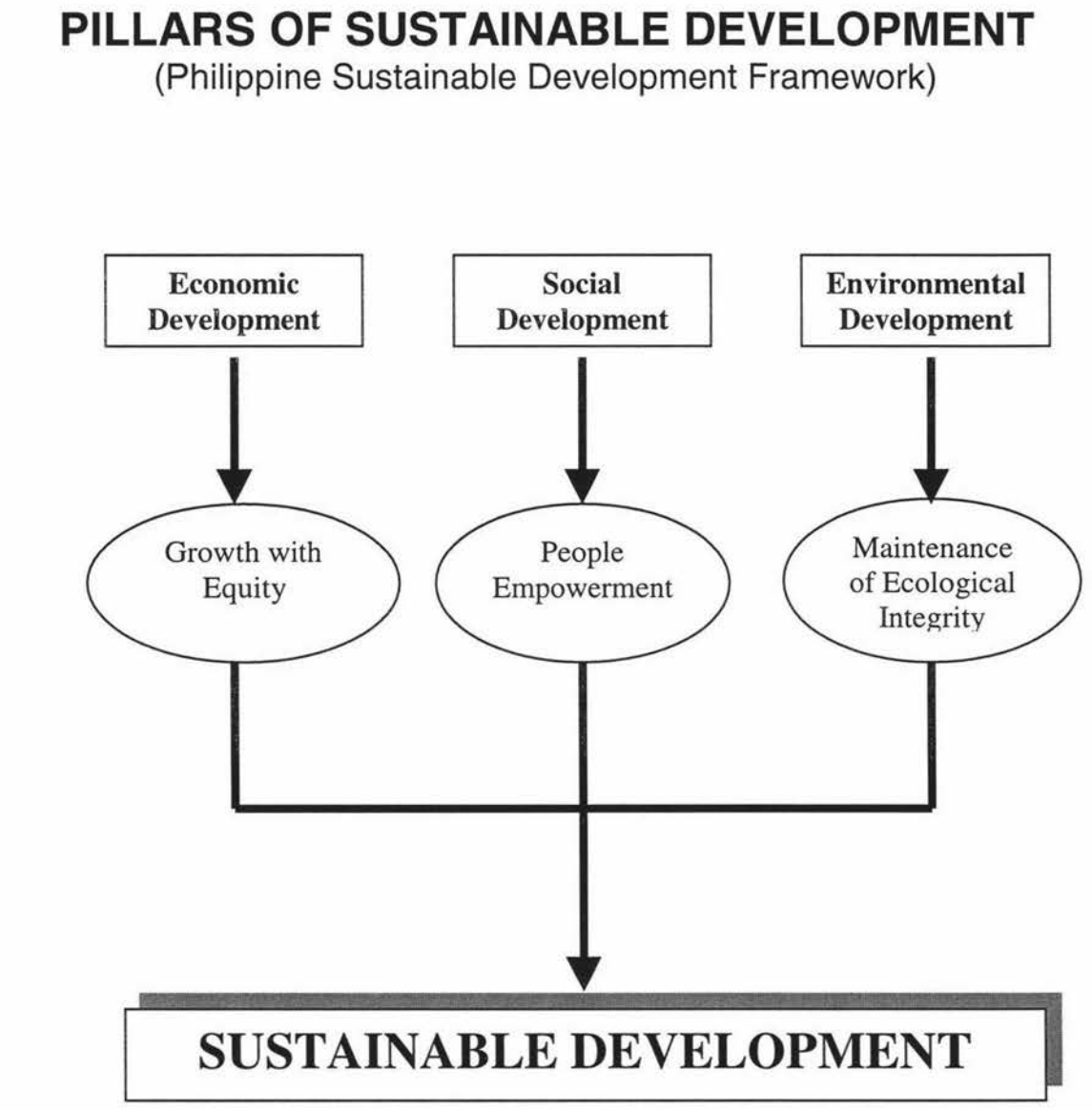
2.2.1 The Philippine Strategy for Sustainable Development (PSSD)

In 1988, the Government began to work on a national strategy which was later called the sustainable development strategy in recognition of the growing influence of the Brundtland Commission Report, "*Our Common Future*" on the local development agenda (Remigio: cited in Redclift, 1994).

The strategy took form after a series of consultations with the different sectors of society, which resulted in the development of a national framework, called the Philippine Strategy for Sustainable Development. The Philippine Strategy for sustainable Development (PSSD), which was officially adopted in 1989 as a National Framework recognised that the only rational way of planning the country's national progress is through sustainable development. Its goal is to achieve economic growth for the country whilst also providing adequate protection for the country's biological resources and its diversity, vital ecosystem functions, and over-all environmental quality. The general guiding principle of the framework was sustainable development as defined and expounded in the Brundtland Commission Report (PSSD, 1989). The PSSD was developed to provide an operational perspective to the concept of sustainable development. This was within the context of development in the Philippines in the light of a continuously growing population.

The government has regarded the goal of balanced sectoral development as its ultimate vision for sustainable development in the Philippines. The development principle of growth with equity between people, generations and localities was adopted as the main part of the vision of the PSSD. It attempts to consolidate the three elements of sustainable development, namely; social, economic, and environmental, through corresponding strategies for sustainability such as peoples empowerment, growth and development with equity, and maintenance of ecological integrity (Figure 2.1: The Framework for Sustainable Development).

Figure 2.1: The sustainable development framework (IEMSD, 1997)



The PSSD framework supports the key development objectives of poverty alleviation, employment generation, income redistribution, community empowerment, and environmental and natural resources conservation (SD Operational Framework, 1996). The IEMSDP (1997) notes that the framework for sustainable development can be operationalised simultaneously at the policy level and project level. Six criteria of sustainability at the project level have been developed to define how sustainability can be attained on the ground. They apply to area-based, community-based, and resource-based development projects. The six criteria, are: economic viability, ecological viability, technological viability, political viability, socio-economic viability, and institutional viability. The IEMSDP (1997a) also consider any project to be unsustainable if it fails any of these tests of viability.

2.2.2 The Philippine Agenda 21

One of the major factors in formulating a national policy and action programme on sustainable development was Agenda 21, which resulted from the various environmental alarms sounded during the Earth Summit in 1992. The Global Agenda 21 which is a statement of environmental principles proposed at the Earth Summit in 1992, was very influential on sustainable development thinking in the Philippines. As Ganapin (1997) notes, the Global Agenda 21 tells us and the rest of the world how to fight poverty, conserve our natural resources and protect the quality of our environment. These ideas are not new to the Philippines but in keeping with the spirit of world co-operation the country adopted the principles that Agenda 21 espoused. This is also based on the realisation that what affects one part of the world could affect all the other parts. As a concrete gesture of the Philippines' commitment to operationalise sustainable development and the calls for global action during the UNCED in 1992, on September 21, 1992, the Philippine Council for Sustainable Development (PCSD) was created to develop the national framework for sustainable development.

The PCSD in pursuit of its mandate of operationalising sustainable development developed the Philippine Agenda 21, which is a national policy document that

provides for the different action agenda in pursuing sustainable development (PCSD, 1997). Ramos (1997) considers that the council earned distinction as a body that upholds a participatory decision-making process in pursuing the mandate of operationalising sustainable development.

The Philippine Agenda 21, as a policy document constitutes part of the country's response to fulfil its commitments during the UNCED in 1992, where government and key sectors of Philippine society agreed to implement the various action agenda. The document is a national blueprint for action on sustainable development and recognises the formidable task of achieving sustainable development. As a blueprint for action it recognises that sustainable development, as a process requires a strong foundation on a clear understanding of the challenges, trends and opportunities in the development arena, which considers a focus on the environment.

The Philippine Agenda 21 is a local agenda for the Philippines which, consists of numerous activities and recommendations corresponding to most of the programme areas of UNCED's Agenda 21. Philippine Agenda 21 provides a comprehensive set of economic, political, cultural, scientific and technological, ecological, social and institutional parameters that flow out of the principles of sustainable development. It presents a mix of strategies that integrate the sustainable development parameters in the country's overall development strategy and acknowledges the process of transition and paradigm shift to achieved sustainable development objectives.

In line with the formulation of the PSSD as a framework for sustainable development, some basic strategies and action agenda were formulated and incorporated under the Philippine Agenda 21 (IEMSD, 1997a). These include the development of sectoral master plans such as the Master Plan for Forestry Development, to provide policy directions and programmes as well as projects to enable the forestry sector to apply the basic principles of sustainable development in the development and management of the country's forest resources. The action agenda at the ecosystem level consists of strategic and catalytic interventions covering the different ecosystems and critical resources,

which include the forest and upland ecosystem (Philippine Agenda 21, 1996). The action agenda formulated for sustainable forest ecosystem management includes:

- Determining the extent of the country's forest resources;
- Enhancing forest conservation, protection and sustainable management efforts, and rehabilitating degraded areas through reforestation and afforestation;
- Intensifying research and development;
- Expanding the implementation of people oriented forestry programmes; and
- Establishment of large-scale industrial forest plantations.

In support of Philippine Agenda 21, indicators have been developed to monitor progress in the implementation of action plans on sustainable development. These indicators can be useful basis for making decisions as well as fostering a common understanding on the formulation and reformulation and implementation of necessary action plans on sustainable development.

Specifically for the forestry sector, the Philippines adopted a set of indicators for the measurement of sustainable tropical forest management that were developed by the International Tropical Timber Organization (ITTO) of which the country is a member. These indicators cover concerns, such as: policy and legislation, forest management, and socio-economic and financial aspects.

The PSSD identified eleven strategies to implement sustainable development, which have been incorporated in the Philippine Agenda 21 list of action programmes. Six of these are being directly addressed by the forestry sector, they are:

- *Integration of environmental consideration in decision making;*
- *Resource access and property rights;*
- *Rehabilitation of degraded ecosystem and resources through comprehensive site development;*
- *Inducing growth in rural areas;*

- *Promotion of environmental education, information, and public awareness; and*
- *Strengthening of citizen's participation through NGO and PO training.*

There has been common perception however in the Philippines, that the lack of financial and technical capability remains the major constraint in pursuing the various efforts to attain sustainable development. The strategies and action agenda outlined in the PSSD framework and Philippine Agenda 21 is a big task, which the existing capabilities of the government and private sector in the Philippines cannot match.

2.3 SUSTAINABLE DEVELOPMENT AND THE MANAGEMENT OF FOREST RESOURCES

Many countries including the Philippines are now directing various efforts towards the sustainable forest management to attain sustainable development. The area of forest management is one of the major areas of natural resources development where socio-economic and environmental issues present a great challenge towards attaining the goals of sustainable development. According to Ferguson (1996:110) sustainable forest management has been seen by many as a "logical extension of the principle of sustainable development as defined by the Brundtland Commission". The social, economic, and environmental impacts resulting from forest exploitation and deforestation have begun to alter public attitudes towards forests. The increasing incidence of poverty in developing countries, loss of biodiversity and species extinction, and global climate change are just among the few impacts of deforestation that also serve as challenges to sustainable development.

The growing concern regarding how forest resources are being used and managed all over the world has come to a point where most governments have realised the need to sustainably manage their country's forest resources. The serious impact of deforestation on the environment as well as on the economies of most third world countries highlights the need to develop forest management policies geared towards sustainable development. After the UNCED in 1992, new management approaches have emerged in the light of the global concern

over the accelerated rate of forest depletion and the growing awareness on sustainable development and biodiversity conservation.

During the UNCED in Rio de Janeiro in 1992, many countries recognised the need to draw a concerted global action for the preservation and conservation of tropical forests. A non-legally binding authoritative "statement of principles for global consensus on the management, conservation, and sustainable development of all types of forests" was signed to set the basic principles for the development of national policies on forest management (Grayson, 1995:12).

The sustainable management and development of tropical forests however, remains a contentious issue in the sustainable development debate. There are conflicting views based on priorities relative to conservation and protection vis-a'-vis economic considerations on the use of forest resources. According to Johnson (1993), some countries like Malaysia expressed and maintained the view that any formal international agreement on forest management like the draft "forest treaty" which was not ratified by the different governments during the UNCED, might interfere with a nation's sovereign rights to exploit its forests in whatever way it wishes. He further noted that other developing countries are also apprehensive on the treaty, as it would only bind them to lock up their forest resources for purposes of conservation that will only benefit the developed countries. The developing countries perceived that a "forest treaty" reflected the reluctance of Western and other developed countries to take firm action to reduce their own greenhouse gas emissions. The tropical forests are seen by the developed countries as a convenient carbon sink for their own gaseous wastes, whilst the developing countries are concerned that they are being pushed further into extreme poverty while promoting the interests of the developed countries. The debate on the economic and environmental issues related to the development and preservation of the world's forests, exposed the different interests and priorities between the developed and developing countries.

2.3.1 Sustainability in Forest Management

The forests were seen as huge renewable resources that can be exploited to increase national income and to further promote economic development. During the 1960s and 1970s, there was very little attention given to the sustainability aspects of forestry activities as well as on the long-term environmental and socio-economic effects of development. Forest management during those periods was based on the principles of sustained yield.

The concept of sustained yield, which is rather an old concept in forest management that "started in Europe during the 18th century and refined in North America", only refers to the production of tangible benefits (Adamowicz et al., 1993:80). Such a concept fails to consider the ecosystem functions of the forest. The sustained yield of wood was the main aim of forest management during those periods. However in recent years, sustainable forest management has been widely acknowledged to mean much more than simply the sustained production of wood. Shiva (1992) notes that such concept in forest management fails to consider the ecosystem functions of the forest. Sustained yield only aims at producing the best financial results, or the best suitable class of produce but does not include species diversity or the biospheric functions of the forest.

The tropical forest has a very diverse but fragile ecosystem, which contains huge number of species of plants and animals that are interdependent with their environment. About 6 million to 100 million species are inhabiting tropical forests and only 1.4 million species have been catalogued and named thus far (McKerron and Cogan, 1993). Carley and Christie (1992) also note that in a ten-hectare tropical forest in Sarawak, Malaysia 780 species of trees and hundreds of other species of flora and fauna have been found. Also in the Philippines, about 14,490 species flora and thousands of fauna have been found in the country (Esplanada, 1999). When its equilibrium balance is disturbed the entire forest ecosystem is irreversibly modified and that means a loss of habitat to some species of plants and animals. In a study conducted by Harvard University biologist Edward O. Wilson, he estimates that as many as 27,000

tropical forest species are becoming extinct each year (cited in McKerron and Cogan, 1993). Hence, the short term economic gains of conventional forest management approaches to forestry that only focus on the economic gains have various effects on the long-term economic and environmental benefits that can be derived from a sustainably managed forest. The future costs are even more significant than its short-term environmental and economic impacts.

The principles of sustained yield forest management has been further expanded to encompass wider issues of environment, development, and land use, as well as intergenerational equity. For instance, Noss (1993 cited in Aplet et al., 1993:17) commented on the traditional concept of sustained yield and pointed out, that we "might very well sustain an economic activity for a long time but yet lose in the process many things that are not of immediate concern to us". These things that we loss may be of great value in the future. Hence, forest management cannot be separated from that of the concept of sustainability. Sustainability carries with it the principle of reducing risks and uncertainties in terms of environmental, economic, and social opportunities in the future.

2.3.2 Forest Management for Sustainable Development

In the light of the continuing debate on sustainable development in forestry and the continuing depletion of tropical forest resources, the basic question remains, of how to achieve a balance between the developmental and environmental role of forests? Over the years, different strategies on forest management have been advocated and their adoption was evident in the changing policies of different countries. These different regimes of forest management pursued different objectives and their different effects resulted in varying conditions of the forests. The forest management regimes have often been incorporated in each country's policies, which very often focus mainly on technical perspectives in line with the economic objectives of the country. Mayers (1996) noted that most often forest management approaches reflect key policy decisions, which are commonly based on institutional priorities, such as control of land resources, individual values of professional advancement, personal gain and political loyalty. For instance in the Philippines, prior to the formulation of the

Master Plan for Forestry Development and Philippine Agenda 21, scientific forest management systems were mainly based on the economic objectives of the country. This policy orientation of forest management further hastened the depletion of the country's forest resources.

There is now an increasing effort by governments of some countries in South East Asia like the Philippines, Thailand, Malaysia, Indonesia, China, Papua New Guinea, etc. to make policy changes for better forest management (Poffenber, 1990). Many countries are in the process of refocusing major forest management policies towards sustainable development. Recent forest management approaches in developing countries adopted people-oriented forest management systems, such as the community-base forest management approach. The adoption of such approach reflects the need for sustainable development approaches in forestry that can address the inequitable access to forest resources, which is one of the main causes of poverty. Some industrialised countries are likewise refocusing some of their economic policies to support sustainable management of tropical forests. For instance, many consumers in industrialised countries are now choosing to buy forest products from sustainably managed forests manufactured by environmentally sound processes and technologies. Increasing number of consumers, individually and collectively have threatened to boycott tropical hardwood products extracted from natural forests. Hence, in order to protect their international trade, countries exporting forest products will have to formulate internationally recognised criteria for sustainable forest management and apply the same to domestic forestry practices (Maini, 1991).

The Philippines for its part, developed its 25-year Master Plan for Forestry Development (MFPD) which outlines the country's policies for the sustainable management of its forest resources (DENR, 1991). The development of the MFPD was a major attempt by the Philippine government to refocus its forest management strategies towards sustainable development. It outlines the different programmes to address social, economic, and environmental issues affecting the management of the country's forest resources. The MFPD provides the direction that the country's forestry sector should take and to draw

the support needed to move the sector towards achieving the goals of sustainable development.

People-oriented Forestry

The social and economic inequalities on the utilisation of forest resources have been a major issue in sustainable development. The high population growth rate and the increasing incidence of poverty are forcing people to move towards upland areas and to clear forests for agriculture. This is putting a lot of pressure on the remaining tropical forests in Asia, Africa, and Latin America. According to Barraclough et al. (1995), the World Bank asserts that new settlement for agriculture account for 60 percent of tropical deforestation (World Bank, 1992). The FAO estimated that 70 percent of the disappearance of closed forests in Africa, 50 percent in Asia, and 35 percent in Latin America is attributed to conversion for agriculture (FAO, 1992). The clearing of forests due to immigration in uplands as well as expanding shifting cultivation and gradual change to more intensive land use in Southeast Asia caused large areas of forest to be cleared (Amelung and Diehl, 1992).

In the Philippines, to address the issue on the inequitable access to forest resources the recent policy changes towards sustainable forest management have placed greater emphasis on a people-oriented forest management approach. The Philippine Strategy for Sustainable Development (PSSD) developed by the Government in 1989, focuses on a wider social participation in the forest management. The PSSD spells out the policy reforms necessary to attain sustainable development. As a policy guiding document it provides for the establishment of a community-based forest management and production system, ensuring the participation of indigenous peoples, women and other key actors in the maintenance and development of forest resources. The PSSD recognises that lessons from both failures and success in environmental and developmental efforts have shown that citizens' participation is an important decisive factor". The lack of participation of a wider sector of the society has caused failure in most forest management programmes. The government acknowledges that people have the inherent capacity to improve themselves

and their community and that problems confronting them can be solved through their own efforts (PSSD, 1989). Hence, the active participation of communities in planning and implementation of forest management programmes would be a must so that they will develop economic self-reliance that will not make them forever dependent on external support.

To put further focus and emphasis on the socio-economic aspects of forest management, the Community-Based Forest Management concept was adopted through Executive Order 263 in 1995, as part of the national strategy to ensure the sustainable development of the country's forest resources. The strategy is an attempt to address the socio-economic dimensions of deforestation through the clearing of forests for agricultural purposes. The FAO (1994) pointed out that the main cause of clearance or degradation of tropical forests is the rapid expansion of agriculture, particularly low productivity agriculture. Sustainable forest management requires sustainable and productive agricultural systems, new technologies to enhance yields, provision of off-farm livelihoods, and an effective framework for land use planning.

Never before was the socio-economic aspect of forest management emphasised in forest management strategies in the Philippines. It is now becoming a major component in the country's forest policies and programmes. The recent trend in the government policy acknowledges what has long been evident, that conventional approaches to sustainable forest management have failed. The failure could be attributed to the exclusion of the rural poor from both the decision-making process and the financing benefits of forestry (Dugan, 1993). Hence, it has become apparent that in all major forestry policies and programmes such as reforestation and the development of industrial forest plantations, the need to address the socio-economic aspects of forest management through poverty alleviation and protecting the economic base of the forest has become a main component.

Industrial Forest Plantations

Another alternative approach in sustainable forest management is the development of industrial forest plantations to restore vegetation in severely degraded forestlands and putting them into productive use. The vast areas of degraded lands resulting from deforestation calls for the need to adopt this sustainable development approach in forestry, which is becoming increasingly important. It is an appropriate alternative to conventional logging of tropical forests as it reduces pressure on the natural forest ecosystem. It is a sustainable forestry system that provides an alternative source of timber to the rapidly depleting sources from the natural forests and helps to remove further exploitation pressures from the remaining resources.

A forest plantation is a tract of land purposely and extensively planted for timber crops. In many tropical countries, forest plantations have been undertaken not to replace natural forests but to supplement timber from the natural forests. The main advantage cited for the growing reliance on forest plantations is that, while natural forests take decades to regenerate, trees in industrial forest plantations reach harvestable size in a much shorter period. There are two types of forest plantations that are cultivated in tropical countries; tropical hardwood plantations and industrial forest plantations.

Industrial forest plantation are more widely adopted in tropical countries like the Philippines where species of fast growing tress like pine, eucalyptus, parasenthiases, acacia, gmelina, etc. which mature in 10-15 years are planted. They are valuable in helping to restore vegetation on badly denuded and otherwise degraded land turning them into productive use. According to Mather (1993) as forest plantations restore and increase overall tree-cover on degraded lands, it also helps curb global warming. While plantation forests often use fast growing species of timber and are sometimes established for reasons of environmental protection, most forest plantations are nevertheless, geared towards the production of industrial wood (Mather, 1993).

The establishment of forest plantations has increased in many countries and becoming more and more popular in most developing countries. The expansion of forest plantations has been regarded as an important goal in the forest policy of developing countries like in the Philippines (Lara and Veblen, 1995). Although the monoculture character and limited number of species planted is criticised by some people, forest plantations are expected to provide important functions for society, such as:

- *assuring long-term supply of industrial timber to support industrial expansion;*
- *reducing the pressure on natural forests and to improve soil and water conservation; and*
- *promoting employment and social development in rural areas.*

At present, the notion is also popular that forest plantations have the capability to reduce significantly through carbon-fixing the annual net addition of carbon to the world's atmosphere (Blakeney, 1993; Putz and Pinard, 1993).

The environmental appeal of forest plantations has been promoted recently by scientists and is being commercially being utilised by some power companies, but its feasibility is still doubted by others (Brown et al., 1994). The establishment of forest plantations on open areas accordingly allows carbon to accumulate during the first rotation period, which takes 10-20 years. Bruenig (1996) points to some studies which indicate that to balance the carbon store of 350 tons in one hectare of natural forest, an area of at least 35 hectares of plantations forest must be established on bare land to fix the same amount in one year. Mather (1993) observed that environmental protection has also been the objective of plantation forestry for several decades, and environmental benefits have been achieved in most countries that have adopted this sustainable development approach in forestry. The forest plantations have been associated with environmental benefits such as control of soil erosion or flooding, nutrient cycling, reduction of atmospheric CO2, etc.

In the Philippines, it was noted in the Master Plan for Forestry Development that the country's forest-based export was at its peak in the 1960s and early 1970s

but was characterised by exploitative approach to forest utilisation (DENR, 1990). The exploitation of the country's forest resources was said to have been way above sustained yield levels (ADB, 1994). The country's recognition on the need to promote development while protecting the environment was the primary factor leading to the development of policies on sustainable development in forestry, including the development of industrial forest plantations. Previously, industrial forest activities broadly dealt with the exploitation of the natural growth forest or dipterocarp forest, which takes 75 to 100 years to mature into harvestable stands. The current shift as Alonzo et al. (1998:28) notes, is towards the "growing trend of forest industrial design towards production forestry system" which is the establishment of commercial forest plantations using fast-growing species of trees. This system involves development of large-scale industrial tree plantations which can offer the biggest potential for boosting the needed timber supply for various end products in the wood industry in the Philippines on account of higher productivity and shorter cutting cycle if the plantations are properly managed.

The development of industrial forest plantations has been perceived as one strategy that can relieve the pressure on wood production from natural forests. However, forest development policies, which include the development of industrial forest plantations, should recognise local land and forest rights if the policies and the strategies are to attain the objectives of sustainable development. Lohman (cited in Parnwell and Bryant, 1996) noted that in Thailand large-scale eucalyptus plantations displaced and impoverished farmers depriving them of their right to a stable subsistence. Land speculation associated with plantation expansion often undercuts farmers land security. Hence, if industrial forest plantations are to be sustainable they should be compatible with land tenure systems that address tenure security of communities within forestlands.

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CHAPTER 3

3 LAND TENURE, FOREST MANAGEMENT, AND INDIGENOUS RIGHTS

3.1 AN OVERVIEW OF THE PHILIPPINE LAND USE SYSTEM

The Philippines is an archipelago consisting of 7,105 islands. The country is bordered on the east by the Pacific Ocean, on the west by the South China Sea, and is separated by straits from Taiwan to the north and from Malaysia and Indonesia to the south. The country's total land area of 30 million hectares is divided into six distinct island groups: Luzon, Visayas, Mindanao, Palawan, and the Sulu archipelago. The two largest islands, Luzon in the north and Mindanao in the south, account for 65% of the total land area of the country. Out of the country's 30 million hectares land area, 15.9 million hectares or 52.9% had been classified as forestlands while 14.1 million hectares or 47.0% are alienable and disposable lands. The alienable disposable lands are those lands of the public domain, which have been classified and declared as not needed for forest purposes and hence can be converted to other land use purposes other than forestland use. From the area classified as forest lands only 5.9 million hectares are covered with forests while the remaining 9.9 million hectares are brushlands, open grasslands, and other land uses (Forest Management Bureau, 1992).

In line with the country's national strategy to implement sustainable development, the government is now in the process of refocusing its development policies towards sustainable development. This includes the formulation and development of more appropriate land use policies that can help address the serious issue of resource depletion. In the past the country's land use system was based on the high priority accorded to economic development with very little consideration of the limits of the environment to provide the resource base and support the environment.

The results of inappropriate and conflicting land use policies have contributed to the rapid depletion of resources and to extensive environmental damage. The land use system in the country has been greatly influenced by its almost four centuries of colonial experience with Spain and the United States.

3.1.1 The Pre-Colonial Period

According to historians (Constantino, 1978), prior to the country's colonial conquest, there was no real nation that existed in the Philippine archipelago. The original settlers of the country were indigenous people who were later joined by waves of migrant settlers of Malay and Indo-Chinese origins. They sailed to the Philippine archipelago through kinship boats from neighbouring countries in small ships called 'barangays', a term that later came to form the unit of village community, which denotes the smallest political unit. These settlers formed communities or 'barangays' along the coastal and riverside areas and inland in the mountains and forestlands. The use of resources such as forests, by these communities was limited to meeting subsistence needs and kinship obligations. The 'barangays' allocated land resources on the basis of the existing local social institutions at that time. The village chieftain was called the 'datu' whose authority was embodied under a traditional body of customs and laws, exercised civil authority including the allocation of usufruct land rights and the administration of manpower for the cultivation of lands. In general, the community held resources such as land as common property.

The Philippine society prior to the colonial conquest can be characterised as a community in a state of social and economic transition. The management of resources such as land was closely intertwined with its social institution system. However, the social institution and land system was later changed by the advent of colonialism.

3.1.2 The Spanish Colonial Period

The Spanish colonial regime in the Philippines started with the discovery of the islands in 1521. The Spaniards discovered the Philippines through an expedition led by Ferdinand Magellan on 16 March 1521. However, it was only the subsequent expedition of Miguel Lopez de Legazpi in 1565 that led to the

establishment of the first Spanish settlement in the island of Cebu (in the Visayas islands), and the declaration of the country as a Spanish Colony. The Spaniards applied colonial control over the islands directly through religion and proclaimed all lands of the archipelago as its own but recognised the right of the existing communities to the land that they cultivated. Land ownership was an alien concept in the Philippines before the colonisation (Hurst, 1990).

The local inhabitants on the islands who were aboriginal tribes living as hunter-gatherers and shifting cultivators did not have a concept of private land ownership. Hence, the colonisers were able to acquire large tracts of lands and large tracts of Crown land grants were given as rewards for service and loyalty to Spaniards, who then extracted tribute from local people. Since the Spaniards were more interested in gold than land, local people in political favour were given land. The church, which was mainly run by the Spanish friars, obtained ownership of vast tracts of land through royal bequest and individual donations. The native converts made land donations in the popular belief that by donating land to the church one's sins will be forgiven. The Spanish friars therefore, quickly emerged as the first generation of absentee landlords in the Philippines.

The Spanish colonisation led to the proclamation of the authority of the Spanish Crown over the islands and laid the basis of the principle of the Regalian Doctrine. The Regalian Doctrine, which originated from Roman law and used during the medieval period, defines royal possession in general. It is a principle based on the concept of "*jus regalia*", which means the royal rights, which a king has by virtue of his prerogative. In Spanish Law, the term was used to indicate a "right which the sovereign has over anything in which a subject has a right of property" (Cristobal, 1990: 49). Through this doctrine, all lands and natural resources of the colony were declared as property of the Crown or the State (Poffenberger, 1990; Rodil, 1993). According to Putzel and Cunnington (1989) the colonisers acquired communal land from the village heads and all uninhabited lands were declared reserved for the Spanish king. Thereafter, private use of resources could only be granted through a State authority.

The Spaniards used the colony, particularly Manila as ports for the "galleon" trade between Mexico and China. The expansion and integration of the country to the European market trade led to the promotion of a "cash crop" economy for the production of tobacco and sugar. This led to the clearing up of more forestlands to give way to agricultural cultivation. With the growth of more "haciendas" or large plantations, encroachment on the lands of the indigenous people was inevitable. Land conversion was so extensive that vast tracts of forestlands were cleared for agricultural purposes (McLennan, 1973 cited in Poffenberger, 1990). History records show that when the Spaniards began their 300-year colonisation of the Philippines. They were lured by the vast areas of unending forests. In 1575, the forest cover was estimated to have been 27.5 million hectares or almost 92 percent of the country's total land area. The population then was only 750,000. By 1800, the population of the Philippines increased to 1.8 million and the forest cover had been consequently reduced by 1.4 million hectares. In 1863, the "Inspeccion General de Montes" was set up. Certificates for forest exploitation began to be issued to private individuals and companies and the tradition of forest exploitation with little or no concern for conservation started. Thus, the annual forest reduction from 1863 to 1900 was 51,000 hectares due to the increase demand for agricultural lands and settlement areas (Vitug, 1993).

3.1.3 The American Colonial Regime

In 1898, with the collapse of the Spanish Empire, the United States started to gain control over the Philippines. At the conclusion of the Spanish-American War, Spain ceded the Philippine territory to the United States of America for US$20,000, through the 'Treaty of Paris'. According to Yu (1996) the ceding of the Philippines by Spain to America was based on the view that:

> *"the prevailing international law theory was that an area inhabited by people not 'permanently united for political action was deemed territorium nullius (empty territory)...a claim grounded on territorium nullius was binding over other foreign powers. If the acknowledged colonial power maintained its presence in the archipelago, it would be recognised as having sovereignty over the entire island group...The consent of the native inhabitants did not matter, especially if they*

> *were not politically organised in a territorially expansive manner" (Yu, 1996:37).*

By virtue of this legal fiction, the right of Spain to transfer sovereign powers, including possession and control of all lands and natural resources within the Philippine territory was recognised. This legal fiction, subsequently became the basis of the United States in acquiring sovereign rights over the Philippines. The size of the public domain transferred to the United States as a consequence of the 'Treaty of Paris' was estimated to be 92.3 percent of the total Philippine land mass, or approximately 27,694,000 hectares. These lands including, the forests, mineral and other natural resources, became part of the United States public domain (Lynch, 1988: cited in Yu, 1996). The estimated area of the public domain transferred to the United States did not include those lands that have been registered and duly documented under the Spanish land laws at the time of the transfer of sovereignty. The undocumented or customary property rights such as those held by indigenous peoples within their ancestral domains were completely disregarded.

The transfer by Spain to America of all rights to the public domain in the Philippines was an operationalisation of the Regalian Doctrine. The succeeding years of the American regime in the 1900s, a series of legislations were passed which showed the continued application by the United States (America) of the doctrine in the Philippines. This was seen in the Philippine bill of 1902, which provided as follows:

> *"Section 12. That all the property and rights which may have been acquired in the Philippine Islands by the United States under the treaty of peace with Spain, signed December tenth, eighteen hundred and ninety eight, except such land or other property as shall be designated by the President of the United States for military and other reservations of the Government of the United States, are hereby placed under the control of the government of said islands to be administered for the benefit of the inhabitants thereof, except as provided in this Act.*
>
> *Section 13. That the government of the Philippine Islands, subject to the provisions of this Act and except*

> *as herein provided, shall classify according to its agricultural character and productiveness, and shall immediately make rules and regulations for the lease, sale, or other disposition of the public lands other than timber or mineral lands,.." (Yu, 1996:40).*

This piece of legislation mandated the colonial government under the Philippine Commission to undertake land use classification and privatisation (through sale or lease) of lands belonging to the public domain (Lynch, 1987). The Philippine Bill of 1902 empowered the Philippine colonial government to administer the public domain, for the benefit of the inhabitants of the islands. In order to pursue its mandate, the Philippine Commission passed the Public Land Act of 1903 and Forestry Act of 1904. The Act specified that public lands suitable for agricultural uses should be classified as alienable and disposable (A & D lands) and could be appropriated for private property. Other lands that were of forest and mineral land uses could not be alienated as such and were to be retained under the public domain.

The mandate of the colonial government to administer the public domain was seen as operationalisation of the Regalian Doctrine, which states that lands not covered by official documentary certificates of title are presumed to be owned by the colonial regime's sovereign successor, the Republic of the Philippines. In instituting a state management system for the country's natural resources under its own principle of "public domain", the United States in effect resurrected the Regalian Doctrine (Coggins and Wilkerson, 1981 cited in Lynch, 1987). In its original concept, the public domain principle assumes that the lands and properties under consideration as owned by the State was open access and are not inhabited. However, the lands that were declared part of the public domain included those that were long inhabited and cultivated by the indigenous cultural communities.

3.1.4 The Philippine Commonwealth

The passing of the Tydings-McDuffie Act of 1934 provided for the formal succession by the Commonwealth of the Philippine islands from the United States colonial government in the Philippines. This legislation carried with it the

transfer of all property rights of the United States to the Commonwealth of the Philippine Islands including those which the United States had acquired over lands of the public domain including timberlands, mineral lands, and other natural resources (Gatmaytan, 1992).

In 1935, with the inauguration of the Philippine Commonwealth all resources both existing and potential were formally proclaimed as part of the public domain and reserved to the government. In an ordinance appended to the Constitution however, an additional provision was added that citizens and corporations of the United States shall enjoy in the Commonwealth of the Philippine Islands the same rights as all the rights of the citizens and corporations in the islands (Gatmaytan, 1992). This has placed severe restrictions on indigenous rights to enter forest reserves for timber. The cumulative effect of this legislation was to alienate local populations and concentrate land holdings in the hands of a few. With no communal land claims, exploitation of the country's natural resources was wide open to foreign interests.

The 1935 Constitution clearly and explicitly expanded even further the scope of the Regalian Doctrine. It would seem that regardless of the location of the country's natural resources, whether in private lands or lands of the public domain, such resources belong to the state (Yu, 1996). The State under such circumstances therefore, may exercise all the rights of ownership over such resources.

Generally, the colonial regimes that controlled the country pursued policies that were primarily meant to promote the economy of the crown or the mainland country. These policies included the exploitation of forest resources as well as agricultural expansion, which required more lands to be cleared. However, the inability of the colonial administrators to regulate the exploitation of the resources contributed to the destruction of the country's environmental base. The ineffectiveness of the legislation to control the destruction of the countries natural and environmental resources were carried on until the time of Ferdinand

Marcos as President of the Philippines from the 1960s to the mid 1980s (Hurst, 1990).

3.1.5 The Period After Independence and Development of the Present Policy

After gaining independence, and with the subsequent inauguration of the Philippine Republic on 4 July 1946, the United States renounced political sovereignty and control over the Philippines. The Philippines however, retained the public domain as the legal framework under which tenure and land use system is based. As a newly independent country, the Philippines adhered to the principles of modernisation as the path to national economic growth and the country's integration in the global economy. The policies on the development and management of the country's natural resources were primarily based on economic policies geared towards the utilisation and exploitation of natural resources. The state eventually maintained the uplands as a national resource to be protected and exploited to generate the needed state capital. It was during this period particularly in the 1960s to 1970s that the timber production industry was made as the primary resource for propelling the economic growth of the country. The forestry sector particularly the timber industry contributed during the 1960s about 58% of the total share of the country's exports. By the mid-1970s, the state issued about 400 timber license agreements (TLAs) to private companies (ADB, 1994). The uplands has since then been managed within the context of the public domain.

The state control over the public domain was further strengthened under the 1971 Constitution. A new system of land classification was prescribed under Presidential Decree No. 705 otherwise known as the Forestry Reform Code of the Philippines. The Code provides that:

> "Section 13... *all lands in the public domain shall be classified into agricultural, industrial or commercial, residential, resettlement, mineral, timber or forest, and grazing lands, and into such other classes as may be provided by law...", and*

> *Section 15. ...Lands eighteen percent (18%) in slope or over which have already been declared as alienable and disposable shall be reverted to the classification of forest land by the Department head, to form part of the forest reserves, unless they are already covered by existing titles or approved public land applications,...that when public interest so requires, steps shall be taken to expropriate, cancel defective titles, or reject public land applications, or reject occupants thereof" (PD 705, 1975:5).*

Lynch (1987) noted that the 18% slope provision was predicated on an 'arbitrary forestry scientific assumption that national environmental stability depends on 40% of the nation's total land area being retained as public forest'. This forest protection policy however, is not unique in the Philippines. The same protection policy was also applied in Thailand, which was adopted from the recommendation of a combined FAO-World Bank mission. According to the recommendation, the specified land area based on slope specification is crucial to the protection of watershed function of the forests.

At present, the 1987 Philippine Constitution classifies all lands in the Philippines into two broad categories: private and public. Private lands refer to those lands, which are already covered by documents or certificates of title issued by the government, locally referred to as Original or Transfer Certificates of Title. Public lands are those, which are not covered by titles, and are considered the property of the State, acting through the government. Most ancestral domain areas are under this category. The State has consistently emphasised its ownership of and control over the natural resources in the country. Beginning with the 1935 Constitution, which first enunciated this policy, there has been virtually no fundamental change in this policy perspective since then. It is in this same spirit of State ownership and control that the 1987 Constitution states in Article 12, section 2 that:

> *"All lands of the public domain, waters, minerals, coal, petroleum, and other mineral oils, all forces of potential energy, fisheries, forests or timber, wildlife, flora and fauna, and other natural resources are owned by the State. With the exception of agricultural lands, all other natural resources shall not be alienated. The exploration, development, and utilization of natural resources shall be*

under the full control and supervision of the State,..." (Phil. Constitution, 1987:42).

This policy is basically a reiteration of the principle of the Regalian Doctrine. As the name implies, the legal doctrine recalls the time when all land titles were valid only when they could be shown that they originated from a grant or sale from the crown, or its conceptual heir, the State (Gatmaytan, 1992). The government has made it clear that this is the primary principle, which governs Philippine natural resource policy.

Under the 1987 Philippine Constitution, public lands have been subdivided into four categories: forest, mineral, national parks or reserves, and agricultural lands. State ownership was further emphasised by the jurisdiction and control of the government, specifically the Department of Environment and Natural Resources (DENR) over these lands.

Forest Lands

Forestlands are areas with slopes of 18% grade or more. There are no documents available that show the basis for this land classification. However, it could be assumed that an arbitrary scientific and forestry assumption was used as a basis. Such assumption provides that in order to attain national environmental stability at least 40% of the country's land area, which falls within the slope of 18% and above should be maintained as part of forestlands. Actual forest covers, sylvicultural use, ecological importance, significance, economics or other factors are irrelevant in its classification as such. If the area has a slope of 18% or more, it is legally a forest even if it is devoid of trees. The only exception to this rule is when the area has been titled prior to 1974, when the 18% rule came into effect, but even then the law has a mechanism of reverting those lands back to forestland status. It is completely independent of the actual forest growths on, or conditions of the area, being a legal rather than a descriptive term (Gatmaytan, 1992).

Mineral Lands

These are portions of the public lands, which are considered valuable for their mineral deposits and are so designated by presidential proclamation. At present, it is not possible to secure documents of title over lands classified as mineral lands. These lands are parts of the public domain, which may contain deposits of minerals and other precious metals in which the government may issue permits and leases for their extraction.

Natural Parks and Reserves

These are public lands which, because of their ecological values or significance, have been set aside by presidential proclamation as protected sites. Lands included in a national park or reservation are not susceptible to titling proceedings.

Agricultural Lands

These are public lands, which are below 18% in slope or less. This is the only category of public land, which may be subjected to titling by individuals. Public agricultural lands are those over which a document of title, upon application is issued, become part of the country's private lands. These types of lands are basically areas devoted primarily for agricultural or food production purposes.

In the present land use classification there has been no evidence of any clear understanding on the actual multiple functions of forestlands other than the primary production functions such as for timber production, water, recreation, etc. The forest as a whole has multiple functions of protecting biodiversity and the environment, producing goods and services or a combination of these various functions that can be produced sustainably if forest resources are properly managed. It seems that the present classification only led to the allocation of forest land use categories, such as: timberland, forest reserves and watersheds, game refuge and bird sanctuaries, wilderness areas, and civil reservations, which are mainly based on the products or services specifically attached to each of these categories of land use. This attempt to simplify the

forest land uses classification only lead to the formulation of inappropriate forest management policies. The attempt to simplify the problem of classifying or categorising forestland uses through specific products of the forest is a straightforward approach to a complex and difficult problem.

3.2 FOREST MANAGEMENT AND LAND TENURE SYSTEMS

3.2.1 Management of Forest Resources

The concept of the Regalian Doctrine remains as the principal basis to control the utilisation and management of the country's forest resources. The premise of this doctrine that all resources in the public domain belong to the State and therefore private ownership or title must emanate from the State, has served as the main foundation for most of the forest management and land tenure policies. The concept of ownership under the Regalian Doctrine has a considerable impact especially on access to forest resources and land tenure. Government policies and decisions on access to forest resources and land tenure affects millions of Filipinos particularly those living within the so-called public domain such as uplands or forestlands.

The Philippines realised the problems in effectively managing forestlands, which constitutes 60% of the country's total land area. It has been recognised that despite many compelling reasons to conserve the forest the reduction of forestlands continues as a result of deforestation. In 1934, the US colonial government reported that 17 million hectares of the Philippines' land area was covered with forests. By 1990, the Philippine government reported that only 20% of the land had significant forest cover, of which only less than 0.8 million hectares are primary forest (DENR, 1990). These figures on the remaining forest cover do not speak well of the management of the country's forest resources.

3.2.2 Social Equity and Access to Forest Resources

One of the basic issues in the management of the Philippines' forest resources is access to these resources. The inequitable access to forest lands and forest resources and the lack of appropriate land tenure policies are said to be the

main factors that have aggravated the rate of forest depletion. Issues on land rights and deforestation intersect particularly in the uplands. The Philippine Master Plan for Forestry Development estimates that there are 17.8 million people living in the uplands, of which 8.5 million live within forest zones. The estimated population in forestlands include 5.95 million indigenous people and 2.55 million migrants from the lowlands (DENR, 1990). Related statistics taken from government figures in 1980 likewise indicate that about 72 percent of the rural households which make-up 60 percent of the Philippine population are landless (Putzel 1992: cited in Leonen, 1993). The Gini coefficient measuring inequality in land ownership reached the stratospheric level of 0.647 in 1988, which gives the impression that the Philippines is one of the countries that have the highest degree of social inequality in Asia. (Miranda, 1988; Putzel, 1992: cited in Leonen, 1993).

The inequitable access to forest resources has led to continuing forest depletion. The two main causes of forest destruction identified are massive commercial logging, and the conversion of forestland to agricultural uses. It has been widely recognised that commercial logging triggers the process of deforestation and it is further aggravated by inappropriate government economic policies that cause the exploitation of forests. In relation to this, Robert Goodland of the World Bank suggests that, the underlying causes of deforestation are perverse incentives of greed and unattractive land tenure (Goodland, 1991: cited in McKerron and Cogan, 1993). A common pattern of forest destruction begins with logging companies opening up roads through primary forests to extract the most valuable trees. Lowland farmers, in search of land for subsistence farming then follow the logging roads. They burn the debris and remaining growth, establish farms for a few years until soil fertility declines, and move on to other areas not yet farmed. These types of activities prevent any growth of secondary forest that might have occurred after the logging activities. After several years the area is left and turned into severely degraded and unproductive grassland.

3.2.3 Government Control and Management of the Uplands

The monopoly in the ownership of the uplands by the government allowed much of the forestlands to be leased to commercial logging companies. Earlier in the 1960s and 1970s government programs on the management of forest resources were mostly directed towards forest production and utilisation. The issuance of timber license agreements has been one of the major instruments in the utilisation and exploitation of forest resources adopted by the government. About 230 TLAs had been issued by the government by the end of 1977 (DENR, 1990). The TLAs cover a 25-year lease typically covering areas of about 40,000 to 60,000 hectares, and also prescribe the annual allowable cut depending on the density of the forest within the area covered. The TLA is a privilege granted by the government to some individuals to exploit the wealth of the forests.

With the continuous reduction in the available timber resources the government started to gradually reduce the number of TLAs by cancelling those that were not complying with forestry laws and regulations. The number of TLAs was reduced to 137 in 1988, which covered 4.4 million hectares of forestland and was further cut down to only 32 in 1993. As the economic benefits from logging and utilisation of the forest have not filtered to the communities, poverty and unemployment persisted. The local people then move to the uplands to eke out a living by cutting the trees and farming the cleared forestland.

The history of the government's ownership of forests has shown its incapacity to properly manage the forest resources. The government lacks the will and resources for intensive forest management. The responsibility for the management and protection of the Philippines' forest resources is vested almost entirely in the Department of Environment and Natural Resources (DENR). In theory, the principal tasks of the DENR are to regulate forest exploitation and limit illegal activities, but in practice it has a very limited capability to perform due to limited number of staff and funding.

The Philippine Master Plan for Forestry Development noted that the needs of landless farmers in combination with logging has decimated the country's

forests, but only because the ineffective forest policies and economic-social environment promoted the situation.

There are four aspects of forest policy identified as inimical to proper forest management and use (DENR, 1990):

- *Unrealistic tenure;*
- *Low forest charges which allow inefficient users to operate with no serious efforts to produce more value-added products;*
- *The propensity to allow access and management only to a selected few and not based on merit; and*
- *Failure of the government to address the need for a community oriented management of the forest).*

3.2.4 Land Tenure

The conventional approach to forest land use has been through state or government ownership and control. Such land use systems have conventionally placed more importance on the resources than on people. The focus has been on three functions: establishing a "legal curtain" between people and the forests; establishing means of increasing forest output; and earning revenue for the state (Rao, 1992). The government has been assertive in claiming its property rights to the forestlands. The state or government control and management system has been characterised by strong forest protection measures and a position that all illegal occupants of the forestlands, including indigenous people are to be ejected and penalised. During the 1960s and early 1970s, a traditional shifting cultivator, as viewed by the law is a destroyer of the forest and should therefore be ejected from occupancy of the forestlands (Sajise, 1986). Hence, occupancy of forest lands by upland and indigenous communities were declared illegal.

Despite legal measures imposed by the government to protect forestlands from degradation, deforestation still continues. The forestlands covered by the TLAs, were manage purely for commercial purposes and concentrated only on extracting from these resources for immediate gain with little or no regard for the sustainability of the environment. This system has led to forest degradation because of the open-access nature of the resources (Gasgonia: cited in Acosta,

1995). The root cause of these problems is the lack of definite tenure system in the uplands, which was further aggravated by the government's failure to recognise ancestral land rights over these lands.

The first requisite for a sustainable forest economy is a property rights system that ally with the interests of forest people and with the health of forest ecosystems. This need not mean private ownership. Effective property rights systems or land tenure regimes range from private ownership to collective management by communities, to state control. No single property rights system is always best but what matters is that governments match tenure laws with the social context (Durning, 1993).

An efficient land tenure system spells out an effective forest management. Land tenure has been defined as those institutional arrangements and property rights that define the ownership and land use, including the claim to the income stream that arises from the use of such resource. It also refers to the bundle of rights, agreements or terms through which individuals or groups gain access to land resources in the uplands (Batangantang and Collado, 1995). These definitions imply the importance of land tenure security in as much as it ensures access to and the benefits accruing from the use of the resource. A secured tenure system results in:

a) *Higher levels of investment in land improvement and motivation to engage in long term planning since farmers or occupants of the land have the guarantee that they will benefit from the future stream of income out of the land and their investments; and*

b) *Intensive use of labour inputs in production.*

These conditions which account for the higher level of land and labour productivity, can be sustained if the farmers can be given strong security of tenure on the land they are tilling.

Management of Forest Occupants and Upland Communities

One of the major steps undertaken to address the ecological and socio-economic concerns in the uplands is the formulation of appropriate policies on

land tenure. In the early 1970s, the government recognised its inability to curtail and control destructive forest practices. It was during this period that the attitude towards the upland communities and shifting cultivators changed. Previously, the upland farmers and shifting cultivators were looked upon as destroyers of the forest but the government saw the potential of turning them into partners and agents of forest conservation, development, and maintenance of forest ecology. The government developed an upland management programme that would encourage forest dwellers to become agents of forest protection, development, and conservation. To further motivate participation, land tenure security in the occupation of upland areas has been made a major component of the programme. The residency and land occupation of the upland farmers have been allowed and certified by law under certain conditions thus, allowing them to establish their upland livelihood under a more feasible system of stewardship arrangement.

In 1975, the Forest Occupancy Management programme (FOM) was launched by the government, through the Bureau of Forest Development (BFD) providing the upland farmers with a residency permit for a period of two years. The programme was intended to curtail the activities of the upland farmers by limiting their cultivation activities to the areas they have occupied since 1975. Following the FOM, the BFD also experimented on providing farm security arrangements involving local communities. The "Family Approach to Reforestation" (FAR) followed. Each individual upland family was encouraged to plant trees and was paid by the government for every they tree planted. The Communal Tree Farm (CTF) project was also launched which gave upland communities access to the uplands to undertake massive tree planting for 25 years.

Integrated Social Forestry

However, the limited success of the programme under the Forest Occupancy Management (FOM), the Communal Tree Farm (CTF), and the Family Approach to Reforestation (FAR), lead to re-examination of the tenurial arrangement programmes. The importance of the socio-economic aspect and of

providing a better land tenure security over their occupied lands was given a greater emphasis. The socio-economic aspect recognises that the upland communities should not only participate by being mere providers of the needed labour in forest development and protection, such as reforestation programmes, but more importantly become real partners in forest protection and upland development. Hence in 1981, through 'Letter of Instruction No. 1260', the Integrated Social Forestry Programme (ISFP) was launched which integrated the three earlier programmes, the FOM, CTF, and FAR. The programme also widened participation by defining the responsibilities of the Department of Environment and Natural Resources (DENR) as well as other government agencies such as Department of Agrarian Reform (DAR), the Department of Agriculture and Food (DAF), Department of Education, Culture and Sports (DECS), Department of Health (DOH), Department of Justice (DOJ), Department of Public Works and Highways (DPWH), Department of Interior and Local Governments (DILG), Department of Social Services and Development (DSWD), and National Economic and Development Authority (NEDA). The responsibilities are related mainly to their own respective roles and functions (DENR, 1990). This integration across government departments was expected to increase the chances of success for the programme.

The ISFP adopts a land tenure security covering a period of 25 years renewable for another 25 years. Under the programme, through the issuance of Certificates of Stewardship Contracts (CSCs) to qualified occupants, there is a degree of tenurial security over the lands the upland farmers occupy. Their participation in the programme is also meant to promote their own socio-economic well being.

The programme provides for wider participation by the upland communities in the actual implementation and management of reforestation projects. The programme aims to manage forestlands for the country's economic and social progress through the involvement of traditional and upland communities. With the participation of these communities they can develop stronger confidence for the long-term development of the uplands and can have greater share of the benefits from better management, development, and protection of the forest.

This concept of a people oriented programme has led to an emerging partnership between the state and the local communities in the economic and environmental sustainability of the uplands. Foremost, the programme has provided the upland communities greater access to resources and therefore helps promote social equity. The realisation of a stronger confidence for a better land security and socio-economic development can be viewed as a means of narrowing the gap of social inequality.

The Integrated Social Forestry Programme (ISFP) in general, assumed that: (1) if the occupancy were legitimised, the local upland settlers would concentrate their efforts in developing and improving their occupied lots for a long term and more sustainable arrangement (2) the occupants would not risk their legally vested tenure by engaging in further and unsustainable shifting cultivation or encroachment into the forest, and engaging in illegal activities (3) that local communities as forest dwellers would be keen to maintain the integrity and wholesomeness of the upland ecology (DENR, 1991a).

The lack of security of tenure keeps the farmer from adopting a long-term perspective. The land tenure problem has many sides as there are many different tenurial arrangements. The public land occupants who have been there for a long time is one concern, while the other, concerns recent immigrants to public lands. But the major issue of concern is the question of the ancestral lands of indigenous cultural communities whose rights to their lands have not been recognised for a long time.

The ancestral lands of indigenous cultural communities have been classified as part of the public domain. Hence, since the Spanish and American colonial periods the rights of the indigenous peoples to their lands have never been resolved.

3.3 LAND RIGHTS OF INDIGENOUS PEOPLE

There are no reliable statistics that exist, but an estimated six million people in the Philippines belong to indigenous cultural communities (ICCs) or indigenous

peoples (IPs), consisting of 110 ethnolinguistic groups. They constitute ten percent of the country's population and are scattered around the entire Philippine archipelago usually concentrated in upland forest zones in at least 61 of the 77 provinces nationwide. The indigenous peoples are homogenous societies, identified by self ascription and ascription by others, who have continuously lived in a community or community-bounded and defined territory since time immemorial. They share common bonds of language, customs, traditions, and other distinctive cultural traits. By resisting the political, social, and cultural influences of colonisation, they have historically differentiated themselves from the majority of the Filipinos. The indigenous peoples have been continuously threatened for many years because vast tracts of ancestral domains were opened by the government to logging, large scale forest plantations, mining, pasture, and agriculture (Austria, 1996).

The indigenous peoples of the Philippines have been occupying portions of the forest zones, which form part of their ancestral domain since time immemorial. However, the long struggle for recognition of their rights to their ancestral lands continues. As distinct peoples with their own political, legal and resource systems they have received little attention in law. The indigenous people's quest for recognition of their rights can be described as labyrinthine. When the Spanish colonial government began laying down the framework of the existing legal system in 1894 the indigenous peoples entered a "period of dispossession and displacement, often clouded with confusion and sometimes attended by violence" (Gatmaytan, 1992:6). The dispossession was the consequence of the concept of the Regalian Doctrine that declared all the lands of the public domain as owned by the State which includes the ancestral domains of the indigenous peoples. However, it was asserted by Rodil (1993) that the real dispossession process took place between 1902 and 1935 during the American colonial period.

3.3.1 Dispossession of Indigenous Rights

The state systems of land tenure during the American regime in the Philippines from 1902 to 1935 conflicted with the indigenous systems. The problem of

conflict in the system of land tenure is attributed partly to the fact that the legal framework for the allocation and management of the public domain remains to be patterned after U.S. public land and resource laws. The Land Registration Act of 1902 institutionalised the Torrens system, which was first introduced in South Australia through the Real Property Act of 1857-8. The Act of 1902 mandated and provided guidelines for the registration and titling of lands owned privately by individuals or by corporations. The law was restrictive in that only individuals and corporations could apply to register privately owned lands. The word corporation, as Rodil (1993) notes, "left no room for the concept of ancestral and communal land", which to the indigenous people was sacred and held in trust, and could not therefore be owned. There was no provision in the law to register indigenous territories, such as in forestlands and bodies of water which are the sources of food and other needs whether physical or spiritual.

Further to the Land Registration Act of 1902, the dispossession of indigenous peoples rights to their lands was emphasised under Act 718 of 1903, making void land grants from tribal chieftains when made without governmental authority or consent (Rodil, 1993). It was illegal for any indigenous leader to dispose of lands to any member of his community, regardless of whether or not this had been their traditional practice. Hence, the Public Land Act of 1905 declared as public all land not registered under the 1902 Land Registration Act making indigenous cultural communities squatters in their own lands.

3.3.2 Rights to Ancestral Domains

Throughout the country the indigenous peoples are claiming about 10 million hectares of ancestral domains. The indigenous people are dependent upon forests and accordingly, their relationship to the land is so unique because the land shapes their culture and its loss gravely threatens the very essence of their existence. The land to them is considered sacred and communal ownership is the general rule.

According to Leonen (1993) there are three classes of land rights under ancestral domains: communal, indigenous corporate, and individual. Communal

land rights are exercised by all members of the community and usually cover forestlands on which no improvements have been made. Indigenous corporate rights are those exercised by families, clans or "wards". These are lands on which some improvements have been introduced by an ancestor or predecessor, and ever since been continuously used. In the case of family rights, they are typically those that cover land on which considerable improvements have been made, such as rice terraces.

Ancestral domains for each community have established boundaries which are commonly defined and settled in the course of competition between neighbouring communities over resource usage. All communities have systems of constraining alienation of land to outsiders. In more densely populated areas, they have built up more developed notions of territorial boundaries than less-populated areas. Most often, leadership tends to reside in councils of elders. There are established mechanisms for inter-village diplomacy wherein the concept of land rights and ancestral domains are inseparable from the basic survival of their society.

The indigenous people consider land as the source of their life. For instance, to emphasise the importance of land to the survival of indigenous people, a Kalinga tribal chieftain, Macliing Dulag, who was assassinated because he led the opposition to the construction of huge hydroelectric dam on the ancestral lands of indigenous cultural communities within their area, made the following statement:

> *"...What is the most precious thing to man? Life. If life is threatened, what ought a man do? Resist. This he must do, otherwise he is dishonoured and that is worse than death. You ask if we own the land and mock us saying 'where is your title?' Such arrogance of speaking of owning the land when we are instead owned by it. How can you own that which will outlive you? 'Apu Kabu-nian', Lord of us all, gave us life and placed us in the world to live human lives. And where shall we obtain life? From the land. To work the land is an obligation not merely a right . In tilling the land, you possess it. And so, land is a grace that must be nurtured. To enrich it and make it fructify is the eternal exhortation of 'Apu Kabu-nian' to all*

his children. Land is sacred. Land is beloved". From its womb springs our Kalinga life" (Leonen, 1993:264).

To the indigenous people, no single person owns the land but everybody owns the land. They see the land as a symbol of identity, which symbolises their historical identity because they see it as ancestral heritage that is to be defended and preserved for future generations. Ownership of the land is seen as vested upon the community as a whole and the right to ownership is acquired through ancestral occupation and active production. To them, it is not right to sell the land because it does not belong to only one generation, but should be preserved for all future generations.

The main problem that still confronts indigenous peoples in the Philippines is the primary issue of security of tenure over lands and resources that they consider to as part of their ancestral domains. The security of tenure being sought by the indigenous people is not merely the issuance of legal instruments or titles but more importantly, the recognition of their rights to these lands, which include other rights vested in them by tradition.

In 1963, a Senate Committee Report pointed to the primary problem of the indigenous people as the security of tenure over their ancestral domains. Some parties or sectors who are not members of indigenous groups were contesting or had usurped the ancestral domains of indigenous people by resorting to fraud, deceit, threat, violence or even legitimate use of the law and the courts. According to Gatmaytan (1992) it was only through this 1963 report that the problems and priorities of these communities were identified.

3.3.3 Recognition of Indigenous Peoples' Rights to their Land

The long quest for the indigenous peoples' recognition of their rights is beginning to see light through an executive issuance in 1974. A policy under Presidential Decree No. 410 declares ancestral lands occupied and cultivated by national cultural communities as alienable and disposable. However, the policy did not actually address the political demand for recognition of rights by the indigenous cultural communities but instead restricted the scope and

attempts to dilute the claims over their ancestral lands including their rights to these lands. The policy under PD 410 provides that:

> *"Sec. 3. ...the lands herein mentioned for the Cultural Communities shall be identified, surveyed, and subdivided by the Bureau of Lands into family-sized farm lots not exceeding five (5) hectares each and shall be allocated to members of the National Cultural Communities under such terms and conditions prescribed in this Decree..." (P.D. No. 410, 1974:2).*

This regulation clearly underestimated the rightful claims of the indigenous cultural communities over the their ancestral domains.

Following the issuance of PD 410 in 1974, another policy which purports to acknowledge the rights of indigenous cultural communities but has actually brought more serious impact has been that of Presidential Decree No. 705 otherwise known as the Revised Forestry Code of the Philippines. By virtue of Presidential Decree no. 705, it is legally impossible to acquire documents of title over lands 18% in slope or over. The effect of this regulation is that, it discriminates against securing documents of title for ancestral lands and domains of indigenous cultural communities. The Decree further made it possible to accuse occupants of public forestlands who use forest products without license of theft which makes the indigenous cultural communities (ICCs) liable under existing laws and strip them of traditional rights (Leonen, 1993). The discriminative effect of this regulation creates injustice by making the majority of the ICCs living in upland areas illegal occupants in their own lands and hence, subject to criminal prosecution. Through this process, trees planted by the ICCs for conservation and future use have become the property of the state and then of logging companies who subsequently acquire concessions or timber license agreements from the government.

These government issuances were the legal basis for the indigenous peoples' complaint that the legal system reduces them to the status of "squatters in their own lands". The effect of the legal restrictions to the ICCs over the use of resources on the areas they occupy is that, they are legally barred from ever

securing title to their lands. As a consequence, they may be evicted from their ancestral domains when the national interest so requires (Pres. Decree 705).

The executive branch of the government as Gatmaytan (1996) notes, has been historically consistent in its refusal to recognise Ancestral Domain rights. Until the 1980s the only measure of security any community could legally aspire is to have its area designated as a civil reservation. But by its nature however, a civil reservation is government property, which contradict the communities' assertion of their rights of ownership. Many such reservations were never surveyed on the ground, or if they were they were not enforced against migrant-settlers and commercial corporations who encroach into the area. Many government forestry programs continue to insist on including ancestral domains within the public domain.

3.3.4 Policy Failure in the Recognition of Indigenous Rights

The lack of reliable statistics on the number of indigenous people living in upland areas and the continued underestimation of their population reflects the failure of the government to concretise the recognition of their rights in implementable policies. As La Vina (1990) notes, while there may be a trend towards giving ICCs more access to the natural resource base, the government programs implemented by the Department of Environment and Natural Resources (DENR) remains to be based on the erroneous premise that ancestral lands are part of the public domain. The indigenous cultural communities who are occupants of the said lands irrespective of the length of occupancy are still considered squatters. Among the reasons that are frequently cited is the need to protect these lands from ecological misuse and degradation. The implication is that the indigenous cultural communities are incapable of utilising upland forest resources in an ecologically sound manner. This view ignores the role of indigenous people in maintaining an ecologically sound environment through traditional but sustainable systems of agriculture. Because they have been in these areas for generations, they possess a wealth of local knowledge and concern as well as duty to conserve the natural bounty around them based on the perception that their relationship to the land is sacred.

3.3.5 Constitutional Basis of Policies

The development of policies for the recognition of the rights of indigenous cultural communities can be characterised as confused. The little attention given to them may be seen from legislation, court jurisprudence, and administrative regulations. While the existence of indigenous people began to be accorded constitutional recognition through the 1973 Philippine Constitution, a mandate for the protection of their rights at a national scale can be found in the 1987 Philippine Constitution. The 1987 Philippine Constitution provides that "the state recognise and promote the rights of Indigenous Cultural communities (ICCs) within the framework of unity and development" (Art. III, Sec. 22). The constitution also provides for the protection of the "...rights of ICCs to their ancestral lands to ensure their economic, social, and cultural well-being and may provide for the applicability of customary laws governing property rights in determining ownership and extent of ancestral domain" (Art. XII, Sec. 5). The intent of these Constitutional provisions is to recognise the rights of indigenous peoples as communities. In contrast however, is the Constitutional endorsement of the principle of the Regalian Doctrine which recognises that all lands in the public domain are considered owned by the State and private ownership thereof is through the issuance of titles by the State itself (Art. XII, Sec. 2). The implementation of this policy enunciated in the fundamental law of the land in terms of law and jurisprudence has failed (Leonen, 1993). There is no clear definition of ancestral domain. There have been various legislative and administrative attempts to give legal definition to ancestral domains.

The most recent efforts in defining ancestral domains however, have included a distinction between ancestral lands and ancestral domains (Gatmaytan, 1996). Ancestral lands as understood among the organised indigenous communities and advocates cover only surface rights to land, and does not include the natural resources in these areas. Ancestral domains, a broader term, includes both the land and the resources found therein. The significant demand of organised indigenous cultural communities is for the recognition of ancestral domains not lands. They point out that their relationship to an area extends to its totality so as to include wildlife, waters, forests or other vegetative cover, the

surface and subsurface resources, and even air and space. They do not relate only to the surface or soil resources without reference to any other natural features or resources in them. This concept explains the difficulty in certain situations when some indigenous communities tell that even if they secure a title over the land, they do not acquire rights to any of the resources therein. The ancestral domain issue is thus, not a mere matter of giving a piece of land to a person or group of persons. According to Gatmaytan (1996:30) the issue involves the recognition and protection of a continuing relationship between land and people, "expressed as a way of life, founded on generations of shared, communal experience and intimate intercourse with the area".

3.3.6 Advocacy for the Recognition of Indigenous Peoples' Rights

There has been a growing advocacy for the recognition of the rights of indigenous peoples over their traditional rights. This has been illustrated by the formulation of the "Draft Declaration on the Rights of Indigenous Peoples". It is a document, which is an output of a "broad and long consultation process with indigenous leaders and is the most complete and representative statement of principles and demands for indigenous rights" (Posey, 1996:28). It can be described that such declaration begins with series of affirmations that link indigenous peoples and cultural diversity with conservation of resources and sustainable and equitable development.

In the Philippines, the 1987 Philippine Constitution is one of the main sources of advocacy for indigenous peoples' rights. Ruiz (1996) suggests that whenever a project or activity is entered into without regard to an indigenous community's economic, social, and cultural wellbeing, the government negate the constitutional mandate.

The increasing discussion and growing awareness of the issues and seriousness of the situation of indigenous people has put pressure on government to address the issue on the rights of the indigenous peoples. The challenge was particularly stronger on the Department of Environment and Natural Resources (DENR), the government agency mandated to manage and

protect the lands of the public domain and the natural resources of the country. The challenge faced by DENR is to address the issue without antagonising the companies who hold valid agreements or contracts issued over lands or resources.

The most important step taken by the government towards implementing the Constitutional mandate to recognise the rights of indigenous cultural communities began in 1987. The DENR opened its doors to the tribal communities by setting up a Special Concerns Office under the Office of the Secretary to look into the plight of indigenous cultural communities and their clamour for the recognition of their rights to their land. The DENR took a more pragmatic view by adopting the position that the tribal groups' claims to their ancestral lands should be recognised. This action by the DENR led to the endorsement of a legislative measure towards the enactment of an Ancestral Domain Law that will fully implement the Constitutional mandate to recognise the rights of the indigenous people. The premise was that, only legislation could adequately address the issue on ancestral domain rights.

3.3.7 Interim Policy to Recognise Indigenous Rights to Land

As an interim measure towards the recognition of rights of indigenous peoples, the DENR in 1993 issued Department Order No. 2, which provides for the identification, delineation, and recognition of ancestral lands and domains. This administrative regulation set guidelines and became a means to document and officially record the size, location and the basis of the various communities' territories. The indigenous cultural communities in the Cordilleras were the first recipients of the ancestral land claim certificates. There was an enthusiastic response from the indigenous cultural communities to the programme. Vitug (1993) notes that tribal communities wanted the bureaucracy to move faster and suggested ways to improve it. They also want to be involved in the process of delineating their ancestral lands. While the indigenous people of the Cordilleras were generally pleased with the DENR initiative to delineate ancestral lands, there were mixed reactions to the certificate of ancestral land claim. Some recipients do not see much value to the certificate which cannot give them land

tenure, while others, look on it as indicative of the emerging political will of the government through the DENR to recognise their rights to their ancestral domains. Some advocates of ancestral domain rights are however, not satisfied with what the DENR has done. Advocates such as the Legal and Natural Resources Center (LRC) believes in the idea that DENR could do more, and is not "legally bound to await the enactment of a law on ancestral domain for fear of intruding into the turf of Congress" (Vitug, 1993: 150).

The provisions of DAO No. 2 as an administrative regulation, provides a procedure for the issuance of a Certificate of Ancestral Land Claim (CALC) and Certificate of Ancestral Domain Claim (CADC). The CALC differs from the CADC. In terms of the size of the area claimed the former being smaller than the latter (Gatmaytan, 1996). The effect of securing a CADC is to give the holder the right to control and use of land and resources within the area covered by the CADC, vis-à-vis companies or other outsiders who are interested in the same land or resources. They also have the right to determine the course of development of the area.

Since its adoption in 1993, the Administrative Order has been looked upon as the government's response to the issue of indigenous land rights. To date, over 74 CADCs have been issued by the DENR, covering estimated 1,054, 296 hectares of public land. The processes involve in DAO No. 2 best facilitates the preservations of indigenous customs through documentation because the issuance of a certificate requires documented proof of a community's claim. Aside from the rights of occupancy and possession, a CADC holder enjoys the right to be consulted about any development of natural resource utilisation plans within the ancestral domain before the appropriate government agency issues the license, lease, or permit. Ruiz (1996) argues that most indigenous peoples rights advocates agree that a CADC holder should be able to effectively bar the entry of contracts, leases, and permits issued by the DENR over their ancestral lands. With the government's policy on the identification, delineation, and recognition of ancestral lands and domains, an emerging shift in the state's policy on the recognition of the rights of indigenous peoples can be seen which

is consistent with the principles of social equity enunciated in the Philippine Agenda 21.

3.4 REPUBLIC ACT NO. 8371 AND ITS IMPLICATIONS FOR INDUSTRIAL FOREST PLANTATIONS

The issuance of CADCs to indigenous cultural communities provided two strategies that became the basis of the strong lobby for the enactment of a law on the recognition of rights of indigenous peoples. These strategies are: (a) empowering of indigenous peoples to protect their ancestral domains through the recognition of their rights over such domains, and (b) institutionalising the concept of ancestral domains.

The growing awareness on the issues concerning the rights of indigenous people and the increasing national lobby led to the enactment of the long awaited legislative framework.

3.4.1 The Legislative Act to Recognise Indigenous Rights

The recognition of the rights of indigenous cultural communities as enunciated in the 1987 Constitution finally found its way through the enactment by congress of *Republic Act 8371* otherwise known as "*The Indigenous Peoples Rights Act*" (IPRA). This piece of legislation, which was signed on 29 October 1997, is called "an act to recognise, protect, and promote the rights of indigenous cultural communities/indigenous peoples, creating a national commission for indigenous peoples, establishing implementing mechanisms, and appropriating funds therefor" (Republic Act No. 8371, 1987). The IPRA is an enabling law which implements the 1987 Constitutional provision on the recognition and protection of the rights of indigenous cultural communities to their ancestral domains.

The enactment of the law did not pass the legislature without resistance, it was opposed by several Congressmen, particularly those who held big vested interests, and owned large tracts of lands as well as holders of concessions or timber license agreements and land leases from the government. Many of the

members of Congress feared that they would lose their lands or timber concessions. It is estimated that the indigenous peoples own four to eight million hectares of ancestral lands (Vitug, 1993). It was possible that the ICCs/Ips would therefore contest ownership of a number of logging concessions. According to Vitug (1993) some tribal communities have already complained of encroachment on their ancestral land by logging companies such as Santa Ines Melale Corporation in Agusan del Sur, PICOP Resources Inc. in Agusan del Sur, Valderrama in Davao, Surigao Development Corporation in Surigao del Sur, Nasipit Lumber Company in Agusan del Norte, and Anakan Lumber Company, among others.

The IPRA provides for the establishment of mechanisms to enforce and guarantee the realisation of the rights of indigenous cultural communities/indigenous peoples (ICCs/Ips), taking into consideration their customs, traditions, values and beliefs. Among the rights provided in the Act are: rights to ancestral domains and lands, the right to self-governance, the right to participate in decision making, the right to determine and decide priorities for development, etc. (Republic Act 8371, 1997). The recognition of the rights to ancestral domains and lands carries with it the inherent right to regulate entry of migrants and to transfer land/property among the members of the same ICCs/IPs. The law also provides for the creation the National Commission for Indigenous Peoples (NCIP). The NCIP now becomes the primary government agency "responsible for the formulation and implementation of policies, plans and programs to promote and protect the rights and well-being of the ICCs/Ips, with due regard to their beliefs, customs, traditions, and institutions" (Argete, 1998). The law seeks to put an end to the age-old economic marginalisation, socio-cultural displacement, and political disenfranchisement of indigenous peoples through the pursuit of programs in line with the governments Social Reform Agenda.

Prior to the enactment of the IPRA, the government had issued several certificates of ancestral domain claims (CADC) through DAO No. 2. These certificates covered an estimated area of 1.2 million hectares as at July 1997, out of the 3 million hectares, which the DENR intends to issue by the end of

1998. The DENR (1998) reported that a total of 181 CADCs have already been issued as at June 1998, covering a total area of 2,546,035 hectares. By virtue of Republic Act 8371, these certificates would become certificates of ownership called Certificates of Ancestral Domain Title (CADT) and Certificates of Ancestral Land Title (CALT). (Appendix "1": The distribution of CADCs by regional area).

3.4.2 The Emmerging Conflict in Land Tenure Security

The enactment of this piece of legislation puts an end to the age-old issue on the recognition of rights of indigenous people, and also in line with the government's programme that addresses poverty alleviation under the Social Reform Agenda (SRA). However, there are implications regarding apparent conflicts with other government policies on major forestry programmes, particularly the development of industrial forest plantations. There are implications for the sustainable management of existing and proposed industrial forest plantations particularly regarding land security and consequent socio-economic viability. There is no evidence that the enactment of R.A. No. 8371 took into account the implications of the law on existing leases and agreements on large-scale forest plantations covering large areas of forest land which are legally binding on the government as owner of the public domain. To date there are about 233 existing industrial forest management and tree plantation agreements and leases covering 524,676 hectares issued by the government (FMB, 1997).

Cruz (1998) argues that the problem with the IPRA is the method it employs to achieve its concededly laudable objective. In his view if any conflict arises over the ancestral lands, it will come under the exclusive jurisdiction of the National Commission for Indigenous Peoples (NCIP), which besides being composed completely of ICC/IP members, is authorised to give priority to their customary laws. Significantly, it is the NCIP that has the exclusive right under the law to determine whether an area is within ancestral domain. All other government agencies and offices, including the Department of Environment and Natural Resources (DENR), cannot issue any license for the development or

exploitation of natural resources unless the Commission (NCIP) certifies that the area involved does not come within an ancestral domain as determined by the NCIP itself. This provision violates due process by placing at a disadvantage any non-member of the ICC/IP who may be party to any dispute.

3.4.3 Indigenous Rights vis'-a-vis Private Developers

Whilst one of the major programs of the DENR is to enhance private sector investment in forestry, some private sector investors have expressed apprehensions partly because of the IPRA's policy on development and consultation with indigenous people. While the private sector considers that private corporations can be one of the critical pillars of support to the sustainable development and management of the country's forest resources, with the recent policy many can not see a good prospect for private corporate forestry.

Without a change in the general policy model, the number of corporate players in the forest resource development and management, particularly in industrial forest plantation development will gradually diminish (Sanvictores, 1997). Given the government's limited resources and capability to develop large scale forest plantations, without the help of the private sector to develop adequate forest plantations to augment and serve as alternative source of supply to the limited and dwindling indigenous forest resources the country will not attain sustainability in forestry. Daoas (1998) however is quick to assert that the law is not anti-development, but given the rights of indigenous people over their ancestral domains they must first have their prior informed consent.

Whilst some of the initial arguments are primarily on the legal aspects of the law in contrast to the social justice arguments in favour of the law, it is not to be ignored. An examination of these arguments can provide a better perspective for the amendment of existing and development of subsequent policies on industrial forest plantations that will focus on balancing the economic efficiency and social equity in the development and management of the country's forest resources. Hence, the development of relevant forest management policy

strategies such as industrial forest plantations should integrate management practices that recognise the rights of indigenous peoples to their lands consistent with the provisions of the IPRA. If industrial forest plantations are to be sustainable as a forest management strategy then it is imperative that it should be implemented within the context of a balance policy that will consider a tenure system, which is not in conflict with the customary rights of indigenous people. As a forest management strategy, industrial forest plantations can then promote the standards of social justice and democratic access to forest resources while trying to achieve the economic and environmental objectives of sustainable development. Thus, ensuring its sustainability as a forest management strategy.

CHAPTER 4

4 SUSTAINABILITY AND INDUSTRIAL FOREST PLANTATIONS

Sustainable development focuses on the existence of balanced development that can be continued indefinitely. This means the ability to promote economic growth without impairing the life support systems of the environment and its carrying capacity over a long period of time. Sustainable development stresses the concept of "needs" and "limitations". Development is necessary to meet the needs of the present generation while limitations should be imposed to maintain the life support system of the environment. Within the context of environmental and natural resources management, sustainable development requires changes in the production, consumption and utilisation patterns to ensure the sustainability of these resources over time. Goodland (1995:6) claims that the need for sustainability arises from the recognition that the "profligate, extravagant, and inequitable patterns of development, when projected into the not too distant future, leads to biophysical impossibilities".

The Philippines in recent years, has experienced major policy changes in the productive base of its economy as a response to the wider changes in the world's economic system. The emphasis on environmental protection has triggered major policy changes in the natural resources sector. The exploitative nature of most natural resource management activities and their corresponding effects on the environment has hastened the development of major policies aimed at achieving a balanced development whereby economic growth, environmental management, and social development could be maintained. This chapter discusses the concept of sustainability as specifically applied to development of industrial forest plantations as a forest management strategy.

4.1 THE CONCEPT OF SUSTAINABILITY

Within the context of forest resources management, sustainability suggests a transformation process that maintains a continuous flow of goods and services from forest resources over a long period of time. This also means promoting development while protecting the environment and ensuring the improvement and benefits associated with the conservation and utilisation of forests.

The IUCN advanced sustainability as a strategic approach to the integration of conservation and development consistent with the objectives of: ecosystem maintenance; the preservation of genetic diversity; and the sustainable utilisation of resources (Smith, 1993). Sustainability provides a view that environmental protection and economic growth are mutually compatible rather than conflicting objectives.

In terms of usage and application, the concept of sustainability does not possess a single meaning or definition. However, in order to achieve the goals of sustainable forest management particularly in industrial forest plantations as a resource management strategy, the focus should be on the idea of "continuity over a long period time". A sustainable state under this particular situation is one in which resources are managed so as to maintain production opportunities for the future (Perman et al., 1996:56). In the context of natural resource management sustainability it is the quality of being able to maintain the environmental system in such a manner that the system is able to function in perpetuity. For instance, Jacobs (1993) suggests that in the case of providing renewable natural resources as long as the rate of harvest does not exceed the regeneration rate, the resource stock is maintained, the environmental capacity is maintained, and therefore sustainability is achieved.

Sustainability has been defined in various ways and carries different meanings based on different interpretations of economists and ecologists. However, while it is a concept that is difficult to define and carries ambiguities, in its various applications its strength lies in its common elements. For instance, Meister (1997) commented that when we talk about sustainability we are referring to a

concept which carries the following common elements: long term dimension; the need to entrench environmental considerations in economic policy; equity; and, that development that does not simply mean growth. The need to entrench environmental considerations in economic policy means that sustainability goes beyond the traditional orthodoxy that ignores environmental considerations altogether. The equity considerations in sustainability do not simply imply the creation of wealth and conservation of resources but their fair distribution. This means a regard for future generations or intergenerational equity, or the use and enjoyment of resources by the future generations as well as the present.

Sustainability in its purest sense involves embracing the ethical norms pertaining to the survival of living matter, to the rights of future generations and to the institutions responsible for ensuring that such rights are fully taken into account in policies and actions (O'Riordan 1988: cited in L. Graham Smith, 1993:30). Dovers (1990:299) likewise argues that sustainability is a value-based concern that requires "the moral choice of accepting intergenerational equity as an overriding ethic". Sustainability includes an element of not harming the future or what is called intergenerational equity. Some authors find the intergenerational equity component of sustainability to be its most important element. Accordingly, if the world cannot move toward intergenerational sustainability during this generation, then it will be difficult to achieve intergenerational sustainability sometime in the future when the capacity of environmental services will be lower than it is today (Goodland, 1995). Sustainability although most often is vaguely defined is a social goal, which, by its very nature takes the form of an over-riding and all pervasive directive.

Many researchers also claim that sustainability is related to a sustainable relationship between society and the environment (UNESCO, 1998; Allen and Hoekstra, 1994; Caban et al., 1994; Martinez, 1994). Shearman (1990: cited in L. Graham Smith, 1993) asserts that sustainability is used as a modifier like in sustainable development, sustainable growth, sustainable ecosystems, etc. The concept of sustainability as such refers to the viability of socially shaped relationships between society and nature over long periods of time. Hence, it must also satisfy human needs for all designed strategies of natural resource

use (Martinez, 1994). This means that for industrial forest plantations to be sustainable as a forest management strategy, it should also satisfy human needs within the strategies of natural resource use. The management of forest resources requires knowledge about the forest ecosystem including relationships to human values and, activities and patterns of resource use.

Sustainability is important in forest management to ensure continuity in the provision of goods and services derived from forest resources and their inherent environmental functions that will benefit not only the present but also the future generations of humankind. The basic principle of sustained yield as the primary basis of sustainability in forestry and other renewable resources such as fisheries has served as one of the principal basis for sustainable development as a development paradigm. The development of Industrial Tree Plantations as an approach to sustainable forest management needs to embrace this general concept of sustainability if it is to attain the goals of sustainable development.

According to Allen and Hoekstra (1994:6) "sustainability does not exist independently of human values and does not become a relevant concept until there is a significant human component to the material system". Sustainability is not something that will happen if we just leave things alone and let nature take its own course. It requires desirable human intervention to attain sustainability and that there is an imperative call for action with some explicit goals towards the attainment of sustainable development. Development can start to be sustainable if it integrates social, environmental, and economic sustainability. The concept of sustainability requires the bringing together of economic, social, and environmental systems.

4.2 INDUSTRIAL FOREST PLANTATIONS AS SUSTAINABLE FOREST MANGEMENT STRATEGY

The need to promote the sustainability of forest management systems in order to achieve sustainable development calls for appropriate strategies to be adopted to provide the means to maintain the economic and environmental functions of the forest. Sustainable forest management strategies are necessary

to meet the changing needs of society as well as to help maintain the life support systems of the environment. The development of forest plantations is one of the major forest management strategies, which has been regarded by many countries as one of the answers to the problems of tropical deforestation that can also provide some social and economic benefits. The lost of natural forests make it inevitable that forest plantations will play an important role in supplying the future wood supply requirements of different countries. The area of forest plantations has increased significantly in many countries particularly in the tropics as a result of natural forest depletion. The FAO (1994) estimates that are about 100 million hectares of forest plantations in the world, of which about 30 million hectares are in the tropics. Although forest plantations cannot qualitatively substitute the timber grown from natural forests, their importance in global forestry is steadily increasing.

The Philippines is among the many tropical countries in Southeast Asia that has adopted the establishment of forest plantations mainly for the following reasons:

- *The need for wood and other forest products;*
- *The need for environmental protection;*
- *The opportunity that forest plantations provide for the urgently needed employment in the rural areas; and*
- *The need for more evenly distributed benefits from natural resources.*

The forest plantation programmes in the Philippines are intended both for production and protection purposes and has been implemented by the government as well as the private sector. Most often, plantation programmes of the government are intended for protection purposes, i.e. protection and rehabilitation of critical watershed areas, re-vegetation of badly denuded lands, and restoration of forest cover in logged-over areas. On the other hand plantations carried out by the private sector are mainly intended for production purposes. They have been categorised as: large scale Industrial Forest Plantations; Tree Farms; Agro-forestry farms; and plantation development of Timber License Agreement (TLA) holders in compliance with their obligations as mandated by law, to reforest areas that had been subjected to logging.

4.2.1 What is an Industrial Forest Plantation?

An Industrial Forest Plantation (IFP) or Industrial Tree Plantation (ITP) can be defined as any tract of brushland or open and denuded forest land principally planted to timber-producing species compatible with the ecological and biophysical characteristics of the area to support wood processing facilities or supply wood energy requirements (DENR, 1997). For purposes of regulation, such definition by the DENR, includes rubber and non-timber species such as rattan and bamboo, that support wood processing and wood energy facilities. The development of Industrial Forest Plantations (IFP) started in the Philippines in 1978 in line with the policy embodied Presidential Decree No. 1559 otherwise known as the Forestry Reform Code. This policy aimed to accelerate the re-vegetation of logged-over areas with the end view of supporting the raw material requirements of wood-based industries and energy generating facilities (Alonso et al., 1998).

4.2.2 Goals of Industrial Forest Plantations

Long-term leases from the government called Industrial Forest Management Agreement (IFMA) cover the areas intended for the development of industrial forest plantations. The inefficacy of the Timber License Agreement (TLA) system in the sustainable management of natural forests resulted in the development of this new lease arrangement. The Industrial Forest Management Agreement (IFMA) combines forest management and development of industrial forest plantations. The IFMA is a contractual agreement between a qualified individual or corporation and the government through the DENR, which grants a sole and exclusive privilege to the individual or corporation, to protect, manage, and develop a specified area of forestland into a forest plantation. The individual or corporation has the right to harvest, sell and utilise all planted trees and crops established pursuant to the provisions of the IFMA. The minimum area that can be covered by an IFMA is 500 hectares and a maximum area of 40,000 hectares.

The primary focus of the IFMA is the development of industrial forest plantations. The implementation of this forest management strategy is provided

under DENR Administrative Order No. 42 as amended by DENR Administrative Order No. 60 dated October 4, 1993. These executive issuances provide; "Regulations and Guidelines Governing the Establishment and Management of Industrial Forest Plantations and Management of Natural Forest for Production Purposes" (DENR, 1993). The aim of the government pertaining to the development and management of industrial forests is to encourage the private sector to engage in forest development activities. Specifically, the objectives of industrial forest plantations enunciated under such regulations are:

- *Conversion of the country's open and denuded lands, brushlands and degraded residual forests into productive forests to supply raw materials for forest-based and related industries on a sustainable basis;*
- *Effective protection and sustainable management for industrial purposes of suitable portions of the country's remaining residual forests;*
- *Maintenance of a desirable forest ecosystem on forest lands suited to industrial uses;*
- *Development and implementation of mutually beneficial partnerships with forest-dependent individuals and communities;*
- *Generation of additional sources of foreign exchange; and*
- *Contribution to achievement of specific regional development goals.*

The IFMA aims to ensure a sustainable supply of wood and industrial forest products from plantation forests. It gives the responsibility to qualified private investors, the management and protection of remaining residual forests and converting deforested or degraded areas into forest plantations.

The goals of industrial forest plantations through the IFMA also focus on social sustainability through community involvement and participation. Part of the investor's responsibility is to involve local communities in development and management of the forest plantations. This may take the form of employment contracts, access to non-timber forest products, contract tree growing and support for community upland agriculture on suitable sites for agriculture.

4.2.3 Management of Natural Forests

The development of industrial forest plantations in the Philippines as a major forest management strategy is primarily focused on the production aspect of forest management. However, the forest plantations also have the inherent environmental function of reducing the pressure from the natural forest as well as rehabilitating badly denuded areas devoid of trees. It promotes sustainable

forest management by helping to mitigate the exploitation of natural forests through the provision of an alternative source of timber to support the wood requirements of the wood using industries.

The development of industrial forest plantations has inherent effects on the management of remaining natural or indigenous forests. The management of natural forests in the Philippines has been based on the exploitation of the old growth dipterocarp forests (ADB, 1994). The major instrument of utilisation, which also assigned responsibility for management has been the Timber License Agreement (TLA). In the 1970s, concessions were granted from 1 to 10 years on a non-competitive basis which was later granted on 25 years duration with a possible renewal for another 25 year term (ADB, 1994). It has been known that the TLA system incorporated insufficient incentives to encourage logging concessionaires or TLA holders to practice sustained yield management. The harvesting cycle for dipterocarp forests which is longer than the term of the TLA did not motivate the concessionaires to implement sustainable management schemes and promote multiple use and multiple harvests. There were few incentives for promoting long-term forest management. In an attempt to address this unsustainable system of forest management, the introduction of the Industrial Forest Management Agreement (IFMA) as a new type of tenurial instrument for the development of industrial forest plantations was adopted by the government (DENR, 1991a).

The cancellation of majority of the TLAs over the last 15 years to minimise the further exploitation of the Philippines' natural forests has led to a situation where an estimated four million hectares of natural forests, including 2.5 million hectares of residual dipterocarp forests are left without management. These were the areas formerly under the management of the TLA holders or concessionaires. These areas were subsequently placed under a more suitable management through different tenurial arrangements such as; the Industrial Forest Plantation Agreement (IFMA) and the Community Forest Management Agreement (CFMA). Under the IFMA and the CFMA, the sustainable management of these forest areas has been delegated to communities and the corporate or private sector.

4.3 INDUSTRIAL FOREST PLANTATIONS AND THE WOOD INDUSTRY

The growing trend towards the development of forest plantations is becoming evident worldwide. The establishment rate in the tropics was estimated to be at least 2.6 million hectares yearly. The expanding needs for forest products will require further forest plantations. Current projections by the FAO (1994) suggest that over the next three decades, the increase in demand for forest products is expected to be about 3 percent per year. This trend is increasing and the world forestry sector faces the challenge of meeting increasing demand for a wide range of industrial and non-industrial forest products from a shrinking resource base.

The establishment of industrial forest plantations has increased in many countries and is becoming more and more popular in developing countries such as Indonesia, Malaysia, Philippines, Thailand, Papua New Guinea, India, Brazil, Chile, Fiji, etc. A number of developing countries in Southeast Asia that were formerly net exporters of forest products like Malaysia, the Philippines, and Thailand are now net importers because of the continuous decline in their forest resources. These countries started to develop forest plantations as alternative sources of timber to the rapidly depleting indigenous sources from their natural forests.

4.3.1 The Wood Industry

In the Philippines, the wood industry or wood-based industry is the enterprise that process industrial timber or manufacture timber products is collectively known as. However, the entire wood industry makes a distinction between primary wood-based industries and downstream wood-based industries. The primary industry utilises roundwood as raw material while the downstream industry uses invariably the products derived from the conversion of roundwood. This denotes that each industry category is an aggregation of individual industries linked by certain homogenous characteristics, like plywood and

veneer industry, furniture industry, particleboard industry, pulp and paper industry, etc. (Sanvictores, 1994). In most cases, the distinction of one industry from the other within each aggregation is necessary to differentiate primary from downstream industry.

The categories of individual industries within the primary wood-based industry are lumber industry, wood-based panel industry, etc. This classification is based on the uniform process flow and the generic products they produce. On the other hand, the downstream industry consists of secondary and tertiary industries. The main products of the secondary wood-processing sector are semi-processed wood products such as planed and moulded lumber, builder's woodworks, panel doors, parquets, and similar items. The tertiary processing covers finished product lines like furniture, household utensils, woodcarvings, toys, musical instruments, etc.

4.3.2 Industrial Forest Plantations and Timber Supply in the Philippines

The fast diminishing supply of timber from the natural forests and the increasing demand for wood and wood products in the Philippines has been the key factor in the development of large-scale forest plantations. The downward trend in the log production in the country for the last 10 years has been attributed to rapid deforestation. The rate of forest loss in the country had been acknowledged to be among the highest in the world which was estimated at 300,000 hectares per year in the late 1960s and 100,000 hectares per year during the 1990s. During a period of 10 years from 1983 to 1992, log production has gone down from 4.5 million cubic meters to only 1.4 million cubic meters or an average decline of 11.0% per year due to the high rate of deforestation (Reyes, 1994) (Table 4.1: Trend in log production from 1983 to 1992).

Figure 4.1: Trend in log production from 1983 to 1992 ('000 m^3)

YEAR	Total	Sawlog and Veneer Log	Pulpwood	Poles and Piles
1992	1,438	800	487	151
1991	1,922	1,561	349	12
1990	2,503	2,156	335	12
1989	3,169	2,796	351	22
1988	3,809	3,185	615	9
1987	4,147	3,412	681	54
1986	3,434	3,078	318	38
1985	3,568	3,185	368	15
1984	3,872	2,876	987	9
1983	4,468	3,698	732	38

Source: Philippine Forestry Statistics, 1992

The continuous destruction of forests in the Philippines resulted in a shift from exploitative industrial forestry towards production forestry system through industrial forest plantation development. This involves the development of alternative sources of timber for the wood industry through the establishment of plantations of fast growing species of timber producing trees. The development of industrial forest plantations has become an increasingly important forest management strategy. The government perceives that forest plantations will eventually play an increasing role in supplying the country's future wood requirements. The projected increase in the value of timber from indigenous sources and the slow regeneration of natural forests provides greater justification for the preservation of indigenous forests and therefore wood and wood products for industrial purposes and general construction uses will eventually be supplied from industrial forest plantations. The Master Plan for Forestry Development developed by the government in 1991 estimated that about 1.4 million hectares of these types of forest plantations should be established by the year 2000 (ADB, 1994). The species of trees used in industrial forest plantation offer significant potential for boosting the needed

timber supply for the wood industry in the Philippines. These timber species have high productivity, short cutting cycle, and various end uses.

4.4.2 The Demand for Wood and Wood Products

The dwindling supply of timber from indigenous sources and the imposition of a ban on logging in the natural forest, has forced the Philippines to import wood from other countries to cope up with the increasing domestic demand for wood and other wood products. The Philippines according to a study by the Asian Development Bank, in 1992 imported forest-based products totalling US$325.1 million in value (ADB, 1994). These were mainly laminated wood products and pulp including 395,239 cu meters of roundwood (ADB, 1994). The demand for forest products is increasing as a result of a growing population while the diminishing supply from the country's forest resources can hardly cope with the demand. This relationship between wood demand and population increase was further noted in the findings of Maini (1990) who noted that the rate of increase in the demand for forest products usually exceeds the rate of population increase.

The Philippine Master Plan for Forestry Development projected the domestic demand for wood products in the Philippines over a 10-year period from 1995 to 2015 (Table 4.2: Projected demand for wood products). It was projected that in 1995 the demand for sawnwood would reach 1.03 million cubic meters requiring about 2.02 million cubic meters of logs. On the other hand, the domestic demand for plywood for the same year was estimated at 3.07 million cubic meters with a corresponding log requirement of 0.67 million cubic meters of logs. Demand for pulpwood was 165,000 cubic meters while the demand for poles was estimated at 1.2 million cubic (Reyes, 1994). The sawnwood and plywood requirements were projected to increase to 4.6 million cu. m. and 4.2 million cubic meters, respectively (Table 4.3: Projected log requirements for sawnwood, plywood, and pulp).

Table 4.2: Projected demand for wood products from 1995 to 2015 ('000 m^3).

WOOD PRODUCTS	1995	2000	2005	2010	2015
SAWNWOOD					
Less Substitutes	100	250	400	500	500
Net Demand	1,029	1,167	1,359	1,646	2,569
PLYWOOD					
Less	56	99	153	224	300
Substitutes	307	337	364	337	388
Net Demand					
PULP	165	227	227	887	887
POLES	1,029	1,340	1,380	1,440	1,500

Source: Philippine Master Plan for Forestry Development, 1991.

Table 4.3: Projected Log Requirement for Sawnwood, Plywood, and Pulp from 1995 to 2015 (in '000 m^3)

WOOD PRODUCTS	1995	2000	2005	2010	2015
Sawnwood and Plywood	2,685	2,993	3,463	3,868	4,604
Pulp	540	900	900	4,200	4,200
Poles	1,200	1,340	1,380	1,440	1,500

Source: Philippine Master Plan for Development, 1991.

A close look at the projected demand for wood and log requirements from 1995 to 2015 indicates a log supply deficit in the medium term. Reyes (1994) asserts that even if the projected harvest of sawlogs and peeler logs from both the natural forest and industrial forest plantations by the year 2000 were combined, it would still not be sufficient to meet the demand of an estimated log requirement of 2.99 million cubic meters. The estimated deficit by the year 2000 would be 1.36 million cubic meters. On the other hand, poles supply deficit

would amount to 1.21 million cubic meters. However, the pulpwood supply would exceed demand by 746,000 cubic meters. It is only by year 2005 that the sawlog and peeler log would approximate the projected log requirement for sawtimber. For poles, supply would exceed demand only by year 2010. Considering the actual area of forest plantations established after 1990, there seems to be some difficulty in achieving the log supply-demand balance (Table 4.4: Log supply-demand). Records of show that only 93,039 hectares of forest plantations were developed between 1991 and 1992, hence, the need to develop more industrial forest plantations to meet the increasing demand for wood.

Table 4.4: Log Supply-Demand from 1995-2015 (in '000 m^3)

	1995	2000	2005	2010	2015
SAWLOG/Peeler Log					
SUPPLY	1,410	1,634	3,424	8,605	13,786
DEMAND	2,685	2,993	3,463	3,868	4,604
Surplus/Deficit	-1,275	-1,359	-39	4,737	9,182
PULPWOOD					
SUPPLY	1,645	1,646	3,625	3,827	4,030
DEMAND	540	900	900	4,200	4,200
Surplus/Deficit	1,105	746	2,725	-373	-170
POLES					
SUPPLY	85	127	729	1,829	2,930
DEMAND	1,200	1,340	1,360	1,440	1,500
Surplus/Deficit	-1,115	-1,213	-631	389	1,430

Source: Philippine Master Plan for Forestry Development, 1991.

4.3.4 The Role of Corporate Forestry

The Philippine government has to recognise the important role of the private sector in forestry. The government has limited resources of, therefore it does not have sufficient capability to address critical issues in sustainable forest

management such as development of industrial forest plantations. The urgency of establishing forest plantations is well documented and the compelling need to develop alternative sources of timber supply and rehabilitating badly denuded lands requires private sector involvement and participation. For example, Sanvictores (1997) argued that without adequate forest plantations to augment the limited supply from indigenous forests, wood product exports in the Philippines would be in grave danger. This will be followed by a trend of diminishing corporate players in forestry. Without adequate forest plantations to augment the limited and dwindling indigenous forest resources, it would be difficult for the Philippines to attain sustainability in forestry.

Private corporations can be essential pillars of support for the sustainable development and management of the country's forest resources particularly in the development and management of forest plantations. The key role of the private corporate forestry is recognised by the government as indispensable in the pursuit and realisation of the targets set in the Master Plan for Forestry Development. It is also important in the pursuit and attainment of qualitative targets such as protecting the integrity of forests, maintaining the quality of watersheds, and ameliorating the social conditions in the uplands particularly as regards affected communities.

Establishment of Forest Plantations by the Private Sector

The dwindling supply of logs from the natural forests and the stiff conservation measures of the government have meant that the development of industrial forest plantations continues to draw interest from private sector investors. Generally, forest plantations developed by the private sector have production objectives in contrast to most government established and managed plantations. Even before the adoption of industrial forest plantations as a major forest management strategy by the Philippine government, there were initiatives by the corporate sector on forest plantation development. The Asian Development Bank (1994) noted that the first major initiative in industrial forest plantation establishment was that of the Pulp and Paper Industry Corporation of the Philippines (PICOP) following the establishment of its pulp and paper mill at Bislig, Surigao del Sur.

The need to develop industrial forest plantations was to ensure a steady supply of raw materials with high volume production and a uniform wood quality for the company's pulp and paper mills. The company's plantations were started in 1972 and continued to expand over the next 20 years with a total plantation area of 33,200 hectares in 1993. The main species on the plantations were fast growing species like "falcata" (Parasenthiases falcataria) and "bagras" (Eucalyptus deglupta). The PICOP plantation development programme was accompanied by a small-holder tree farming scheme in which the company financed small woodlots and entered into supply contracts with both farmers on private land and forest occupants within PICOP's concession areas. The scheme had considerable demonstration effect and the plantations provided important sources of income for the farmers. The scheme has served as a model for other private ventures in plantation forestry that encourages local community involvement.

Other significant plantations of private sector or corporate initiative were: the Provident Tree Farms Incorporated (PTFI) in Agusan del Sur, and that of the Nasipit Lumber Company (NALCO) in Agusan del Norte. These companies developed plantations aimed at specific end products. The PTFI developed plantations of "gubas" (Endospermum peltatum) for matchwood and lately Acacia mangium for pulp and general construction purposes. The NALCO on the other hand established plantations of "yemane" (Gmelina arborea) for furniture components and general construction purposes. Other plantations developed by the private sector had been reforestation to fulfil compliance with Timber License Agreement (TLA) regulations. These forestry regulations require that for each hectare selectively logged, an equivalent area of adjacent denuded land should be planted. The DENR (1991a) noted however, that while some plantations had been established in this way the result was not encouraging because of the fact that TLA license holders have no eventual claim over the areas planted. Hence, there was high variability and often with lower quality plantations developed through this scheme.

As at 1995, an estimated area of 653,000 hectares of forest plantations had been established by the private sector in various parts of the country. Leases such as Industrial Forest Management Agreements (IFMA/ITP), Socialise Industrial Forest Management Agreements (SIFMA), Tree Farm Leases (TF), and Agroforestry Tree Farm Leases (AFF) cover these plantations. Most of the large tracts of mature and harvestable tree plantations are located within the island of Mindanao particularly in Regions 9,10, 11, and 14.

Major Species Planted

There are no reliable statistics available on the species distribution of industrial forest plantations in the Philippines. However, available data from some companies and individual tree plantation owners indicate that most of the widely planted species are "bagras" (Eucalyptus deglupta), "falcata" (Parasenthiases falcataria), and "yemane" (Gmelina arborea) with around 191,000 ha. 133,000 ha., and 107,000 ha., planted nationwide (Cadiz, 1998). Most of the species planted in industrial forest plantations are fast growing species, which are usually drought resistant. In other areas, some hardwood premium species such as mahogany (Swietenia macrophylla), and teak (Tectona grandis) are planted but in limited scale due to slower growth rate and longer maturity. (Table 4.5: Existing private tree plantations by species).

Table 4.5. Existing Private Tree Plantations by Species ('000 m^3)

MAJOR SPECIES	Area ('000 ha.)	Percentage
Bagras (Eucalyptus deglupta)	191	32
Falcata (Parasenthiases falcataria)	133	23
Yemane (Gmelina arborea)	107	18
Gubas (Endospermum peltatum)	46	8
Katoan bangkal (Anthocephalus chin.)	41	7
Mangium (Acacia mangium)	26	4
Acacia auriculaeformis	25	4
Caribbean Pine (Pinus caribbaea)	23	4
T O T A L	**592**	**100**

Source: Forest Management Bureau, 1994.

Productivity and Projected Timber Yield

The mean annual increment (MAI) of most of the species planted range from 18-40 cubic meter per hectare per annum depending on site quality and spacing (Alonso et al., 1998). The rotation cycle is between 5-12 years depending on the end-use or the production objective of the plantation. The projection made by the Master Plan for Forestry Development indicates that wood production from industrial forest plantations by year 2015 would be around 3 million cubic meters (DENR, 1991a). Based on the projected timber supply and demand, the bulk of raw materials for the wood industry would come from industrial forest plantations starting in the year 2005. As the existing tree plantations mature and increase in volume, the timber supply-demand is expected to stabilise by the year 2010 (Alonso, 1998).

4.4.5 Main Constraints in Plantation Forestry Development

The government has encouraged the participation and involvement of private corporate investors in the development of industrial forest plantations. This has drawn considerable response and interest from the private sector as shown by the existing private forest plantations and large number of applications for leases and permits submitted to the DENR for the development of tree plantations.

A breakdown of the number of permits and leases issued by the government shows that there are now 233 IFMAs/ITPs, 153 Tree Farm Leases (TF), 84 Agro-forestry Farm Leases (AFF), and 134 Socialised Industrial Forest Management Agreements (SIFMA).

However, while the government's call for active private sector involvement and participation drew a favourable response, the actual development of plantations was rather slow due to some constraints. The constraints tended to include major policy and institutional arrangements such as; security of land tenure, and very stringent procedural requirements, and restrictive policy on the choice of

species to be planted (DENR, 1991a). The private sector, view these as hindrances to the financial viability of investments in plantation forestry.

Security in Land Tenure

The most common problem encountered in the actual development and management of large-scale forest plantations is the insecure status of the lands suitable for plantations. Areas suitable for plantations have to be properly delineated from other identified land uses such as critical watershed areas, protected areas, and ancestral domains of indigenous cultural communities. In most land tenure conflicts involving industrial forest plantations in the Philippines, the commonly identified cause of conflict is the improper or the lack of delineation of areas covered by the plantation leases. This is currently becoming a serious issue in the development of large-scale forest plantations particularly with the enactment of Republic Act No. 8371 otherwise known as the "Indigenous People's Rights Act" (R. A. No. 8371, 1997). The law provides for the recognition of the "rights of indigenous people or indigenous cultural communities to their ancestral lands" which are in most cases are within existing industrial forest plantations.

The lack of security in land tenure is a major constraint to long-term planning and investment in plantation forestry. Land tenure security provides the basis for long-term planning and investment. The investors from the private sector consider lack of land tenure security as a source of risk in plantation forestry investment and perceive it as a major obstacle in private plantation development. Rapera (1994) also noted that in the past, uncertainty of tenure has also contributed to the depletion of forest resources. The holders and operators of Timber Lease Agreements (TLAs) under uncertain tenure were inclined to shorten their planning horizon and thus became more concerned with the short-term profits rather than the long-term sustainability of the forest resources.

Another critical aspect in tenure security is the term of tenurial instruments now in place. The existing tenurial instruments for the development of forest plantations, such as; IFMA/ITP, SIFMA, AFF, and TF, have a limited duration of

only 25 years, and subject to certain conditions can be renewed for another 25 years (DENR, 1997). Most private investors in plantation forestry often view the duration of the lease as unrealistic. Accordingly, the cutting cycle of most primary species of timber such as the dipterocarp species and other premium species range from 30 to 45 years, hence the tenurial term is not in accordance with the natural cycle. As a result, licensees and leaseholders are constrained to look at the short-term goals and short-term financial profits rather than the long-term goal of sustaining production. To encourage investments in forest plantations, it is necessary that land tenure claims of local communities and other land tenure issues be resolved before these lands are made available for the development of plantations.

Restrictive Choice of Species

Another constraint in the development of large-scale is the restrictive policy of the government on the use of timber species to be planted. This reflects an inadequacy of planning at the macro level, which results in the development of inappropriate policies. The DENR prescribes the species to be planted in industrial forest plantations which most private developers of forest plantations find unacceptable.

Inadequate attention to site conditions, end-uses of the wood and marketing aspects have constrained the establishment of high quality plantations in the past. Site conditions in the Philippines vary from site to site and from one region to the other. The choice of species should consider factors, such as: site suitability, availability of adequate seeds, adequately researched techniques for raising the planting stocks, and market potentials. For example on some sites, there is an outstanding growth rate for some indigenous as well as exotic species like Eucalyptus and Pinus carribbaea. However, in some other sites these species perform badly.

A scrupulous species and site selection is necessary to ensure the development of good quality plantations. It is important that site and species selection rules and appraisal and monitoring systems for forest plantations be introduced. The

Philippine Master Plan for Forestry Development (DENR, 1990) points out that the system should include:

- *Guidelines for selecting proper sites and species for a specific plantation site, taking into consideration the plantation objectives, market aspects, site and species characteristics and demands, and social and environmental impacts;*
- *A basis for forest management planning of large areas; and*
- *Give the necessary basis for tree breeding.*

4.4 SOCIO-ECONOMIC IMPACT OF INDUSTRIAL FOREST PLANTATIONS

4.4.1 Sustaining Livelihood and Socio-Economic Base Activities

Industrial forest plantations can be a major asset to local development by providing raw materials, infrastructure, employment, income and environmental and recreational activities. Forest plantations that are established on open denuded grasslands provide various socio-economic opportunities and environmental benefits. The development brought about by these plantations in rural areas brings benefits such as better health to the community, nutrition, education, greater access to goods and services, employment, and etc. (Evans, 1992). According to Veblen and Lara (1995), the monoculture character and the limited number of species planted in industrial plantations is criticised by some people. However, industrial forest plantations have been assumed to be capable of playing important roles for society. This include; (a) basis to assure long-term supply of industrial timber and support industrial expansion (b) reduce the pressure on natural forests and to improve soil and water conservation; and (c) promote employment and social development in rural areas.

The various activities in plantations generate employment that helps to mitigate the economic dependence of the rural poor from the natural forests for their source of income. Through the creation of rural employment and the provision of supplementary income sources for the farm economy, diversification is encouraged among the people. Diversified activities would include; small-scale enterprises based on wood and non-wood forest and tree products that can help to increase rural incomes, thus contributing to food security by increasing

the purchasing power. The benefits derived from employment opportunities also promote technical skills development in plantation forestry. Activities such as nursery and plant propagation serve to retain vital skills that in most cases can be applied in other activities not only related to plantation but in farm development activities that enhances sustainable upland farming.

The establishment of industrial plantations enhances the role of the forest and trees in supporting agriculture in terms of water and soil protection. The damage to the soil cause by erosion is reduced such that erosion rates under forests may be several magnitude lower than under areas devoid of forest plantation (Montagnini, 1990). Trees help prevent accelerated erosion in two ways: (a) by reducing soil water levels, and (b) binding the soil with roots. They prevent a proportion of rainfall from reaching the ground through interception and evaporation, and they also remove water through transpiration. By providing shelter and enhancing soil fertility, trees can directly improve agricultural productivity. Incorporating more trees in the agricultural landscape directly support agriculture in terms of water and enhancing productivity (FAO, 1994). Industrial forest plantations are productive enterprises based on the forest that serve as nuclei for development particularly in rural areas. They develop infrastructures, attract new skills into rural areas, attract social services and create markets for rural farm produce. They could propel rural development which is the cornerstone of forestry strategies in many countries and, therefore community participation with particular attention to the poorer groups must be a key policy objective of industrial forest plantations.

4.4.2 Community Participation and Social Sustainability

In most forest policies, local people are generally deprived of control over land while forest areas are often leased out to private industry as logging concessions or for plantation leases. The relatively small bureaucracies charged with administering and controlling the forests are often poorly able to control logging and totally unable to prevent public access. For instance in the Philippines, Mayers (1996) noted that the forestry agency's normative control over forests is only 55%. The forest agency exercised limited regulatory and fiscal control and instead preferred to grant vast forest concessions through

Timber License Agreements (TLAs) to private companies that engaged in direct extractive and management activities.

The Asian Development Bank noted that there were 230 TLA licenses issued in 1977 but this was drastically reduced to 32 in 1997 due to declining forest resources. The TLA system failed to promote sustainable management of forest resources and instead degenerated into a patrimonial mechanism where forest concessions were awarded to timber enterprises not on the basis of the environmental soundness of the forest management programs but on the strength of partisan linkages (Magno, 1994). La Vina (1990) also noted that the TLA system of managing the forests resulted in massive dislocation of indigenous people and other uplanders. The Forest Management Bureau (1997) reported that the remaining 32 TLAs cover an aggregate area of 1,491,843 hectares. This shows that the resulting combination of open access and destructive logging pressures can lead to uncontrolled exploitation. Hence, because government has taken so much control, there is little to build on but government control.

In pursuing a sustainable forest management approach through industrial forest plantations, there is a need to mobilise wider community participation by generating interest and commitment from local people. Because local people have generally been marginalised in previous forest management regimes due to patronage politics that dominated the forest industry, national forest policies that promote forest plantations should encourage wider community involvement and participation. There is notion that for industrial forest plantations to be sustainable, it should assert the importance of considering the centrality of people in development.

4.5 IMPACT OF INDUSTRIAL FOREST PLANTATIONS ON INDIGENOUS CULTURAL COMMUNITIES

The forest has an important socio-economic and cultural role especially for traditional societies or indigenous cultural communities who have live within or adjacent to forests. To the indigenous people (IP) or indigenous cultural

communities (ICC) the forest is not only a source of livelihood, it also shapes institutions and customs. The value of the forest is crucial not only to their livelihoods but also to their survival. They want to protect their access to forests. According to Posey (1996:7), "indigenous peoples believe their natural resource management systems embody the principles and practices of sustainability and that their communities play critical roles in biodiversity conservation". The indigenous people also have the belief that successful conservation of resources could only be attained upon "full rights and control over their lands, territories, and resources".

Indigenous cultural communities (ICCs) have been living within forest areas for a long period of time, the forests being part of their ancestral domains. But now their access to forest resources has been regulated because access to forest resources had been mainly through license and government agreement. Access through license agreements is essentially designed to meet the needs of large-scale operations and only favours those with capital. The participation of local communities particularly the indigenous people has been limited to providing labour for the license holders in their logging operations or in the processing of harvested forest products. The ICCs have received relatively few benefits from the use of the resources and hence they have had limited incentive to protect it.

In the Philippines, out of the 110 indigenous cultural communities (ICC) there are still 60 groups that remain culturally distinct from the majority of the lowland population. These groups basically occupy areas of forest under licenses or leases issued to logging concessions or industrial forest plantations. The loss of the habitat and livelihood of these communities has been compounded by difficulties of their integration with the lowland society (ADB, 1994). As the lowland communities migrate to upland areas the ICCs are tend to push further away towards the forest and their integration with the economic mainstream is difficult to attain. The competition for resources with the lowland migrants for resources in the upland further compounds this problem of economic integration of ICCs.

The indigenous communities living in forest areas through their traditional systems of managing forests such as the sustainable shifting cultivation can help in the sustainable management of forests. These communities have occupied these forests for generations and have production systems often based on shifting cultivation with long fallow periods that present little or no threat to forest areas. According to the World Bank (1991), indigenous and forest dwelling populations are important social actors in forest related programmes. It is the external pressure on these communities that reduces the resource base of these people and makes their once viable production systems more precarious. If ICCs are to deal effectively with these external pressures then improvement of their ability to protect the forest areas and to intensify their production systems is often needed. Hence, forest development strategies designed to relieved local pressures on forests, such as industrial forest plantations, must involve these forest dwelling communities. The World Bank (1991) further pointed out that alternative approaches should incorporate indigenous cultural communities as direct participants and beneficiaries in the design, implementation, and operation of forest projects.

The development of forest plantations undertaken by the private sector in the Philippines is expanding. There are now 233 leases for industrial forest plantations issued by the government. These leases are called Integrated Forest Management Agreements (IFMA). The records of the Forest Management Bureau (1997) indicate that the aggregate area covered by these IFMAs covers a total of 524,676 hectares. Although the areas covered by these plantation leases or IFMAs are considered part of the public domain and treated as owned by the state, most of them are within ancestral lands or ancestral domains of tribal communities. To ensure the livelihood and survival of indigenous people, industrial forest plantations should integrate these communities of forest dwellers in the development process. The recently enacted Indigenous People's Rights Act (IPRA) under Republic Act 8371, guarantees indigenous people's access to forest resources within their ancestral domains (R. A. No. 8371, 1997). The indigenous communities need access to the land and other natural resources necessary for their livelihood.

Experience in the Philippines shows that sustainable use of resources is most likely when forest dwellers or farmers have the right to occupy or harvest from the land for a long period, which encourages sustainable management of resources. This is consistent with the important concept of sustainability where the management and use of natural resources should ensure that these opportunities would be assured for a long period of time to benefit not just the present but the future generations.

The concerns of indigenous people is beginning to be given emphasis in most environmental and development programmes worldwide. This is on principles closely related to the ethical issue of intergenerational responsibility where there is a need to protect the rights of forest dwellers particularly indigenous peoples living in and around forests who are dependent on them. However, there is also a corresponding need to ensure the participation and involvement of these communities in the actual development process. Experiences in the Philippines have shown that development projects designed and implemented without the participation and involvement of communities affected by the development process had a high rate of failure. Thus, the involvement of affected ICCs in the development of industrial forest plantations is crucial to its success as a forest management strategy.

The increasing number of industrial forest plantations in the Philippines provides the assumption that as a forest development approach it is now becoming a major forest management strategy in the country. The experiences of some of the existing industrial forest plantations can offer adequate information that may serve as basis in assessing the impacts of this forest management strategy on indigenous people and local communities. The sustainability of industrial forest plantations could also be assessed based on the performance of these existing forest plantation ventures in terms of achieving their economic, social, and environmental objectives. Three existing industrial forest plantations were analysed in this research to investigate the impacts of industrial forest plantations on indigenous people and examine their sustainability as a development strategy.

CHAPTER 5

5 CASE STUDIES

5.1 THE CASE STUDIES

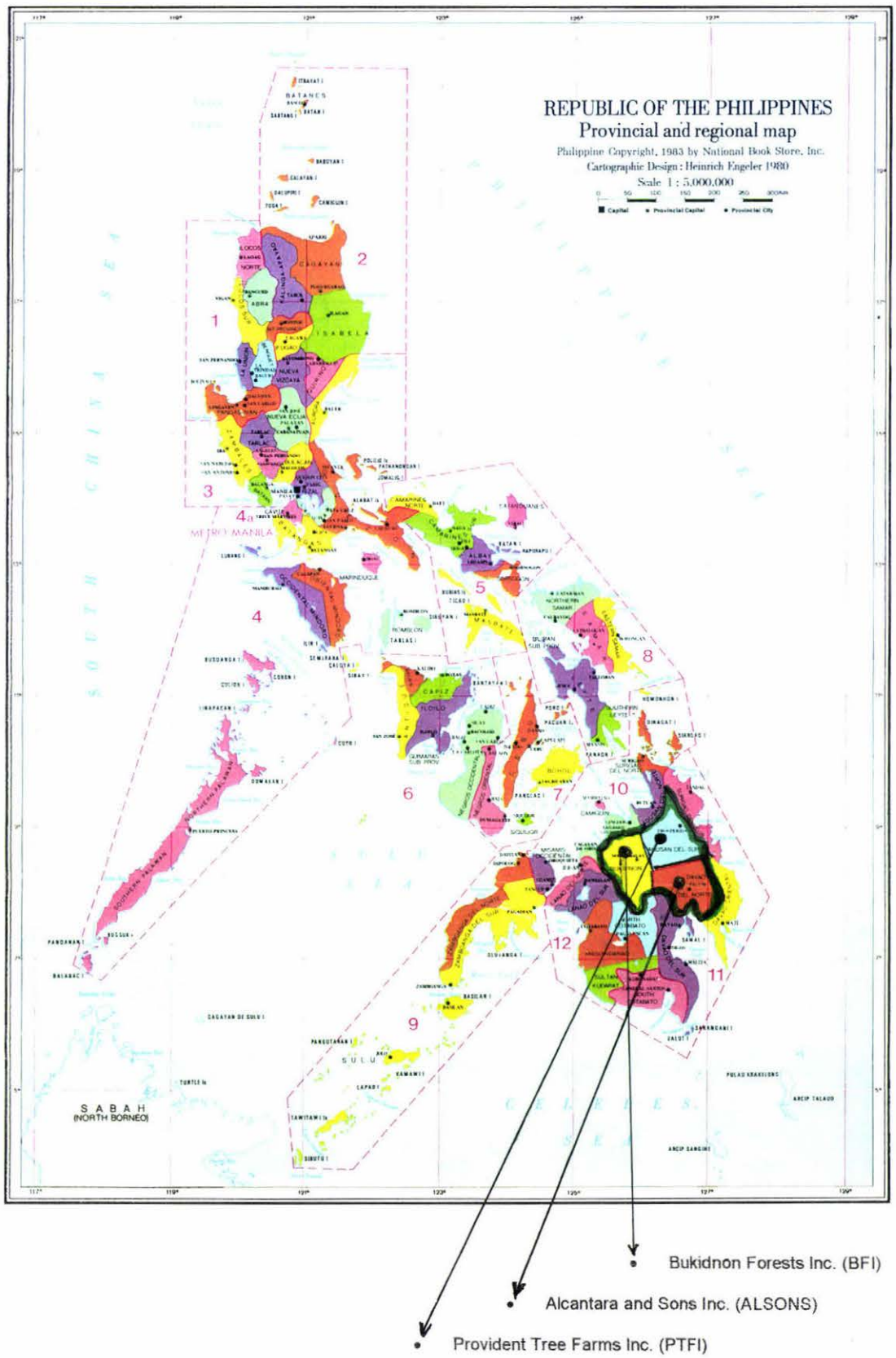
As discussed in Chapter One, the aim of this thesis is to analyse the impact of industrial forest plantations on indigenous people and local communities. One of the methods applied to attain such goal is to analyse three case studies to provide an understanding of industrial forest plantations as a forest management strategy in the Philippines. A qualitative research approach was adopted in the analysis of the three case studies in the island of Mindanao, namely: Bukidnon Forests Inc. (BFI), Alcantara and Sons Incorporated (ALSONS, Inc.), and Provident Tree Farms Incorporated (PTFI), to examine the impacts of industrial forest plantations on indigenous people and upland communities. The case studies were also used to examine the degree to which industrial forest plantations as a forest management strategy is achieving sustainable development objectives in practice and policy by identifying the different factors that may enhance or hamper its sustainability as a forest development strategy.

The three case studies are industrial forest plantations being developed on varying site conditions. The three case studies are covered by 25-year Industrial Forest Plantation Agreements (IFMA), which are long-term leases from the government. (Figure 5.1 - Map of the Philippines showing the location of the case studies).

CASE STUDY 1 : BUKIDNON FORESTS INCORPORATED. (BFI)

The BFI is located within the province of Bukidnon in Central Mindanao, covering four municipalities namely: Malaybalay, Impasug-ong, Manolo Fortich, and Malitbog. The province of Bukidnon has a total land area of 829,378

Figure 5.1 : Map of the Republic of the Philippines indicating the location of BFI, ALSONS, and PTFI (the case studies).



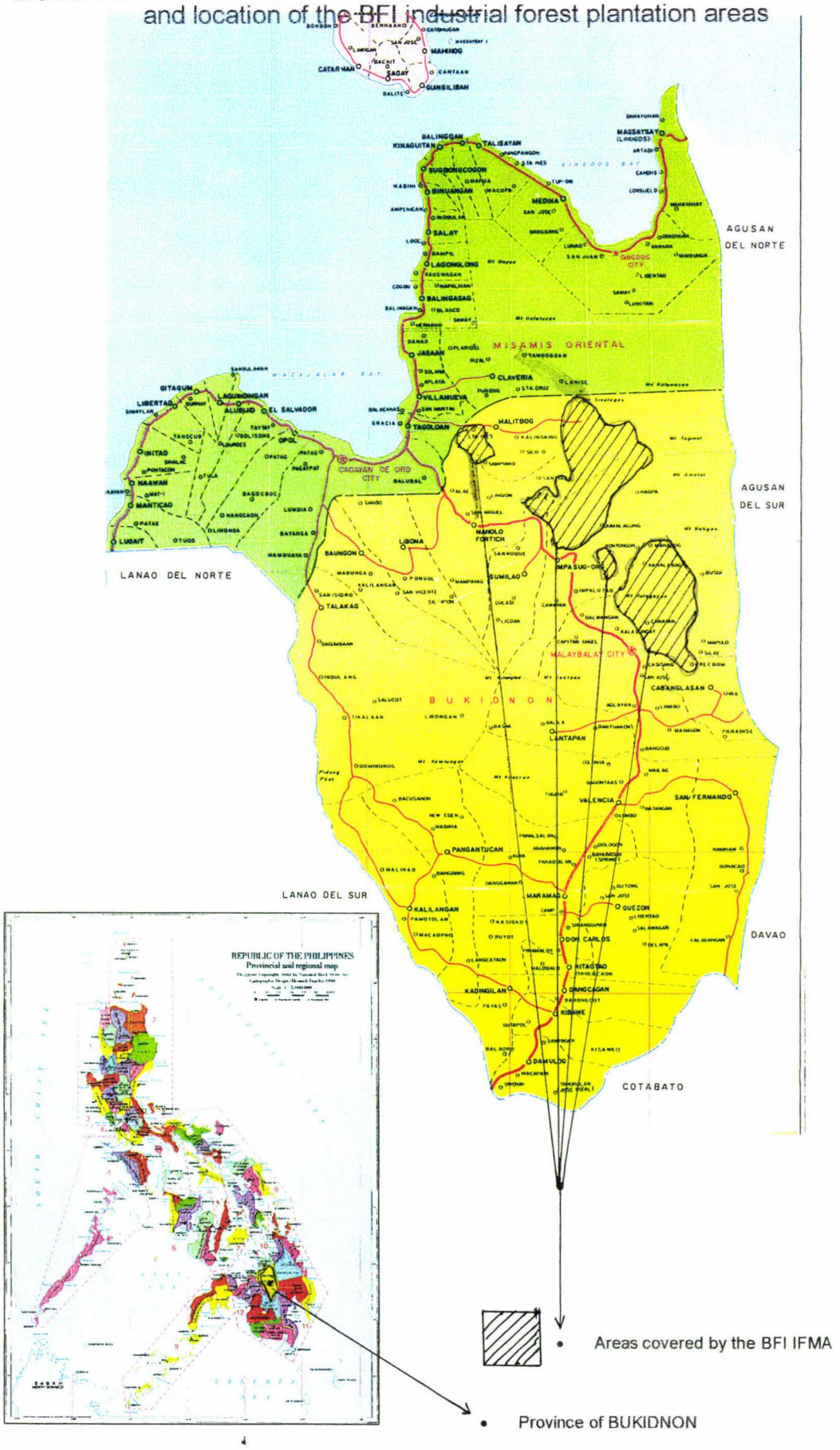
hectares and a total population of 844,000. Of the total land area of the province, 40% are alienable and disposal (A & D) lands that are mostly devoted to agriculture, while 60% are classified as forest lands. While a large chunk of the land area are forest lands, the province was considered one of the most denuded provinces in the Philippines with less than 20% forest cover (Bukidnon PPDO, 1997). Hence, the BFI forest plantation venture was established in the province. It is the first industrial forest plantation that was established in the province. (Figure 5-2. Map of the Province of Bukidnon indicating the BFI Area).

The BFI is a Philippine government venture on commercial forest plantation supported by New Zealand through its Official Development Assistance (ODA) Programme. It is a joint undertaking between the governments of the Philippines and New Zealand that started in 1989 which was designed to develop a model for private sector investment in plantation forestry. The BFI as a forest plantation venture, covers an area of 39,000 hectares which is considered to be the single largest project funded by New Zealand ODA in the Philippines (MFAT, 1996). Its ultimate objective is to establish a commercially viable and environmentally sustainable forest plantation in Bukidnon that can be replicated elsewhere in the Philippines. The BFI as a pioneering venture of the government on commercial forest plantations is intended to be corporatise for its eventual privatisation.

Plantations

The IFMA of BFI was issued by the DENR in December 1991 and covers a contiguous area that is predominantly grassland. Most of the areas had been previously under Pasture Lease Agreements (PLA) or cattle grazing leases issued to private individuals that has since then expired. Under this condition, almost the entire site had been subjected to intensive grazing activities that severely compacted and denuded the area turning them into unproductive grasslands.

Figure 5.2 : Map of Region 10 indicating the province of Bukidnon and location of the BFI industrial forest plantation areas



The total area of 39,000 hectares covered by the IFMA included approximately 3,500 hectares of 35-40 year-old pine plantation ready for harvesting. Out of the total area, only 64% or 25,000 hectares was identified as suitable for plantations, whilst the remaining 36% or 14,000 hectares had been classified as agricultural lands, patches of residual forests, other riparian reserves, and areas occupied by local communities (BFI, 1992). The commercial objectives of BFI is being pursued by the planting of different species of fast growing trees such as: Pinus carribbaea, different species of Eucalyptus, selected species of Acacias, some local species of fast growing timber producing trees, and other fast growing exotic timber species. The company's choice of species was based on their site suitability as well as their timber producing properties that can meet the anticipated local demand for wood in the Philippines. The expected rotation periods of most of the species planted are between 10-15 years while the longer rotation species were expected to be harvestable at age 20 years. Hence, the company aims to fully establish the total plantation target of 25,000 hectares within a period of 15 years. A total area of 7,200 hectares so far had been developed.

Management and Protection of Residual Natural Forests

Aside from the development of forest plantations on denuded areas, the company has been undertaking activities for the protection and enhancement of small patches of residual forests in the area. An assisted natural regeneration (ANR) programme is being undertaken through the planting of native and indigenous tree species on the patches of natural forests. The planting of bamboo species along riverbanks and stream banks has likewise been undertaken to reduce the occurrence of severe soil erosion and to stabilise the area.

Ancestral Land Claims and Indigenous Cultural Communities

An estimated 9,000 people are living within the area. They are distributed among the 16 communities covered by the IFMA which are mostly indigenous cultural communities (ICC). A majority of them are indigenous people (IP) belonging to the Higaonon, Bukidnon, and Talaandig tribes. Many of these

communities are engaged in subsistence farming, and have been characterised with high incidence of poverty and acute unemployment.

Since the BFI started in 1989, there has been an emerging pattern of ancestral land claims within these ICCs. This land tenure issue is becoming very critical for BFI as the extent of its forest plantations are expanding. There are ten recorded formal claims of ancestral lands covering approximately 8,000 hectares submitted to the DENR for consideration. The size of the areas being claimed range from 100-2,000 hectares. Some of them are located within areas that had been developed as forest plantations. The basis of these claims are primarily ascription by their ancestors who have allegedly lived continuously within the said areas since time immemorial sharing common bonds of language, customs, traditions, and other distinctive traits.

Socio-economic Activities

To mitigate the impact of the land tenurial issues on the operations of BFI, the company has adopted some strategies to implement socio-economic activities. In pursuance of its socio-economic objectives it has adopted the integrated social forestry approach to alleviate rural poverty while promoting community participation. Using this sustainable upland farming approach, the agroforestry system was introduced. The agroforestry system is a sustainable land management system that increases the overall productivity of the land by combining the production of crops and forest trees with animals or livestock simultaneously or sequentially, on the same unit of land. The system applies management practices that are compatible to the cultural practices of the local communities.

CASE STUDY 2 : ALCANTARA and Sons Inc. (ALSONS)

The ALSONS is one of the major producers and exporters of plywood, blockboard, veneer, and other wood products in the Philippines. The company was established in 1962 and engaged in several manufacturing industries. The forestry operations of the company started in 1967 when it was granted a Timber License Agreement (TLA) which expired in June 1991. Even before the

expiration of its TLA the company since 1989 stopped its logging operations due to dwindling supply of timber in its timber concession. The logging operation was no longer profitable and the impact was severely felt by its processing plants when it started buying logs for its raw materials from local and foreign sources. Hence, the reforestation activities were continued within the former timber concession, particularly the logged-over areas with the objective of developing a source for the log supply requirements of its plants.

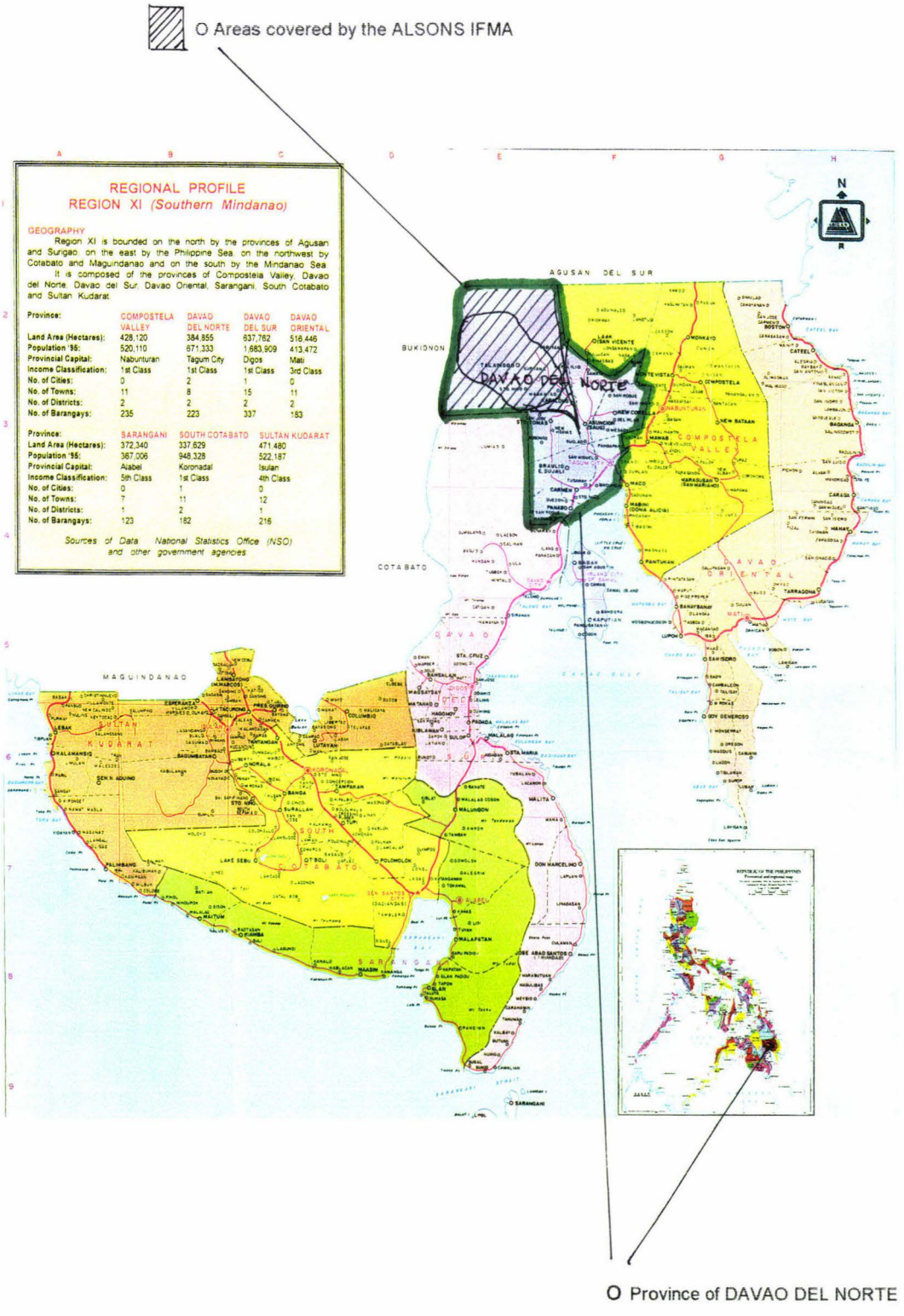
The forest plantation areas of ALSONS are located within municipalities of Talaingod and Kapalong in the province of Davao del Norte. The IFMA of ALSONS covers an area of 19,053 hectares of open grasslands, brush, and inadequately stocked forestlands. Of the total area, the company intends to develop 13,282 hectares into forest plantations. The company declared an estimated area of 2,710 hectares of inadequately stocked residual forests for protection purposes. These areas are being protected and that enrichment planting is being undertaken for the purpose of preserving them for biodiversity purposes. While the rest of the area that are not suitable for forest plantations had been allocated to forest occupants for the development of agroforestry farms. (Figure 5-3. Map of the Province of Davao del Norte indicating the ALSONS Area).

Plantations

The aim of the company in developing forest plantations is primarily to support the log supply requirements of its processing plants. The main species being planted are Eucalyptus deglupta, Parasenthiases falcataria, and Acacia mangium. These are fast growing species that have average rotation periods of 7-10 years within the areas of ALSONS. The company's choice of these species was based on their suitability within their areas as well as their suitability for the wood products that the company produces.

An area ranging from 503-1,588 hectares per year has been set by the company as its annual planting target. The projected yield from the plantations had been estimated to be 1.82 million cu. meters, of which 63% or 1.14 million cu. meters will be Eucalyptus deglupta, 18% or 0.15 million cu. meters will be

Figure 5.3 : Map of Region 11 indicating the province of Davao del Norte and the location of the ALSONS industrial forest plantation areas



Acacia mangium, and 29% or 0.53 million cu. meters will be Parasenthiases falcataria.

Natural Forest Management

The existing areas of residual forest are being managed by ALSONS for biodiversity protection. Similar to BFI, the company has been conducting assisted natural regeneration (ANR) activities by planting indigenous timber species such as narra or Pterocarpus indicus, and Lauan or Shorea species. Some species of cane or rattan are also being propagated for subsequent planting within these areas.

Ancestral Land Claims and Indigenous Cultural Communities

There are many villages of indigenous cultural communities within the IFMA area. These ICC belong to the "Talaingod", "Langilang", and "Kailawan" tribes. The different tribes through the initiatives of their tribal chieftains have organised a tribal council composed of all the village headmen. The council is responsible for dealing with the different issues related to the ancestral land claims of the different tribes. The council has formally submitted the ancestral domain claim of all the tribes in the area covering an area of 35,000 hectares, which includes the entire IFMA area of ALSONS, to the DENR.

The company has recognised the legitimate claims of the indigenous people within the area and has developed some systems of helping the different groups of indigenous people in the area. With the collaboration of the local government of Talaingod, the company has identified some of the areas, which are subjects of ancestral domain claims and started drawing up some agreements with the concerned tribal groups who have legitimate claims over the areas.

Socio-economic Programmes

The company acknowledged its social responsibilities to the indigenous people within its IFMA area. The company has adopted an employment policy to provide priority employment to the people in the communities affected by it operations. A continuous support is also being provided to the Kapalong

Cultural Development Foundation Inc. (KCDF) that the company has helped to organised with the tribal leaders.

The agroforestry system of farming was also introduced in the different communities. To facilitate access to market as well as in transporting the products coming from the communities, road systems were developed and had been maintained. Other infrastructures like water system facilities and school buildings have also been provided to the communities.

Harvesting Agreement

In order to optimise utilisation of areas claimed as ancestral lands, the company has adopted a production-sharing scheme by the villagers. The company has entered into harvesting agreement with tribes who were willing and allowed portions of their ancestral lands to be planted to trees by the company retaining suitable areas for agricultural purposes to support food production.

Basic Education Programme for the Communities

The rate of illiteracy is very high within the IFMA area. The company as part of its community outreach programme has introduced non-formal education training for the indigenous people particularly the adults who have not experience any formal education. The basic education training on the 3Rs, reading, writing, and arithmetic was carried out by the company in collaboration with the Department of Education Culture and Sports (DECS) through the provision of non-formal education teacher who conducts a regular visit to the communities to carry out the education training. The Philippine Army's civic action programme for non-formal education has also been availed by the company to carry out non-formal education for the natives.

CASE STUDY 3 : PROVIDENT TREE FARMS INCORPORATED (PTFI)

The Provident Tree Farms Incorporated is one of the pioneering companies in the business of plantation forestry in the Philippines. It is one of the existing industrial forest plantations in the country with large areas of harvestable plantations. The PTFI started in 1967 with its Matchwood Timber Licensed

Agreement which covered 11,500 hectares. The same lease agreement for matchwood was converted into an Industrial Tree Plantation Agreement (ITP) in 1982, and later into an IFMA in 1992. (Figure 5-4. Map of the Province of Agusan del Sur indicating the PTFI Area).

Plantations

The plantation areas covered by the IFMA of the company are mainly characterised as logged-over with large portions still covered with patches of adequately stocked natural forests. The logged-over areas were the areas where the logging operations of the company took place. The primary species of trees planted include Acacia mangium, Endospermum peltatum, Parasenthiases facataria, and Gmelina arborea. The trees grown are intended for the production of pulp, timber, matchwood, etc. The planting operation of the company is being carried out throughout the year because of the fertile nature of the sites and the favourable climatic condition in the area wherein rainfall is evenly distributed during the whole year.

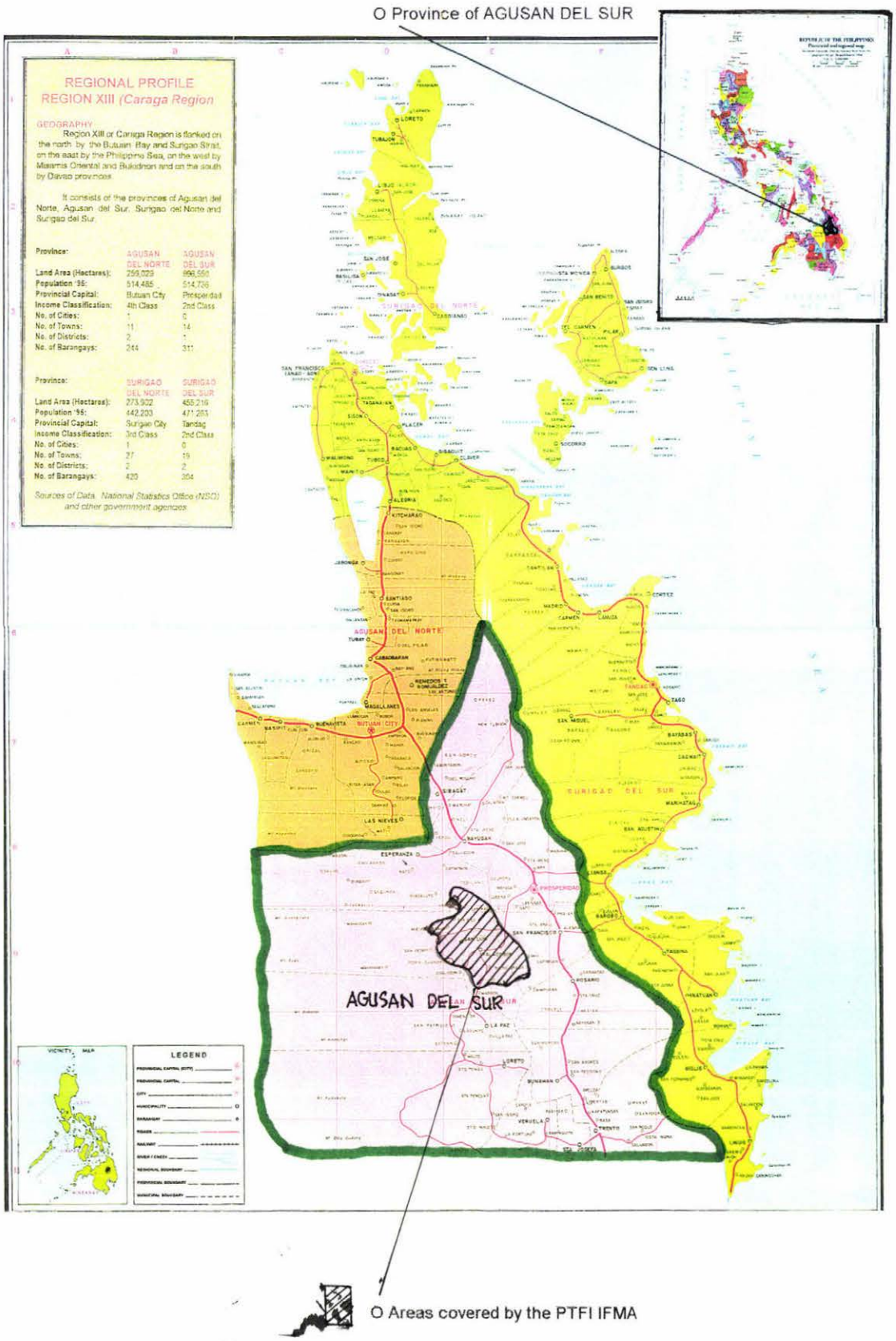
Natural Forest Management

The residual natural forest areas within the IFMA of the company are being managed as protection forests. The planting of natural and indigenous species of trees is being carried out as part of enrichment planting regime. There are also areas that are maintained as protection or natural forest barriers along rivers and streams, about 20 meters wide along the banks of these major waterways. Non-timber species such as rattan or cane have also been planted in these residual forests to increase the biodiversity of these areas.

Indigenous Cultural Communities

There are indigenous cultural communities living within the IFMA areas. These communities belong to three different ethnic groups, namely: Manobo, Banua-on, and Talaandig. Some of these communities are still nomadic and practice the traditional slash and burn farming system. These communities claim as part of their ancestral domains a large portion of the forest plantation areas. Traditional farming is being carried out inside the natural forests but there is minimal destruction due to strict adherence to indigenous systems of

Figure 5.4 : Map of Region 13 (Caraga region) indicating the province of Agusan del Sur and the location of the PTFI industrial forest plantation areas.



sustainable farming systems such allowing a fallow period for the land to retain its fertility. Moreover, they believe that trees provide water and fertility to the soil.

The company has adopted a scheme of integrating these communities in its operation by encouraging them to get involved and participate in different activities that can enhance their economic well being such as participation in the company's integrated social forestry programme, etc. The company adopted the policy of giving priority employment to the members of these communities in its operations. It has also initiated the organisation of the PROMANBATA (Provident, Manobo, Banua-on, and Talaandig) Foundation, to facilitate and encourage the participation of the members of the indigenous communities in the different livelihood programmes of the company. The company also brings to the attention of relevant agencies of the government other social concerns of the communities in relation to upland development.

Socio-Economic Programmes

Aside from the employment opportunities provided by the company to the communities, it has also introduced various socio-economic activities. The introduction of inland fisheries through the construction of freshwater fishponds, the development of water system facilities, training programmes in livelihood activities, i.e. soy bean and coffee production, basket weaving, mushroom production, have been introduced to the communities. The communities were likewise encouraged to participate in other activities like leadership and value formation training, which teaches economic self reliance through community co-operation, and basic community resource management.

The company also provides basic social services to the communities, such as medical services and education. The company in collaboration with the Department of Education Culture and Sports (DECS), established and maintains a high school and a college within the area to cater the education needs of its employees and the community constituents. Additional assistance in education includes the provision of annual college scholarships to deserving

local residents within the communities affected by the forest plantations. PTFI also employs some medical personnel who conduct regular medical missions to the communities within the forest plantation areas, which is one of the most important elements of the community assistance package provided by the company.

5.2 METHODOLOGY AND RESEARCH APPROACH

A review of relevant literature was carried out to set the initial theoretical framework for the research study. The study used sustainable development principles to analyse the impacts of industrial forest plantations on indigenous people and local communities, focusing particularly on land tenure in relation to the rights of indigenous cultural communities, and the socio-economic impacts. Survey interviews using questionnaires were undertaken with the villagers. Interviews with individuals from relevant government agencies and the stakeholders, as key informants, were also conducted to gain further understanding of the different institutional and policy processes involved in the development of industrial forest plantations. This was necessary to have clearer picture of the entire policy strategy that can provide an overall analytical framework for the research which can help identify the different factors in industrial forest plantation development that may enhance or hamper its sustainability as a forest management strategy.

5.2.1 Why Qualitative Research Approach?

The research study adopted qualitative research method, which is defined as a "systematic study of everyday experiences that take place in the natural setting in which the people live" (Van Maanen, 1983 cited in Nuntaboot, 1994:33). Qualitative research focused on the characteristics and the significance of human perception, beliefs, attitudes and experiences as described in the responses of the respondents and the informants, which were later interpreted in the research. Using the qualitative research approach in this study, two strategies were used to assess experiences and perceptions of different stakeholders regarding industrial forest plantation development. Firstly, surveys were conducted with villagers living within the three case study areas to

examine the impact of industrial forest plantation development on their communities in terms of socio-economic and cultural development. The survey explored the meanings of their cultural experiences particularly those related to land use. Secondly, interviews with key informants or individuals who have direct knowledge and involvement in the policy and actual development of industrial forest plantations were carried out to gain a general understanding of the general framework in industrial forest plantation development.

In the case of the survey respondents, these are members of indigenous cultural communities. The meanings of their cultural experiences particularly in relation to land use were interpreted within the context of the individual forest plantations. The respondents' explanations, interpretations and descriptions of events occurring in their natural setting such as; their farming and land use systems, traditional concepts of land ownership, etc. offered valuable data for the research. The explanations and interpretations of events by the key informants in their interviews likewise provided valuable information on the policy and development process in industrial forest plantation establishment. Both the village surveys and the key informant interviews provided the relevant data and information for the research. The sets of data and information generated, served as the basis for the analysis of the implementation process of industrial forest plantations as a forest management strategy in the Philippines as experienced by the indigenous people and the developers of industrial forest plantations or the companies.

5.2.2 Data Collection Methods

There were three data collection methods employed in the case studies. These were the following: the individual surveys in the villages, focus group discussions among villagers, and the interviews with policy and stakeholder key informants.

Individual Village Surveys

The individual surveys using questionnaires were administered in 15 villages within the three case study areas. The responses in the surveys were used to

assess the implications of land tenure and the rights of indigenous cultural communities regarding the development of industrial forest plantations. The surveys were also used as barometers to determine the development impact of industrial forest plantations on the socio-economic well being of the communities within the affected areas. The experiences, observations, perceptions, insights and values of people in the affected communities expressed through the responses of the respondents were recorded and analysed.

A total of 72 respondents distributed among the three case study areas participated in the survey. They were randomly selected from the villages directly affected by the ongoing development of forest plantations within the case study areas. With the help of the village contacts who are mostly village leaders and elders, some villagers were initially identified as potential respondents. The potential respondents were identified based on their knowledge and awareness of past, present, as well as ongoing developments within their communities. They were likewise informed about the survey in which they have given their informed consents to the survey. From among the villagers who were identified by the village leaders and elders actual respondents to the survey were selected. The selection was done on site or in the village at the time the survey was about to be conducted. (Table 5-1 Distribution of respondents by villages).

Table 5-1: Distribution of survey participants by sites/villages.

SITES/VILLAGES	NUMBER OF RESPONDENTS	PERCENTAGE IN TOTAL SAMPLE
1) Bukidnon Forests Inc.	36	50 %
• **Malandog**	1	
• **Kisaray**	5	
• **Bontongon**	12	
• **Abyawan**	7	
• **Kaagsaman**	11	
2) ALSONS	17	24 %
• **Miliong**	4	
• **Napesolan**	2	
• **Misulong**	5	
• **Tambuko**	4	
• **Igang**	2	
3) PTFI	19	26 %
• **Mahayahay**	8	
• **Tutuan**	4	
• **Tinablahan**	7	
TOTAL	**72**	**100 %**

Source: Village surveys conducted in June-July 1998.

There were originally 45 respondents identified for the survey, but a total of 27 other villagers who were aware of the survey being administered offered to participate and subsequently responded verbally to the questions in the questionnaire survey.

The respondents are generally farmers and heads of families who own lands or at least claim lands within the forest plantation areas. They represent eight

different tribal groups namely; Bukidnon, Talaandig, Higaonon, Talaingod, Kailawan, Langilang, Banua-on, and Manobo. The eight tribal groups belong to three different ethnolinguistic groups, the bukidnon, ata-manobo, and manobo. Some of the respondents occupy village positions such as "Datu" or tribal chieftains while others are village elders. The rest are ordinary village-members who are inhabitants of the areas.

The survey interviews were undertaken in the farms where the respondents were located. It was commonly noted that at the start of each survey interview the respondents were quite reserved with their responses and perceptions. However, as the interview progressed and issues relevant to their interests and concerns with issues such as land tenure and economic benefits they tended to be vocal with their responses. Hence, in most instances during the surveys the time spent with each respondent went beyond the time initially allotted to each individual respondent. Furthermore, the respondents tended to participate more actively during group discussion where two or more respondents are being interviewed simultaneously.

Survey Questionnaire Design

The surveys were carried out using a questionnaire. The questionnaire was designed to capture the perceptions and views of the communities on the socio-economic impact of industrial forest plantation development and its implications on their land tenure. The questionnaire design also took into account information requirements related to the forest plantation development process and socio-cultural considerations. (Appendix 2: Copy of the Survey Questionnaire).

For reasons of practicality, the questionnaire was not translated into the local dialects. The survey participants belong to three different ethnolinguistic groups and translating the questionnaire into the different dialects might unduly change the context of the subjects in each particular question. As an alternative and to facilitate the understanding by the participants on the issues, the services of local interpreters were engaged in the survey. For each of the case study sites, a local interpreter was requested to assist in the survey. The added advantage

of engaging the services of local interpreters was their familiarity with the communities and the people, which facilitated the smooth administration of the research survey. This made the data gathering more effective and relatively easy.

The questions were grouped into four parts. Part I dealt with questions related to personal details of the respondents, but strictly avoiding any statement that may identify the respondents. Strict confidentiality in the identity of the respondents was maintained in framing the questions on personal details. This part of the questionnaire was necessary to look for possible response patterns as well as perceptions within the communities. The perceptions and views of the respondents reflected their individual perceptions, except in response to issues concerning the whole village or community. For instance, in question number 32, the respondents were hesitant and careful in responding to the question or in giving individual opinion but instead they gave a qualified answer similar to the following:

> *Q. Given a choice, what do you think would be better alternatives in developing upland areas that can enhance the economic well being of the upland communities?*
>
> *A. I have to consult my tribe with respect to what development we would like to have in this land of ours. The consensus of the village with the guidance of our "Datus" and our elders is necessary for our own good.*

Here, the personal details did not in anyway reflect patterns of perceptions and attitude in response to the questions. This type of response was not anticipated at the start of the research. The questions in parts two, three, and four were all open-ended questions. The open-ended questions allowed the survey participants to express and reveal their views, ideas, and experiences rather than be constrained to give candid responses. A follow up informal discussion in most instances, was later initiated after the interviews to verify certain detailed information related to specific responses to some questions in the questionnaire. This was to ensure that, all information desired from the survey participants was obtained whilst allowing them some degree of freedom to give response. An example is one of the responses to question number 10:

Q. What is your concept of land in terms of ownership and use?

A. No single individual owns the land. God owns the land and as communities we are just the stewards. The land for us tribal people is the resource that holds our market place. Our market place is the forest. The forest holds water, the animals and plants, which are the sources of our food. The forest is where we get our medicine, clothing, and the wood that we use for our shelter. So the land is our source of life.

The detailed responses and illustrations of the concept of land ownership and use, were obtained because the open-ended question allowed flexibility for an extended discussion to verify the exact response to the question even after the formal interview. In effect the open-ended questions served as guide questions wherein the conversations even subsequent to the survey interview was regarded as part of the interview. It was a natural way of obtaining information and became a "comfortable social engagement" between the researcher and the survey participant (Spradley, 1979).

Part II of the questionnaire dealt with questions related to land tenure and land security. The questions focused on ownership status, land claims, forms of recognition of rights and ownership, and tenure security.

The questions related to the development of industrial forest plantations were covered in the questions on the third part of the questionnaire. This part of questionnaire focused on the perceptions of the survey participants relative to the acceptability of industrial forest plantations as a forest development programme. The social process and the development implications were sought in this part of the questionnaire.

The last part of the questionnaire focused on questions related to the socio-economic impact of industrial forest plantations. This part of the questionnaire attempted to obtain from the survey participants their concept of social sustainability relative to industrial forest plantations within their social and cultural dimension.

Focus Group Discussions (FCD)

Some villagers were not interviewed as individuals but were also present during the village survey interviews. Hence, the option of conducting focus group discussions (FGD) was considered. They were purposely invited by the survey participants to witness and listen to the interviews. In some instances, being curious they just simply approached the research team when they noticed the presence of the group in the area. As they listened to the discussions between the interviewer and the survey participants, at some points during the interview these individuals voluntarily offered opinions in response to some specific issues. At this stage, it was then desirable to listen to these individuals who also had genuine opinions and perceptions to offer regarding the issues relative to the focus of the survey.

The focus group discussions, which the villagers called "pulong-pulong", had been carried out after the interviews with the individual survey participants. This was done in order not to disrupt the flow of discussions during the interviews. The discussions focused on the issues established in the questionnaire and were usually done in an informal manner. The participants during the FGD usually consisted of 8-10 participants and usually showed considerable interest on topics related to land tenure and security. In the three case studies, a total of seven focus group discussions were conducted. The data and information obtained during the FGDs were recorded on tape then later transcribed into field notes after the discussions. This was to provide a written account of the perceptions and views expressed by the participants during the group discussions.

Policy and Stakeholder Interviews: The key informants

Another approach used in the research was interview with key informants. In this research, key informants are individuals who have good knowledge of industrial forest plantation. They are individuals from government agencies who have knowledge of industrial forest plantations as a policy strategy, and individuals from developers of industrial forest plantations who have knowledge and experience in industrial forest plantation development.

The interviews with key informants were carried out to provide a better understanding of the analytical framework for the policy and institutional aspects of industrial forest plantation development. Interviews were usually conducted in the respective offices of the informants and carried out in a semi-formal manner.

The interviews were recorded on tape whenever the respondent agreed and were later transcribed. Two of the respondents were cautious and requested that they should be provided with a copy of the transcript of the interviews for correction of possible errors or changes in statements attributed to them. Accordingly, they wanted to avoid being quoted directly on certain statements or on anything related to opinions and comments on how policies are being carried out. It has been their experience in the past that certain statements attributed to them invited the ire of some government agencies responsible for implementing regulations and policies that caused them to get unwanted focus of attention on their operations.

The key informants were selected based on their knowledge, participation, and involvement in the policy and institutional process. They represented a cross-section of the stakeholders in industrial forest plantation development. The key informants included the following:

- The Division Chief of the Natural Forest Management Division of the Forest Management Bureau
- A Regional Executive Director of the DENR
- A Division Chief of the DENR Policy Planning Office
- The Division Chief of the Indigenous and Cultural Affairs Division of the DENR
- The Project Director, Reforestation and Agroforestry of ALCANTARA and Sons Inc. (ALSONS)
- The Plantation Manager of ALSONS
- The Manager, Forest Development Department of PTFI
- The Chief of the Talaingod Tribal Council
- A Baranggay Captain of Malaybalay, Bukidnon

The information sought from the informants from the DENR and the Forest Management Bureau pertained to the different processes involved in the policy

review, formulation, and implementation. The relevant experiences and other information from these agencies on the entire institutional process related to industrial forest plantations were the main focus of the interviews. Whilst the respondents were accommodating during the interviews and offered some basis information on industrial forest plantations, they were usually hesitant to provide governmental files and allow access to records relative to policy implementation on the case studies. The reports and files specifically related to issues pertaining to land tenure, ancestral land issues, and challenged policies in the case studies were not made available. Hence, reliance of secondary sources such as newspaper articles, and publications of indigenous people advocacy organisations were resorted to.

It was part of the mandate of field offices of the DENR, such as, the Community Environment and Natural Resource Offices (CENRO) and the Provincial Environment and Natural Resource Offices (PENRO) to implement policies related to industrial forest plantations. However, in the areas where the case studies were located, it was obvious that the concerned CENROs and PENROs that have jurisdiction over these areas actively participate in actual policy implementation. There were attempts to interview appropriate personnel from these offices but they were hesitant to be interviewed. The reason given for the hesitation was that there was insufficient or lack of accurate information of the policy issues related to the development activities of the industrial forest plantations within their respective areas of jurisdiction. Hence, they cannot offer information and insight into the policy process at their level and reveal their inefficiency in implementing policies.

More successful interview with developers and other stakeholders were conducted with representatives of the companies and some community leaders in the affected areas. The experiences and the information provided by the informants provided a valuable insight to the research particularly on policy implementation. Whilst they were courteous and allowed generous access to the plantation areas, sometimes there were instances when company representatives were reluctant or unwilling to provide specific data and information. Access to information such as how much do they earn per hectare

from harvesting plantations and how much was spent per year for community livelihood and environmental programmes, were not made available.

5.2.3 Selection of the Case Studies

Among the many choices of industrial forest plantations in the Philippines, three forest plantations in the island of Mindanao were selected as the case studies. These were; the Bukidnon Forests Inc. (BFI), Alcantara and Sons Inc. (ALSONS), and Provident Tree Farms Inc. (PTFI). They are located in the provinces of Bukidnon, Davao del Norte, and Agusan del Sur, all in the island of Mindanao in southern Philippines. Initially, there were four forest plantations that were considered for the case studies. This included the PHELA Resources Corporation in General Santos City, in the Saranggani province. However, considering the distance and poor accessibility of the fourth case study meant that it has to be dropped from the list.

The island of Mindanao was considered to be geographically the most suitable choice for the case studies. There are existing or proposed industrial forest plantations in all the regions in the entire island. Moreover, vast tracts of logged-over, denuded, and badly denuded grasslands that are available for plantations abound in the whole island. The large tracts of mature and harvestable forest plantations in the Philippines are also located in Mindanao, particularly in regions 9, 10, 11, and 15 or the Caraga region. The proposed industrial timber corridor in the Philippines has been set to be developed on the eastern part of the island particularly in the Caraga region where 700,000 hectares of badly denuded areas are available for development. These were areas previously covered by TLAs or logging concessions leaving vast tracts of logged-over areas (DENR, 1998).

The three case studies; the BFI, ALSONS, and the PTFI have the following in common:

- *They have IFMA areas covering not less than 10,000 hectares;*
- *They have been operating for not less than five years;*
- *There is an existing management structure;*

- *There are ongoing operations in industrial forest plantation development. This feature distinguishes them from other industrial forest plantations that have IFMAs but whose operations are suspended or do not at all have ongoing forest plantation development activities;*
- *The presence of indigenous cultural communities (ICC) within the IFMA areas who have ancestral land claims, and*
- *They have community programmes that promote livelihood activities for the communities, create employment opportunities, and enhance community participation.*

Gaining Access to the Areas

A letter requesting permission to carry out research was sent to the management of the companies selected for the case studies three months prior to the actual fieldwork. Information about the researcher and the purpose of the research study was provided for the purpose of gaining access to the areas. An initial visit to the area was also carried out to identify where the actual survey will be conducted and to establish initial contacts within the villages. During the visit, separate meetings with authorised management representatives of the three companies were also conducted to discuss the general background and purpose of the research as well as the arrangements for the subsequent fieldwork. The meetings were very helpful in providing the respective management with a general overview of the research, which facilitated arrangements for the subsequent fieldwork and contributed to the immediate granting of permission to use the forest plantations for the case studies. (Appendix 3: Copy of the letter to the companies, requesting permission to carry out research in within their areas).

Gaining Access to the Survey Participants

The initial site visits to the areas of the case studies three months prior to the actual fieldwork also provided a good opportunities for meeting some village leaders and elders. The visits were very helpful in providing good insights into village conditions, like accessibility, peace and order situation, and the culture of the people where the surveys were conducted. Village contacts were made which helped in the identification of the appropriate individuals who participated in the surveys.

The introductory visit to the villages in the company of the village leaders was very important in becoming acquainted with the cultural characteristics of the communities and in building up confidence and developing a trusting relationship with the village leaders and the potential survey participants. It was pointed out by two of the village chieftains that in some instances in the past, difficulties were encountered in research surveys similarly conducted in the area due to lack of co-operation on the part of the villagers. The people were hesitant to participate in the research as the researchers had failed to establish a good rapport with the villagers and gain subsequent trust and confidence. In these cases it was then difficult for the researchers to secure informed consent of potential participants. To be successful it is important that the minimum co-operation required in the research must be carefully defined before making the approach because demands on most people at short notice always invites refusal. Hence, it is necessary to develop confidence among the potential research participants and put forward an acceptable schedule and timetable for accessing the research area. Given the nature of the constituency of the villages in the case studies, it was important to have an initial understanding of the cultural and social background of the people in the communities. This ensured the smooth conduct of the survey.

CHAPTER 6

6 RESEARCH FINDINGS

The experiences of the three companies that served as the case studies in this research show the growing role of industrial forest plantations in sustainable forest management in the Philippines. This role derives from the need to develop alternative source of timber. Industrial forest plantations can bring socio-economic development in the upland areas of the country, and promote environmental rehabilitation by restoring tree vegetation on denuded areas. However, as a major policy strategy for achieving sustainable development, the question of long-term sustainability remains an issue for industrial forest plantations, given its impacts on indigenous people and the local communities. There are also institutional constraints that tend to hamper its sustainability as a policy strategy in forest development.

6.1 CHARACTERISTICS OF THE STUDY AREAS

6.1.1 Physical Characteristics

The areas in the three case studies can be generally described as denuded. They are characterised by savannahs or open grasslands and logged over areas with three main types of vegetation: natural woodland of secondary growth forest that has resulted from past logging operations; open grasslands with small patches of second growth forests; and small areas of farm lands on open areas. The land-use history of each area indicates varying degrees of exploitation that has lead to their present condition. They have been either subjected to logging or intensive cattle grazing over the last 30 years. (Figure 6.1 : Second growth forest within the PTFI area).

Bukidnon Forests Incorporated (BFI)

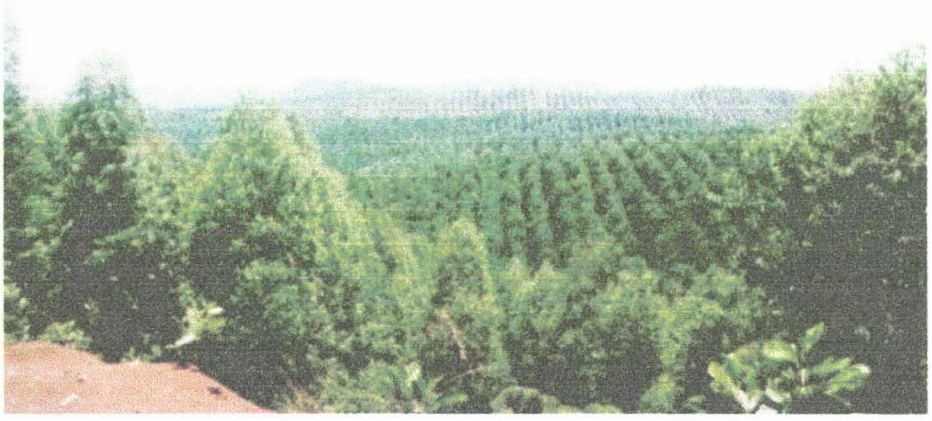
In the case of BFI, there are no signs that the area was previously forested and used for logging activities. However, available records and field evidence shows that the area was previously subjected to intensive grazing activities. Grazing has left the soil compacted with relatively thin topsoil and subject to severe erosion. There are small patches of residual natural forests scattered within the entire area but these are limited to the gullies and deep canyons that support small intermittent creeks, streams and springs. These small patches of residual forest have been repeatedly burned due to uncontrolled grassfires spreading from the former pasture areas during their annual burn. The annual burning of the pastures was a traditional grazing management practice that was intended to facilitate the re-growth of young forage grasses to make them more palatable to livestock. The general topography ranges from moderately steep to steep slopes, with most of the areas being prone to soil erosion. The area has a distinct climatic pattern characterised by two pronounced seasons, being relatively dry from October to April and wet during the months of May to September. (Figure 6.2 : Plantation developed on a typical BFI site).

Alcantara and Sons Incorporated (ALSONS, Inc.)

The ALSONS integrated forest management agreement (IFMA) area has a different land use history compared to that of BFI. The entire area was previously covered with dense natural forest that had been subjected to logging activities for more than 20 years until 1989. The area is generally characterised as a logged over area that was turned into a mix of scrubs and grasslands by natural process of succession. A logged over area is a term used to describe what has been left of a natural forest after it has been subjected to logging activities. However, there are still portions of the entire area covered with residual natural forest. Remnants of dead trees that were left after logging activities have ceased are still in the area rotting and decomposing. The soil condition is basically more fertile than BFI with relatively deeper topsoil. The general topography is from low hills to moderate and steep slopes.

Figure 6.1: Second growth forest within the PTFI area.

Figure 6.2: A plantation developed on a previously grassland covered area at BFI.



The whole area, which formed part of the former timber concession of ALSONS has been converted into an IFMA and is now being developed into forest plantations. Some traces of previous logging activities are still evident in the area such as: ruins of abandoned logging facilities and equipment like bulldozers, logging trucks, log ponds, spur roads, and deteriorating log bridges. The old logging base camp was converted into the present central nursery, raising seedlings to supply the annual planting requirements of the company. Some of the old logging roads are still being maintained to support the plantation development activities as well as provide access for the local communities to the town centres and market.

Provident Tree Farms Incorporated (PTFI)

The area of PTFI differs from the two other case studies in terms of general vegetative cover. The natural vegetation of the entire IFMA area consists of logged over areas, second growth natural forests, and patches of old growth natural forests. The main species of trees found in the forested areas are indigenous species of dipterocarp, which are considered premium species because of their timber value. The species diversity is relatively higher and more diverse in composition compared to those in the BFI and ALSONS areas. There are still many sources of water like rivers, creeks, streams and springs in the whole IFMA area. The topography is generally rolling to moderately steep. The soil condition is relatively fertile with deeper topsoil. The evident fertility of the soil can be seen from the abundant saplings naturally growing within the existing plantation areas. There is no distinct climatic pattern in the area. Rainfall is evenly distributed throughout the whole year with no distinct dry or wet season.

There are established road systems within the area. These were the road networks that were previously used in the logging operations. Some of them are still being maintained to support the forest plantation activities and to provide access to the different communities.

6.1.2 Demographic Characteristics

The case studies reveal interesting ethnic, cultural, and economic patterns in forest occupancy. Many communities exist within the areas being developed into forest plantations by the BFI, ALSONS, and PTFI. These communities are predominantly composed of indigenous tribal communities with different ethnicity, cultural, and economic patterns. They are collectively known as "lumads", a reference to the indigenous peoples of Mindanao. The name "lumad" distinguishes them from the other indigenous peoples geographically situated in the other parts of the country, such as, the "igorots" of the Cordillera mountain ranges in northern Luzon, the "Mangyans" of the island of Mindoro in southern Luzon, the "aetas" of central Luzon, etc. (Figure 6.3: A "Manobo" tribal leader in PTFI).

Bukidnon Forests Incorporated (BFI)

The ethnic communities within the BFI area belong to the "higaonon", "talaandig", and "bukidnon" tribes. These communities are no longer characterised as homogenous tribal groupings due to intermarriages among the tribes within the province and with some lowlanders. The heterogeneity of the communities has been further enhanced by the upland migration of some landless lowland farmers.

The indigenous communities although they still retain some of their ethnic traditions, are no longer nomadic and have undergone a certain degree of cultural change by adopting some of the lowland cultures. This is the result of the frequent economic and social interaction with the lowland communities and the entry of local religious missionaries into these communities over the last three decades. Access to education had also its effect on the culture and the ethnic economy of these communities.

Unlike 20 years ago the settlement sites are no longer on remote areas near the forest and along river and stream banks, but on accessible sites such as alternate between stretches of flat and undulating foothills like those in the communities of Kisaray, Malandog, and Abyawan. The location of settlements

on river and stream banks used to be for reasons of convenient access to the sources of livelihood like fishing, hunting, and gathering of food from the forests. The changes in the settlement patterns indicate the corresponding change in the socio-economic patterns. Among these changes are: growing reliance on employment in the nearby towns and cities, shift from shifting cultivation to wet rice farming on relatively flat areas, and the planting of perennial crops, which have become the main sources of livelihood.

Since the entry of BFI operations into these areas, people have started to rely on the seasonal employment opportunities provided by the company as one of the main sources of income. This was in contrast to the traditional socio-economic patterns of relying on subsistence farming, fishing, and gathering of forest products, which were the main livelihood activities prior to the BFI entry into the area.

The traditional social structures of the indigenous cultural communities are gradually being replaced by a politically based system of governing the villages. Hence, the traditional power relations between the "datus" or tribal chieftains and village elders and the villagers are gradually diminishing and being replaced by the nationally-based modern political system. The modern political system is based on local governance where the centre of authority is vested in a local official who is directly elected on the basis of a majority vote by the people in the village who are of legal age. The elected local official which is the "baranggay captain" has now become the figure of authority in the village having a greater authority than the "datu" on the day to day affairs of the village. Hence, the "barangay" which is the village level political unit of governance has superimposed on the indigenous cultural communities a social structure that defines power relations in the villages. The authority to govern the community under this non-traditional system is vested on the elected leader or "barangay captain" rather than the recognised tribal leaders. The records of BFI indicate that there are 9,000 people living within the area. They constitute 16 "barangays" consisting of several villages of indigenous cultural communities.

Alcantara and Sons Incorporated (ALSONS, Inc.)

The communities within ALSONS are scattered all over the entire IFMA area. The communities are inhabited by indigenous people whose culture has remained traditional. They have not been greatly influenced by migrants from the lowland or settlers from other places. These communities belong to three distinct tribal groups; the "talaingod", "kailawan", and the "langilan". They maintain their traditional and ethnic economy of subsistence farming, fishing, and hunting.

The different tribal groups can be easily distinguished from each other because of the patterns of settlement they established. The settlements are characterised by a cluster of houses constituting a village that represents a tribal group. The traditional social structures in the villages remain intact with the tribal leaders or "datus" retaining their authority over their respective villages. The settlements are usually established along the riverbanks or on top of ridges. The territorial boundaries between villages are well defined and are properly identified through established or natural landmarks such as rivers, creeks, gullies, and clusters of planted trees or bamboo on the top of ridges. Thus, inter-village conflicts arising from territorial intrusion are avoided. Although it seldom happens, cases of village conflicts are usually the consequence of poaching of wildlife and other resources beyond the territorial boundaries of the offending village. Close co-ordination among the tribal leaders is being promoted through the tribal council, which the tribal leaders have organised.

There are 35 villages within the entire IFMA area but there is no official estimate as to the total population. The indigenous people within the area are polygamous. The individual surveys conducted in seven villages revealed that each of the tribal leaders has on average 2-4 wives. The ordinary villagers are likewise allowed to be polygamous depending on their economic capacity to support the wives and the children. The survey also revealed, that each respondent has on average 4-6 children and each village has an average number of 25-30 households. The total estimated population of the area at the

time of the survey covering the 35 villages is 12,000 individuals, about 30% are within the IFMA area directly affected by the forest plantation development. The estimated population could even be higher given the number of young children and the expectant mothers seen during the conducting of the research survey, which indicates a relatively high birth rate in the area. This may be supported by the theory that with the very high illiteracy rate in the area, which is 95%, birth control has not been widely practised. (Figure 6.4: Members of a tribal village community).

Provident Tree Farms Incorporated (PTFI)

The communities within PTFI belong to three major tribal groups: the "manobo", the "banua-on", and the "talaandig". These communities settle in clusters of villages within the forest. They rely primarily on farming as the main source of livelihood by establishing small patches of farmlands within the forest. They practice the traditional system of farming within the forest, shifting cultivation, which does not seem to cause serious damage to the forest. After cultivating an area for 2-3 years they move to another area and allow a fallow period for the land to recover its fertility.

The centre of authority within the village remains vested in the "datu" or tribal chieftain, but major decisions are based on consensus among the villagers. The distance between villages is approximately 10-15 kilometres. Unlike in the ALSONS area, there are no established and well-defined territorial boundaries between the villages but natural landmarks such as rivers and ridges are used to indicate the territorial limit or ancestral domain of each tribal village. The ancestral land claims are not individual claims but based on tribal claims of an entire village.

There are about 426 families in the entire area with an average of 4-6 individuals per family. Thus, the estimated population is between 1,700 to 2,600 individuals in the whole area.

Figure 6.3: A "Manobo" tribal leader at PTFI.

Figure 6.4: Members of a "Talingod" tribe village community at ALSONS.

6.2 RESULTS AND DISCUSSION

6.2.1 Survey Interviews in the Villages

Profile of the respondents

The data in the individual survey interviews conducted in the three case studies shows that majority (92%) of the 72 respondents are males, while only 8% are females. This gender bias was not a deliberate result of the selection of survey respondents but reflects the cultural tradition of the "lumads". The male members of the community play a major role in most economic related activities as well as in decision making in the family, while the women are relegated to functions primarily related to reproductive roles and rearing of children. Most of the respondents fall within the ages between 36-45 (29%), followed by the 26-35 (21%) years age group, then the ages 56-65 (19%) years, while the rest are within the age groups 18-25, 46-55 years, and above 65 years. The oldest respondent was 83 years old while the youngest was 18 years of age. The majority (89%) of the respondents is heads of families, while 11% are not head of families and have no dependants.

The level of literacy in the villages is very low. The majority of the respondents (50%) acquired formal education only up to the elementary level, while 40% did not have any formal education. The highest educational attainment level reached is the high school level with 10% of the respondents having attained this level. This low level of literacy is primarily attributed to the poor economic conditions in the villages where the people cannot afford the cost of formal education. This is also partly due to problems related to access to schools associated with the lack of road access facilities. The socio-cultural profile of the survey respondents is shown in Table 6.1.

Socio-Economic Condition

In all the case studies, the people are mainly dependent on land resources for their living. This is in the form of subsistence farming on small patches of fertile land within the IFMA areas. The majority of the respondents (97%) in BFI depend on farming as the main source of livelihood, while in both ALSONS and

SOCIO-CULTURAL PROFILE

PERSONAL ATTRIBUTES	BFI	ALCANTARA & Sons	PTFI	TOTAL	Percentage
GENDER				72	100%
male	31	17	18	66	92%
female	5	0	1	6	8%
AGE GROUP				72	100%
25 yrs. And below	2	2	3	7	10%
26 yrs. To 35 yrs.	8	3	4	15	21%
36 yrs. To 45 yrs.	10	6	5	21	29%
46 yrs. To 55 yrs.	9	2	1	12	17%
56 yrs. To 65 yrs.	7	3	4	14	19%
above 65 years old	0	1	2	3	4%
EDUCATION				72	100%
No Formal Education	0	16	13	29	40%
Elementary	31	1	4	36	50%
High School	5	0	2	7	10%
College	0	0	0	0	
Post Graduate	0	0	0	0	
Vocational	0	0	0	0	
Head of Family	31	17	16	64	89%
Not Head of Family	5	0	3	8	11%
ETHNIC GROUP				72	100%
bukidnon	17	0	0	17	24%
higaonon	15	0	0	15	21%
talaandig	4	0	0	4	6%
talaingod	0	14	0	14	19%
langilang	0	3	0	3	4%
manobo	0	0	11	11	15%
banua-on	0	0	8	8	11%

Table 6.1 - Socio-cultural profile of survey respondents.

PTFI all the respondents (100%) are dependent to varying degrees on farming for their livelihood. (Figure 6.5 and 6.6: Slash and burn farms in BFI and ALSONS).

In most of the villages in BFI and ALSONS the "kaingin" system or slash and burn system of farming is still being practised. The "kaingin" system of farming uses fire to clear the area of any vegetation to prepare the site for planting of cash crops. The system is unsustainable as it exposes the soil and subsequently induces soil erosion. There is however, a gradual move towards a more integrated farming system through the introduction of the agroforestry system. The agroforestry system is a sustainable land management system that combines the production of crops and forest trees together with animals and livestock simultaneously or sequentially, on the same unit of land. It applies management practices that are compatible with the cultural practices of the local villages.

The average size of the farm areas being cultivated is between 1 and 5 hectares. These are usually planted with crops such as maize, cassava, sweet potato (kumara), peanuts, yam, etc. In more suitable areas, upland rice is being planted. To supplement their main livelihood, other economic activities are being undertaken and these include: getting employment as labourers in the BFI, ALSONS, and PTFI; fishing; hunting; gathering of minor forest products such as rattan; and engaging in handicraft such as loom weaving. The most common livelihood activities that support farming are paid employment, fishing, and hunting. In ALSONS all the respondents rely on these 3 other livelihood activities to supplement. In the BFI, by contrast only 31% work as labourers, 81% engage in fishing, and 39% are into hunting. However, some of the BFI respondents have other livelihood activities to supplement their main source of livelihood and these include gathering of rattan from the forest (3%) and loom weaving (3%).

The results of the socio-economic survey shows that the poverty situation in the villages is acute. The income level of all the respondents in both ALSONS and PTFI is below Philippine Pesos (PhP) 25,000 per annum, which is way below

Figure 6.5: A hillside 'kaingin" farm at BFI

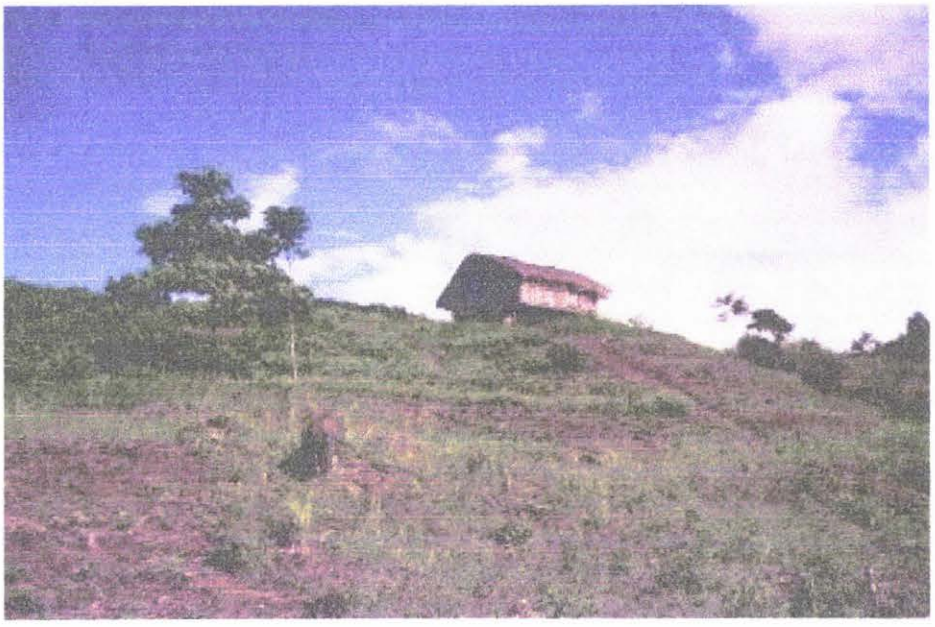


Figure 6.6: A "kaingin" farm at ALSONS.

the poverty level of Philippine Pesos (PhP) 36,000 per annum. In the case of BFI, 83% of the respondents are below the poverty level, 8% are just within the poverty level, and 3% have incomes, which are above the poverty level. The respondents with higher incomes attribute their improved economic condition to their full time employment in BFI as labourers. In the case of ALSONS and PTFI, all the respondents are being employed as labourers by the respective companies on a rotation basis and are those not in full time employment. This is due to the limited number of available slots for employment at particular periods. The labourers have to be employed on a rotation basis to give the other members of the villages a chance to be employed. This system nevertheless is helping the villages to accumulate some money that can be used as capital in expanding their farming activities and to help them earn higher incomes. This was also the case in BFI where the respondents with incomes above the poverty level have used their earnings from their employment to invest in improving and intensifying their farming activities to support higher levels of production beyond subsistence level. Hence, their economic conditions have started to improve. (Table 6.2: Socio-economic profile of the survey villages).

Land Tenure Security and Indigenous Rights

The case studies revealed that land tenure security remains the main issue concerning the development of large-scale forest plantations. The IFMA issued by the government to all industrial forest plantations covers a 25-year tenure agreement. Under the provisions of the recent legislation called the Indigenous Peoples' Rights Act or Republic Act 8371, lands covered by government leases for industrial development within ancestral domains of indigenous people can now be renewed for another 25 years subject to the prior informed consent of indigenous cultural communities. These conditions for the renewal of the lease however, are not embodied in earlier policies and regulations related to the development of forest plantations. The earlier policies did not provide a strong guarantee for the long-term sustainability of industrial forest plantations. They did not provide long term tenure for lands devoted to industrial forest plantations. This puts some degree of uncertainty over the long-term

SOCIO-ECONOMIC PROFILE

ECONOMIC PARAMETERS	BFI	%	ALSONS	%	PTFI	%
MAIN LIVELIHOOD ACTIVITIES						
a. Farming	35	97%	17	100%	19	100%
b. No Response	1	3%	0	0%	0	0%
OTHER LIVELIHOOD ACTIV.						
a. Labour Employment	11	31%	17	100%	5	26%
b. Fishing	29	81%	17	100%	19	100%
c. Hunting	14	39%	17	100%	19	100%
d. Ratttan Gathering	1	3%	0	0%	9	47%
e. Vegetable Gardening	0	0%	0	0%	0	0%
f. Loom Weaving	1	3%	0	0%	0	0%
g. No Response	3	8%	3	18%	0	0%
INCOME LEVEL PER YEAR						
a. below PhP 25,000	30	83%	17	100%	19	100%
b. PhP26,000 - PhP40,000	3	8%	0	0%	0	0%
c. PhP41,000 - PhP60,000	1	3%	0	0%	0	0%

Table 6.2 - Socio-economic profile of survey respondents.

management of lands covered by IFMAs, which are within the ancestral domains of indigenous cultural communities. Furthermore, although the passage of Republic Act 8371 was a significant milestone in the indigenous peoples' struggle for their rights, the identification, delineation, and recognition of their rights to their ancestral domains and ancestral lands are yet to be fully implemented by the government. (Figure 6.7: Portion of an area claimed as part of an ancestral domain in ALSONS).

In the three case studies, the indigenous cultural communities have laid claim to large portions of the IFMAs, which are viewed as being part of their ancestral domains. Their ownership is through their ancestors and is acquired by means of the traditional modes of land acquisition of indigenous people. The results of the survey indicate the different approaches that describe the modes of land settlement and acquisition within these areas. Nevertheless they are the traditional systems of land acquisition by tribal communities and are thus devoid of the formalities of the modern property rights system. A majority of the respondents in the survey, as represented by 72% in BFI, 94% in ALSONS, and 89% in PTFI, are original settlers within the area, while a further 17% in the case of BFI are descendants of original settlers. Migrants only constitute a small fraction of the population (11% in BFI, 6% in ALSONS, and 11% in PTFI) and their immigration to the area is primarily due to intermarriage. However, these immigrants are nonetheless members of other indigenous cultural communities in nearby areas. (Figure 6.8: A house of an indigenous settler in one of the communities at PTFI).

Ancestral Domain Claims

The different modes of land acquisition among the community members include; inheritance from their ancestors, individual allocation by tribal leaders, actual settlement and occupation, and through intermarriage. These modes of acquisition and subsequent claims of ownership are founded on an ancient legal doctrine, that of the "right of first occupant to the land". The "right of first occupant" was regarded as a natural law, immune from challenge. The right of first occupant to the lands they possess is acknowledged by legal systems as

Figure 6.7: An area claimed as part of an ancestral domain at ALSONS

Figure 6.8: House of an indigenous settler in one of the communities at PTFI

the sole source of title. Thus, the indigenous cultural communities claim ownership of their ancestral domains and ancestral lands by virtue of their inherent status, through their ancestors as original occupants of the land.

Table 6.3 shows that majority of the respondents (33% in BFI, 80% in ALSONS, 95% in PTFI) in the survey acquired their lands through ancestral modes of acquisition. However, other respondents (36% in BFI, 20% in ALSONS) acquired land by means of allocation through their respective tribal leaders. But these allocations are part of the indigenous people's traditional system of land allocation. Two respondents (1 in BFI and 1 in PTFI) acquired land by the non-traditional system, which is by reason of sale and gift due to intermarriage, respectively, which can be considered isolated cases from the traditional practise. In the case of BFI another mode of land acquisition other than the traditional system has been observed. About 28% of the respondents acquired land by means of actual cultivation and occupation without a clear basis of occupancy, a process sometimes being viewed as squatting or land grabbing. It is a controversial means but is gradually emerging as a common mode of occupancy particularly on lands declared as government owned or public lands. This case may be attributed to the influence of lowland communities on the upland communities in BFI where the people are being pushed into the extreme effects of poverty. Thus, they resort to selling their ancestral lands and try to acquire land by occupying any uninhabited land. This is an emerging problem for BFI in managing its areas and securing its plantations.

None of the respondents in the three case studies possess formal legal instruments of ownership. The basis of ownership as far as the indigenous communities are concerned is the actual occupation of the area regardless of the actual development introduced. But the main concept of communal land ownership among the indigenous cultural communities still remains the same. Land ownership is based on community ownership, with rights to use the land either vested in an individual family or a clan. They still believe that the ownership of the land does not mean that those bestowed with rights of use actually own the land. The land is owned by all the generations of the

Table 6.3: Land tenure and land ownership profile.

LAND OWNERSHIP

INFORMATION	BFI	%	ALSONS	%	PTFI	%
	(n=36)		(n=17)		(n=19)	
MODE OF SETTLEMENT						
a. Original Settler	26	72%	16	94%	17	89%
b. Descendant of an Orig. Settler	6	17%	0	0%	0	0%
c. Migrant	4	11%	1	6%	2	11%
MODE OF LAND ACQUISITION						
a. Inherited from Ancestors	12	33%	14	80%	18	95%
b. Allocation by Tribal Leaders	13	36%	3	20%	0	0%
c. Actual Occupation	10	28%	0	0%	0	0%
d. Acquired through Sale	1	3%	0	0%	0	0%
e. Intermarriage (Gift)	0	0%	0	0%	1	5%

indigenous cultural communities and the present owners are just the trustees or stewards.

In BFI about 9,000 hectares of land within the IFMA area has been claimed as part of ancestral domains. The ancestral domain claims are located in the municipalities of Impasug-ong and Malitbog in the province of Bukidnon and called the "Bukidnon-Higaonon" ancestral claim. There are another 5,000 hectares currently occupied as agricultural lands, and settlement areas where both mixed indigenous cultural communities and non-indigenous cultural communities live. In the case of the indigenous cultural communities, the ancestral claims are represented by several clans who state that their ancestors have been in possession of these areas since time immemorial. The ancestral land claims are distinct from each other and submitted as separate claims of particular clans and tribes.

The ancestral domain claim of all the indigenous cultural communities in the ALSONS area covers 65,000 hectares, which practically covers the entire IFMA area and extends to some areas nearby. The ancestral domain claim covers the entire municipality of Talaingod in the province of Davao del Norte, and is called the "Langilan-Ata Manobo" ancestral claim. The ancestral domain claim is the combined community claim of all the indigenous cultural communities in the area. The entire ancestral domain claim is composed of different areas allocated to individual tribes where the tribal allocations are based on the agreements of all the tribal leaders constituting the "Talaingod Tribal Council". The tribal council is the aggregation of all the different tribes represented by their respective "datus" or tribal leaders. The council serves as a forum and venue for resolving conflicts among the different tribes and has the function of making decisions on issues related to tribal concerns. It is also responsible in making representations in behalf of the indigenous peoples within the area particularly on issues that affects the interests of the different tribal groups.

The tribal council has agreed on a community ancestral domain claim in the ALSONS area rather than on individual tribal claims. It has also developed a

blue print for the management and development of the entire ancestral domain. With the assistance of the ALSONS management a control map was prepared by the council, which indicates the individual allocation of each tribe and the extent of their boundaries. Through the organisation of the council, the ancestral claim of the indigenous people within the area has been systematised.

In the case of the PTFI, a total of 12,405 hectares of land within the IFMA areas has been claimed as part of the ancestral domains of the indigenous communities. These claims are called the "Manobo" and "Banua-on" ancestral domain claims. The ancestral domain claims are based on individual tribes and are located in the municipalities of Talacogon and San Luis in the province of Agusan del Sur covering 6,310 hectares and 6,095 hectares, respectively. The respective tribal leaders were responsible for making representations with the DENR and the appropriate agencies relative to their ancestral domain claims. Co-ordination with the PTFI management is likewise undertaken by tribal leaders relative to the identification of the boundaries as well as contractual arrangements regarding the use of some portions of the ancestral domains for forest plantation development.

Forest Plantation Development Impact on Local Communities

In each of the case studies, the entry of industrial forest plantations impacted on the communities within the IFMA areas as well as those nearby. The results of the survey in the different villages show that the impact of forest plantation development comes in the form of both positive and negative impacts. The positive impacts are; enhancement of economic development, more sustainable agricultural production, improvement in the delivery of basic social services, and environmental rehabilitation. On the other hand, the identified negative impacts of industrial forest plantation development in upland communities is diminution of cultural traditions and certain degree of change in the social attitudes and values of the people in the villages. (Figures 6.9 and 6.10: Forest Plantations in BFI and ALSONS).

Figure 6.9: A young Acacia mangium forest plantation at BFI

Figure 6.10: A Eucalyptus deglupta plantation at ALSONS

Economic Development

The development of forest plantations has resulted in the establishment of basic infrastructures such as access roads and bridges, water system facilities, and basic social service facilities like school buildings and health centres. The introduction of these basic infrastructures has provided various potential benefits to the communities. (Figure 6.11: A primary school building constructed in one of the communities at ALSONS).

All the respondents in each of the case studies acknowledged that the construction and maintenance of road systems have brought about increased economic activities in the villages. The improved access has provided opportunities for more extensive development of farmlands that will subsequently increase crop production beyond the subsistence level. The potential benefits from such infrastructure developments are becoming evident, these include the expansion of the cultivated areas, easier access to schools, and to social services available only in lowland community centres. The presence of road networks had also served as an incentive to farmers for increased levels of crop production, as the marketing of farm products has been made easier. (Figure 6.12: A bridge within the areas of BFI)

The respondents in each of the case studies were unanimous in saying that they noted the "increase in the volume of economic activities that will subsequently improve economic conditions in the area". This was recognised as a consequence of increased interaction between the villagers and the lowland communities as well as the easier access to market. (Table 6-4: Village perception about the effects of forest plantation development in the villages).

One particular instance where the economic impact was observed was the case of a village called "Bontongon" in BFI. A village belonging to the "higaonon" tribe, with a total population of 700 individuals. About 90% of the population belong to the Baptist religious denomination. The "barangay captain" of the village confirmed that the economic conditions of the people in the area considerably improved subsequent to development of forest plantations. It

Figure 6.11: A primary school building in the ALSONS area

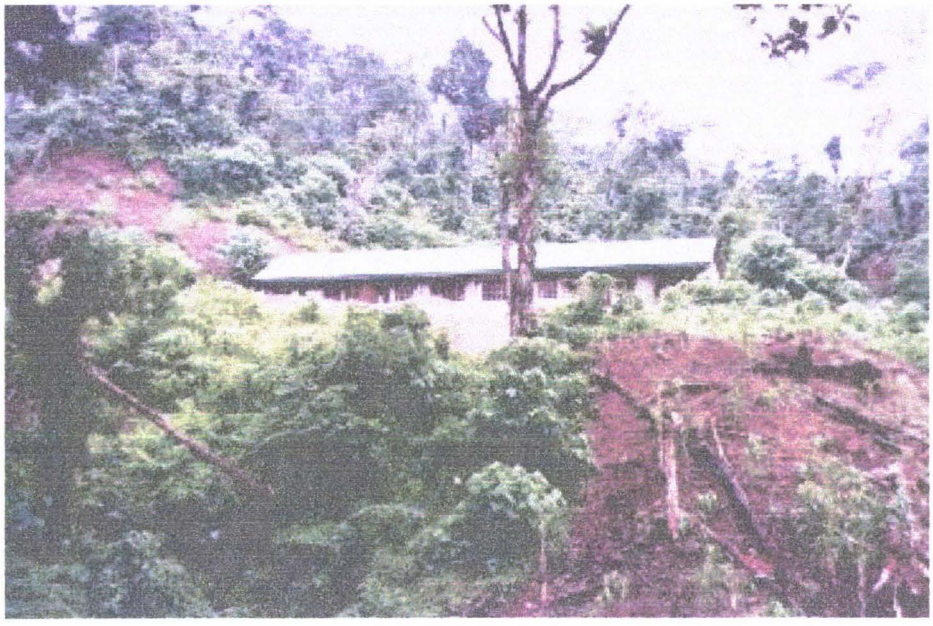


Figure 6.12: A bridge within the areas of BFI

Table 6.4 - Survey on village perception on effects of forest plantations

FOREST PLANTATION DEVELOPMENT AWARENESS						
FOREST PLANTATION	**BFI**	**%**	**ALSONS**	**%**	**PTFI**	**%**
DEVELOPMENT PERCEPTIONS						
ACCEPTANCE OF IFP DEVELOPMENT						
a. Favor Development of Plantations	34	94%	17	100%	19	100%
b. Do not Favor Dev. of Plantations	0		0		0	
c. Did not respond to question	2	6%	0		0	
EFFECT ON LAND SECURITY						
a. Threat to Land Occupancy Tenure	1	3%	0		11	58%
b. Not A Threat to Land Tenure	33	92%	17	100%	8	42%
c. Did not respond to question	2	5%	0		0	
KNOWLEDGE ABOUT LAND EVICTION						
a. No people were evicted	36	100%	17	100%	19	100%
b. There were people evicted	0		0		0	
EFFECT ON ECONOMIC ACTIVITIES						
a. Increase in economic activities and livelihood opportunities	36	100%	17	100%	19	100%
b. Decrease in economic activities and livelihood opportunities	0		0		0	

brought about greater economic opportunities that improved the livelihood of the people in the village.

The "barangay captain" roughly used as a parameter the annual tithe collection of the Baptist Church in the village. The tithe (being tenth of one's income given to the church as support of its religious activities) was used as the indicator for the income of the members of the church congregation. Accordingly, the church collected PhP25,000 - PhP30,000 (Philippine Pesos) per year from its members prior to 1994. However, subsequent to the commencement of BFI forest plantation development activities in the village in 1994, the church collection increased to PhP 75,000 - PhP 100,000 per year starting in 1995. The increased tithe collection of 300% - 330% reflects the increase in people's incomes in the village. He readily acknowledged that the improved economic condition of the people was attributed to the economic opportunities brought to the village as a consequence of the forest plantation development activities. The church Minister shared the same view, as did members of his congregation.

There are other cases and forms of direct economic impact that were observed in the different villages in ALSONS and PTFI such as: improve farming systems, increased crop production, literacy improvement among the villagers, and better housing conditions, but these were not documented prior to the survey. Account of these observations and experiences were just revealed by the villagers in the course of the survey particularly during the focus group discussions (FGD). Hence, the various benefits and other opportunities for socio-economic development at the village level were seen as inherent consequences of activities in industrial forest plantation development.

Sustainable Agricultural Production

The case study villages show that part of the industrial forest plantation management and development plan of the three companies was promoting sustainable agriculture and improving agricultural production to provide food security in the affected communities. It was commonly observed that in the three case studies the Integrated Social Forestry programme was introduced as

a community resource management strategy. Although using different approaches, the BFI, ALSONS, and PTFI promoted the system of agroforestry farming which is a sustainable upland farming technology. Various activities were undertaken to promote the system in the villages ranging from community training programmes, farm visits, development of model agroforestry farms, and livestock dispersal programmes. (Figure 6.13: Carabao dispersal programme at BFI).

The agroforestry system, which combines trees with crops or livestock raising was introduced as an alternative to the unsustainable land use that most of the communities have traditionally practised in the past. The incorporation of trees in the production system can shade animals and crops, improve nutrient status of the soil, control soil erosion, provide products such as timber, fuelwood, fruits and forage. The agroforestry system also is making better use of the land through diversified use of species, thus decreasing the economic risk of crop failure. This system of upland farming promotes multiple cropping which can address the needs of forest communities for resources including food and fodder allowing farmers to convert primary productivity to animal protein, and for mulching their agricultural crops to improve production.

In BFI, the acceptance and adoption among the upland villagers of the agroforestry system as a sustainable farming technology has been further strengthened by the provision of work animals such; as carabao or water buffaloe, goats, and other basic farm implements. These farming input support were needed to augment the initially meager resources of the villagers in order to increase the productive capacity of their farms. (Figure 6.14: A developed agroforestry farm in one of the BFI communities).

Community Involvement and Participation

The participation of local communities in the planning, development, and management of forest plantations has been identified as a critical factor in the pursuit of sustainable forest plantations. The minimal participation by the communities or lack of it in the identification of activities where they can

Figure 6.13: Carabao dispersal programme at BFI

Figure 6.14: A fully developed agroforestry farm within one of the plantation areas of BFI

participate can be a major constraint in the management of sustainable forest plantations. The experiences of BFI, ALSONS, and PTFI proved that the participation of local communities in the development process is an important component and should be part of the continuing process of development.

The results of the surveys in all the villages indicate that community consultations were conducted prior to the commencement of forest plantation development activities. All the respondents acknowledged that consultations were carried out in their respective villages to inform them about the development of forest plantations within their areas. The consultations were carried out in the form of community dialogues (100% in ALSONS and PTFI, and 78% in BFI), combined individual and community dialogues (14% in BFI), and individual house to house visits (8% in BFI). The consultations were meant to identify potential community issues that may arise, as well as to inform the villagers about their involvement in the development activities. The information generated through the consultation process could then serve as bases for planning the operations of the companies. (Table 6-5: Community views on involvement and participation in forest plantation development).

However, while community consultations were considered important strategies to facilitate community understanding of the objectives and policies in forest plantation development, it has not actually guaranteed effective participation of local communities in the case study villages. This was due to the lack of suitable development programmes on community participation that were initially put in place subsequent to the commencement of plantation development activities. The consultations in these particular cases only heightened the awareness of the local villagers of the development that was to take place in their respective areas, but did not create better understanding of the long term economic, social, and environmental benefits of industrial forest plantations to the communities.

In BFI the inadequate understanding and participation by the local communities on activities related to forest development has resulted in unstable community relations between the company and the villagers. The initial consultations and

Table 6.5 - Survey on community views on participation and involvement In forest plantation development.

COMMUNITY INVOLVEMENT AND PARTICIPATION IN DEVELOPMENT

ACTIVITIES	BFI	%	ALSONS	%	PTFI	%
PRE-DEVELOPMENT CONSULTATIONS						
a. There were consultations with people affected	35	97%	17	100%	19	100%
b. No Consultations with the affected people	0		0		0	
c. No response	1	3%	0		0	
NATURE OF CONSULTATIONS						
a. Community Dialogues	28	78%	17	100%	19	100%
b. Individual Consultations	3	8%	0		0	
c. Both Indiv. And Comm. Consultations	5	14%	0		0	
NEED FOR A COMMUNITY ORG.						
a. Needed	33	92%	17	100%	19	100%
b. Not Needed	0		0		0	
c. No response	3	8%	0		0	

information drive conducted in 1989 created among the villagers some false and unrealistic expectations from BFI. Other than the provision of employment opportunities at the initial stage of operations, other community expectations have not materialised. This has caused discontentment among the villagers and resulted in unhealthy community relations. As a consequence the majority of the villagers were indifferent to the forest development activities and some of them considered the forest development activities of BFI as threat to their land occupation. Even up to the time when the survey was conducted about 3% still view the activities of BFI as a threat to their occupancy. Such a situation has resulted in the frequent occurrence of forest fires within the forest plantations causing severe damage and a consequent loss of investment on the part of the company.

In response to the unhealthy community relations and weak community support to its operations, BFI started to redefine its community participation strategies by intensifying its community-related programmes. The company has recognised that greater participation by the local communities in its activities could lead to higher chances of success in attaining the objectives of its sustainable forest plantations. In 1992, BFI started to revise its overall community development programme to address the apparent weaknesses in its relationship with the local communities and at the same time increase community participation in its development activities.

To encourage greater community involvement and participation, an interpretative programme through intensified information, education and communication (IEC) has been continuously conducted to increase people's knowledge and awareness of sustainable forest plantation management. The IEC activities have emphasised the economic and environmental benefits to be gained from forest plantations. To reinforce the effectiveness of the IEC programme, representatives from the BFI management have regularly attended different community assembly meetings to inform the villagers of the different issues that directly affect the villagers relative to the forest plantations. A regular monthly meeting between the BFI management and the community leaders has

also been initiated every last Friday of each month. The meetings have since then served as forum for consultation as well as a way of providing information update to the communities through their leaders on certain policy and development issues affecting community interests. Through these activities the communities have started to participate actively in BFI's activities and have been gradually emerging as an empowered sector able to be actively involved in the discussion of issues that directly affect them and to participate in the development process.

The case of ALSONS is another story to be told relative to community involvement and participation. The minimal effort placed by the company in providing sufficient understanding about participatory development among the villagers has led to a very difficult start in its forest development activities. The initially weak programme on community involvement and participation resulted in a certain degree of community resistance to its operations. The resistance was further aggravated by indigenous people advocacy groups and non-government organisations (NGO), that linked the issue of participation with the more serious issue of alienation of land. As a consequence the local communities were discouraged from participating in any of the activities of the company that related to its forest plantation development. This was due to the fear that they could be evicted from their occupied lands. For almost three years from 1994 to 1996, the operations of ALSONS have had to be suspended to avoid a bloody confrontation between the company employees and some of the villagers who are being supported by lowland agitators. Adopting different strategies in community organising and with the assistance of people's organisations within the area, the company was able to win back the support of the villagers and resumed its forest development operations in 1995. A continuing community development programme was put in place coupled with regular consultations with the tribal leaders, to promote community involvement and participation. The organisation of the Talaingod tribal council with the assistance and support of the municipal mayor has enhanced greater community participation and encouraged villagers to be actively involved in resolving issues that affect the well being of the communities. (Figure 6.15: A small community discussion group "pulong-pulong" at ALSONS).

The recognition of people in the local communities as inherent partners in the forestry development process is an important element in forest management. The need for community consultations is important as a means of encouraging community participation. Consultations should be coupled with more meaningful community involvement in the development of sustainable forest plantations. Critical issues in community development have stalled some major activities of these two companies (BFI and ALSONS) at certain stages in their forest plantation development activities due to lack of community support.

The involvement of people in the local communities should define what community participation or local participation means to the villagers. The provision of labour employment to the people is certainly not the essence of community participation. Local participation should be viewed in terms of development, which seeks to involve people in the process of their own development. To attain the objective of community involvement and participation and more equitable access to resources, community involvement should identify aspects in the forest plantations where people can participate, who should be participating and in what way they can participate. Communities should not be viewed as simply providers of required labour and but should share in the benefits of the forest plantation development. They should be viewed as active participants in the development process. (Figure 6.16: Fire prevention and control training for community volunteers at BFI).

6.2.2 Interviews : Institutional Perspectives on Industrial Forest Plantations

In the previous section the survey interviews focused on land tenure security and the socio-economic implications of industrial forest plantations. The results of the surveys show the different factors that may either enhance or serve as constraints in the long-term sustainability of industrial forest plantations at the community and village level. This section on the other hand presents the information gathered through interviews with selected individuals about institutional processes as well as policy issues and constraints relative to

Figure 6.15: A small community discussion "pulong-pulong" in one of the ALSONS communities

Figure 6.16: Forest fire prevention and control training for community Volunteers at BFI

industrial forest plantations. The individuals interviewed represent the different parties of interest and stakeholders in industrial forest plantation development.

The interviewees were selected based on their knowledge and actual participation in policy planning and formulation, policy implementation, and direct involvement in the forest plantation development processes. The information given by the respondents and their actual experiences in the forest plantation development process provided the necessary perspective and background to the different factors that could impact on the sustainability of forest plantations.

Institutional and Policy Issues in Industrial Forest Plantations

One of the compelling reasons for the development of industrial forest plantations in the Philippines was the government's determination to implement a sustainable forest management policy. A policy that addresses the need to develop an alternative resource which will ensure an adequate supply of timber to meet local demand for wood while at the same time addressing the issue of environmental rehabilitation through forest development. The realisation of the government's incapacity to fully manage the forest resources at the field level gave rise to 'a policy strategy on industrial forest plantations' which encourages private sector and community participation.

The implementation of industrial forest plantations as a sustainable forest management strategy however, requires institutional mechanisms that would integrate efforts towards its sustainability. The integration of the efforts of government authorities involved in the different levels of policy as well as the stakeholders and policy recipients of this forest management strategy is important in attaining the long-term objectives of sustainable forest management.

The 'Policy on Industrial Forest Plantations' was first enunciated in 1975 under Presidential Decree 705 known as the Revised Forestry Code of the Philippines. Considering the serious problems on forest management as a

consequence of the severe exploitation of the country's natural forests, the role of industrial forest plantations have been further recognised under DENR Administrative Order No. 41 issued in 1987 (DENR, 1987). The provisions of DAO No. 41 provided for "Interim Rules and Regulations Governing the Issuance of Lease Agreement on Industrial Tree Plantations, Tree Farms and Agro-Forest Farms". But, the greatest emphasis on industrial forest plantations as major forest management strategy was provided in 1991. The emphasis was given through DENR Administrative Order No. 42 which provides the "Regulations and Guidelines Governing the Establishment and Development of Industrial Forest Plantations" (DENR, 1991). This executive issuance has since then provided the basic policy strategy on industrial forest plantations.

The Chief of the Natural Forest Management Divisions of the Forest Management Bureau (FMB) noted that the basic objective of encouraging private sector participation in forest management has so far been attained in the implementation of DAO No. 42. At the end of 1997 a total of 233 IFMAs have already been granted by the DENR to the private and corporate sector. However, the overall success of attaining the different policy objectives is yet to be assessed considering that there has been some gaps identified in the policy strategy.

The flaws and inadequacies of the policy strategy have been confirmed in a separate interview with the Chief of the Policy Studies Division of the DENR. He particularly noted the frequent amendments and revisions made to DENR Administrative Order 42 since its issuance in 1991 which implicitly reveals some of the policy gaps and inadequacies. He particularly noted the following revisions and amendments to the basic policy enunciated under DAO No. 42. He believes these revisions and amendments to the same policy issuance within short time intervals reflect the apparent inadequacies in the policy planning and formulation process:

- *DENR Administrative Order No. 16 Series of 1992 - Addendum to DAO No. 42 which provides for Regulations and Guidelines Governing the Establishment of Industrial Forest Plantations;*

- *Memorandum Circular No. 8 Series of 1992 - Guidelines in the Conversion of Inadequately Stocked Residual Forests into Industrial Forest Plantations;*

- *DENR Administrative Order No. 60 Series of 1993 - Revised Regulations and Guidelines Governing the Establishment and Management of Industrial Forest Plantations (IFPs) and Management of Residual Natural Forests for Production Purposes;*

- *DENR Administrative Order No. 68 Series of 1993 - Amendment of DAO No. 60, Otherwise Known as the Revised Regulations and Guidelines Governing the Establishment and Management of Industrial Forest Plantations (IFPs) and Management of Residual Natural Forests for Production Purposes;*

- *DENR Administrative Order No. 15 Series of 1994 - Further Amendments/Clarification to the Provisions of DAO No. 68 Series of 1993, re-additional incentives to Industrial Forest Plantations (IFPs);*

- *DENR Administrative Order No. 24 Series of 1996 - Rules and Regulations Governing the Socialized Industrial Forest Management Program (SIFMA); and*

- *DENR Administrative Order No. 97-04 - Rules and Regulations Governing the Industrial Forest Management Program.*

The latest major amendment under DENR Administrative Order No. 97-04 has provided for the repeal of DAO No. 60 (DENR, 1993) and all other regulations relative to industrial forest plantations, which are inconsistent with DAO No. 97-04 (DENR, 1997).

The Policy Planning and Formulation Process

The development of forest management policies has been a major responsibility of the Department of Environment and Natural Resources (DENR). The DENR has the overall responsibility for the management, development, and protection of the country's forest resources, hence it has the responsibility to develop appropriate policies for sustainable forest management. Basic to the policy planning and formulation process is the institutional structure, which defines the responsibilities.

The observed policy gaps in industrial forest plantations seem to be attributed to the apparent weakness in the institutional system of the DENR. The Chief of the Policy Studies Division of the DENR admits certain weaknesses in the policy development framework of the agency. He argued that development of policies within the Department is highly academic and does not sufficiently consider realities in the field. The basis of policy formulation is focused on reports from consultants who have little understanding of the overall context of forest management. Moreover, policy review is very often carried out randomly and seldom done comprehensively. Hence, the policy development process does not seem to reflect factual and real field situations. While the agency has developed a policy framework in 1992 under DENR Administrative Order No. 31, which provides "Guidelines on the Organisation and Functions of the Policy Units for the Policy Development System in the DENR", the said framework has apparently not been working effectively. Accordingly, the development and revision of policies do not follow a definite framework and that, there is a strong bias towards the "top down" approach to policy planning. Hence, there is an inadequate basis for policy planning and formulation, which results to certain flaws in the policies. Among the major inadequacies of the policy framework the interviewee has initially identified were:

- *Lack of field consultations within the DENR system;*
- *There is apparent lack of stakeholder analysis relative to the effects of the policy;*
- *Policy review is done separately by different offices within the DENR and is being carried out on a sectoral basis. Moreover, the review does not include field validation but rely mainly on periodic status and accomplishment reports from field offices;*
- *DENR field offices have no participation in the policy planning process.*

Policy Implementation

Another major policy constraint in industrial forest plantations is policy implementation. A Regional Executive Director interviewed for this research points out that there is no adequate mechanism to ensure effective policy implementation in the field because of the lack of a clearly defined policy framework. For instance, he points out that in most of the recent policies and

policy strategies on forest management the policies consider sustainable development as one of the primary elements of the policy framework. However, he argues that field offices cannot effectively implement the policies given that the operational framework on sustainable development has not been formally established as an operational framework in the DENR field offices. Hence, the majority of the technical staff in the field still does not have sufficient understanding of the concept of sustainable development.

In many cases field offices of the DENR still tackle environment and resource management issues in accordance with the jurisdiction and functions of their offices, which have strong bias towards their regulatory functions relegating the development aspects of their mandate to the background. The Manager of the Forest Development Department of PTFI argues that, the imposition of unnecessary regulations and the exercise of controlled and discretionary requirements by the DENR have the potential to discourage future private investments in plantation forestry. He noted the strict regulations on thinning and pruning activities in established plantations. The DENR requirement of an annual operations plan (AOP) for these inherent forest plantation management activities as well as the corresponding requirement of detailed environmental impact assessment (EIA) of industrial forest plantations embodied under DENR Administrative Order No. 96-37 (DENR, 1996), were among those identified as highly regulatory and restrictive insofar as forest development operations are concerned. Accordingly, the compliance to these regulations is cumbersome and expensive and technically impractical. For instance, in the case of BFI the preparation of its Environmental Impact Study (EIS) by a private consultancy firm cost the company approximately PhP1.2 million, which was considered expensive. The BFI management argued that it could have developed approximately 100 hectares of forest plantations using the same amount of money.

Sound management practices in plantation forestry always consider the impact of every major activity on the environment and recognise that detailed environmental impact assessment (EIA) may only be necessary during harvesting operations. In forest plantation management silvicultural activities

such as pruning and thinning are also inherent management practises. Thus, these policies were particularly criticised as having the potential to seriously limit future investments in the establishment, management, and harvesting of industrial forest plantations.

The strict regulations regarding the development and management activities of industrial forest plantations have impacted on the downstream processing of forest products and could threaten the government's economic and social goals in the development of industrial forest plantations. It is necessary to consider institutional mechanisms where field offices of the DENR are provided within an appropriate framework of implementation. The mechanisms should be developed along the lines that include necessary authority, co-ordination, and integration of functions that will support the requirements in attaining policy objectives such as sustainable forest plantations.

Land Security and Tenure of IFMA

The recent enactment of Republic Act 8371 or the Indigenous People's Rights Act opened uncertainties over the tenure security of industrial forest plantations, particularly those within ancestral domains of indigenous people. The lack of guaranteed tenure rights of industrial forest plantations beyond the lease period is a disincentive to IFMA holders. This land security issue coupled with the long-term nature of the investments in forest plantations, fluctuating prices of wood in the international market, as well as high interest rates constitute the major constraints of corporate investors in industrial forest plantations.

The corporate developers are developing approaches of their own to mitigate the potential problems arising from the lack of guaranteed tenure for IFMA holders. According to the Manager of the Reforestation and Forest Plantation Development of ALSONS, IFMA holders like ALSONS are doing their best to forge contractual arrangements with indigenous communities within their IFMA areas to avert potential issues of land conflict. However, the need to enact appropriate land tenure policies is still necessary to ensure that existing forest plantations can attain long-term sustainability. As a remedial measure in

anticipation of potential property rights issues on developed forest plantations as well as areas claimed by indigenous cultural communities as part of their ancestral domains, the company established a system of joint venture management with the indigenous communities within the IFMA area. Under the agreement the indigenous communities have been given the discretion to decide and delineate areas within their ancestral domains which they deemed necessary for their agricultural purposes and have the option to lease the other unused areas to the company for plantations. The areas utilised for forest plantations remain as the property of the indigenous cultural communities and are covered with harvesting agreements that could provide financial benefits to both the villagers and the company.

Such contractual arrangement can offer a temporary solution to land security but will only last for whilst the contractual agreement between the company and the indigenous cultural communities is still enforced. However, the long-term sustainability of the plantations remains a basic issue in the absence of a policy to address this land tenure security issue of industrial forest plantations. There is a need for the government through the DENR and the National Commission for Indigenous People (NCIP [through its mandate under R.A. 8371]) to develop a long-term lease concept that could harmonise the land tenure security of industrial forest plantations with the rights of indigenous cultural communities. Such concept of land security arrangement must take into account the long-term social and economic dimensions. The need to provide land tenure security for industrial forest plantations as well as to local communities within IFMA areas is necessary to create the basis for long-term planning and investment for sustainable forest plantations.

6.2.3 Summary of Issues in the Development of Sustainable Industrial Forest Plantations

The outcome of both the surveys in the villages and the policy sector and company (BFI, ALSONS, and PTFI) interviews have provided a good perspective of how industrial forest plantations could achieve sustainable development objectives. A range of economic, social, and environmental benefits has been achieved since the implementation of industrial forest

plantations over the last 20 years in the Philippines. These achievements include:

- *Development of a viable forest resource to address the continuously increasing demand for timber and other wood products;*

- *Gradual but steady improvement in the economic conditions of upland communities through increased agricultural production and interaction with the market economy bringing them into the mainstream of economic development;*

- *Improvement of environmental conditions in the uplands brought about by the reforestation of vast tracts of unproductive grasslands and denuded lands; and*

- *Greater environmental awareness by the local communities through the different tree plantation activities and the role of forest plantations in environmental protection and rehabilitation.*

While it is becoming apparent that industrial forest plantations are contributing to sustainable development, the current situation points to major constraints that may impact on the sustainability of industrial forest plantations as a long-term forest management strategy. These can be broadly classified into factors dealing with: indigenous rights and land tenure issues, institutional processes, and local participation. These may be viewed as emerging issues that can be crucial on the sustainability of industrial forest plantations. The existence of these issues was shown from the outcome of the village surveys and was further established through the results of the interviews with individuals who have been involved in the policy process and those in actual forest plantation development.

Indigenous Rights and Land Tenure

The results from both the village surveys and policy interviews reveal that that there is a common agreement of both the villagers and the policy interviewees that one of the biggest obstacles to the sustainability of industrial forest plantations is the right to the land. Most areas where plantation forestry is being undertaken are part of ancestral domains or areas often used by local communities for their traditional livelihood activities. During the surveys the villagers unanimously acknowledged that there is a need to address the issue

through a clear land use policy that could mitigate the potential problems arising from unclear land tenure. One particular argument raised by the villagers was that "land is associated with the culture of indigenous people" and hence there is a need to harmonise land use with their culture. They favour development of forest plantation within their claimed areas but that has to be consistent with their customary rights. There is a strong belief that secured tenure would mean secured economic well being for the local communities. This is consistent with the concept of sustainable development, which recognises the links between development and human needs particularly in alleviating poverty. It is also paramount that for long-term planning of industrial forest plantations it is important to consider the people affected and the security of the land on which plantations are established.

The results of the policy interviews also recognise that one of the main constraints to investments in industrial forest plantations is the long-term security of the land. Corporate investors find the need for a clear government policy on the tenure of Industrial Forest Management Agreements (IFMAs) if they are to achieve sustainability. It appears that lands commonly made available by the government for forest plantation development are characterised by conflicting land tenure schemes. The existing policies recognise both, the tenure of the IFMA as well as the rights of indigenous cultural communities over the same areas, which in most cases are in conflict with each other. This conflict between tenure based on traditional rights and contractual land tenure arrangements for industrial forest plantation bring potentials for future land use conflicts. The issue of indigenous rights to the land calls for more than just defining property rights but also integrating traditional culture into the system of land use management. The land tenure issue is an emerging problem in forest plantation development that could significantly affect the economic viability of forest plantations. The possible implications of this issue would be:

- *Potential reduction in the areas available for forest plantations;*
- *Losts of economic opportunities to bring back unproductive and denuded grasslands into economically productive resource; and*

- *Potential problems concerning undefined property rights over the forest plantations, which may lead to their treatment as open access resources.*

Institutional Processes

The apparent weakness of the policy process within the DENR impacts on the attainment of the social, environmental, and economic goals of industrial forest plantations. Some of the factors that can hamper or affect the sustainability of industrial forest plantations are the results of the weak policy process. It came out in the interviews that at the different levels within the policy process, there are some inadequacies that have resulted in the formulation of inappropriately and insufficiently defined policy objectives and policy strategies. For instance, the results of the interviews reveal that some of the recent policies on industrial forest plantations have created an overly regulated environment, which could discourage future investments in plantation forestry. The formal policy reviews have not led to significant changes in practice. The actual field situation observed in the case studies provided the impression that the formal policy process is not linked to practice at all. In the case of policies on sustainable development, the linkages and interrelatedness between economic, social, and environmental protection are not clearly defined which result to conflicting outcomes. Thus, some policy strategies have become fragmented and uncoordinated and as a consequence the benefits that be gained from the policy are short term and attainment of sustainable development is uncertain. This is notwithstanding the existence of an operational framework for sustainable development, which was formulated by the government under the Philippine Strategy for Sustainable Development (DENR, 1990).

The frequent and immediate resort to policy revisions and amendments in instances where the policy does not respond to its intended purpose is a proof to this apparent inadequacy. This can be gleaned from the policies mentioned earlier in this chapter.

Participation

The lack of stakeholder analysis and consultations within the context of policy planning at the local community level has impacted on local community participation in the actual development process. The villagers recognise the importance of the consultations at the local level, which was carried out by the IFMA holders prior to the commencement of forest development activities. However, the villages find that formal policy consultations have been wanting. They find the importance of discussions of policies relative to forest plantations that could facilitate community understanding of the actual development process and their participation. It has been observed that in the policy development process there is no provision for the communities to participate in planning and decision making. Very often, community participation is only allowed when there are problems of the social acceptability of projects.

The notion of sustainable development relative to forest management asserts the importance of considering the centrality of people in development. The local communities must be given stake in their own development needs. The common reaction of the villagers on the issue of participation highlights the desire to be part of the development process, which is an important aspect in the quest for a real development. The basic socio-economic issues of building institutional capacity among the villages, education, training, as well as promoting the values of self-reliance could only be attained to genuine participation. Given the unavoidable impact on local and indigenous cultural communities, management strategies of industrial forest plantations on people's participation should initially build the existing social structures that could lead to identification of who should participate, what are they participating in, and how do they participate.

6.3 AREAS TO PROGRESS

There is a growing perception in the Philippine society that Industrial forest plantations as a major forest management strategy have great potential in helping attain sustainable development. The case studies indicate that given a

supportive policy environment, the identified constraints on achieving sustainability of industrial forest plantations, the objectives of sustainable forest management in the Philippines could be achieved. The development of a national policy development framework on forest management that incorporates the existing sustainable development framework under the Philippine Agenda 21 will strengthen the capacity of industrial forest plantations to contribute in attaining sustainable development objectives. In particular, the following areas should be strengthened in future policy strategies:

6.3.1 Socio-economic Aspect

The socio-economic dimension of forest management should always be taken into account as it has direct impact in the management of forest resources. The earlier discussion on forest depletion and sustainable development in Chapter IV, points to poverty as one of major causes of forest destruction and resource depletion. Hence, forest management strategies such as industrial forest plantations should also deal with the interrelationship between poverty and management of forest resources. The local and indigenous communities should be included in the development of forest plantations. The model being tested by ALSONS on the production sharing scheme or harvesting agreement with the indigenous cultural communities could be looked into as a possible management scheme in promoting a viable forest plantation.

6.3.2 Environmental Aspect

The development and management of industrial forest plantations should not only focus on the resource development aspect that would address the wider economic issue of timber production. It should also focus on the different environmental roles of forest plantations particularly in watershed rehabilitation, carbon sequestration, and promoting biodiversity.

6.3.3 Institutional Aspect

The development of industrial forest plantations as an economic venture requires a strong government support. Hence, the development of appropriate policies for an integrated and comprehensive approach to forest management

should be strengthened. This could further be attained through better and stronger links among the different sectors or stakeholders and the agencies of the government involve in natural resource management.

The need for a strong co-ordination among the different government agencies as well as the private and corporate sector involve in forest management is important to achieve an integrated management of forest resources. The emerging role of the National Commission for Indigenous Peoples (NCIP) as well as the Philippine Council for Sustainable Development (PCSD) are important aspects to be considered in the policy planning and development process, particularly in terms of forest management programmes and policies dealing with indigenous people and upland communities.

This research identified that one of the factors, which can serve as a constraint to an integrated approach in managing forest resources is a weak and incoherent institutional and policy framework. It has been shown in the results of the case studies and interviews that there is a need to strengthen the policy and institutional framework for industrial forest plantations in order to attain the desired results in terms of sustainable development objectives. The actual field situations and the development that takes place on the ground reflect the consequences of the institutional arrangements and mechanisms for industrial forest plantation development. It appears that the present policy framework tends to be biased on a regulatory system, which seem to put more emphasis on economic efficiency objectives. This obliterates the social equity and environmental objectives of the policy strategy. In a country such as the Philippines where land resources are scarce, the need for socially equitable and environmentally sound policies are important in order to ensure that forest management policies and programmes are geared towards the attainment of sustainable development objectives. In this particular case, one of the social equity issues is the recognition of the rights of indigenous people.

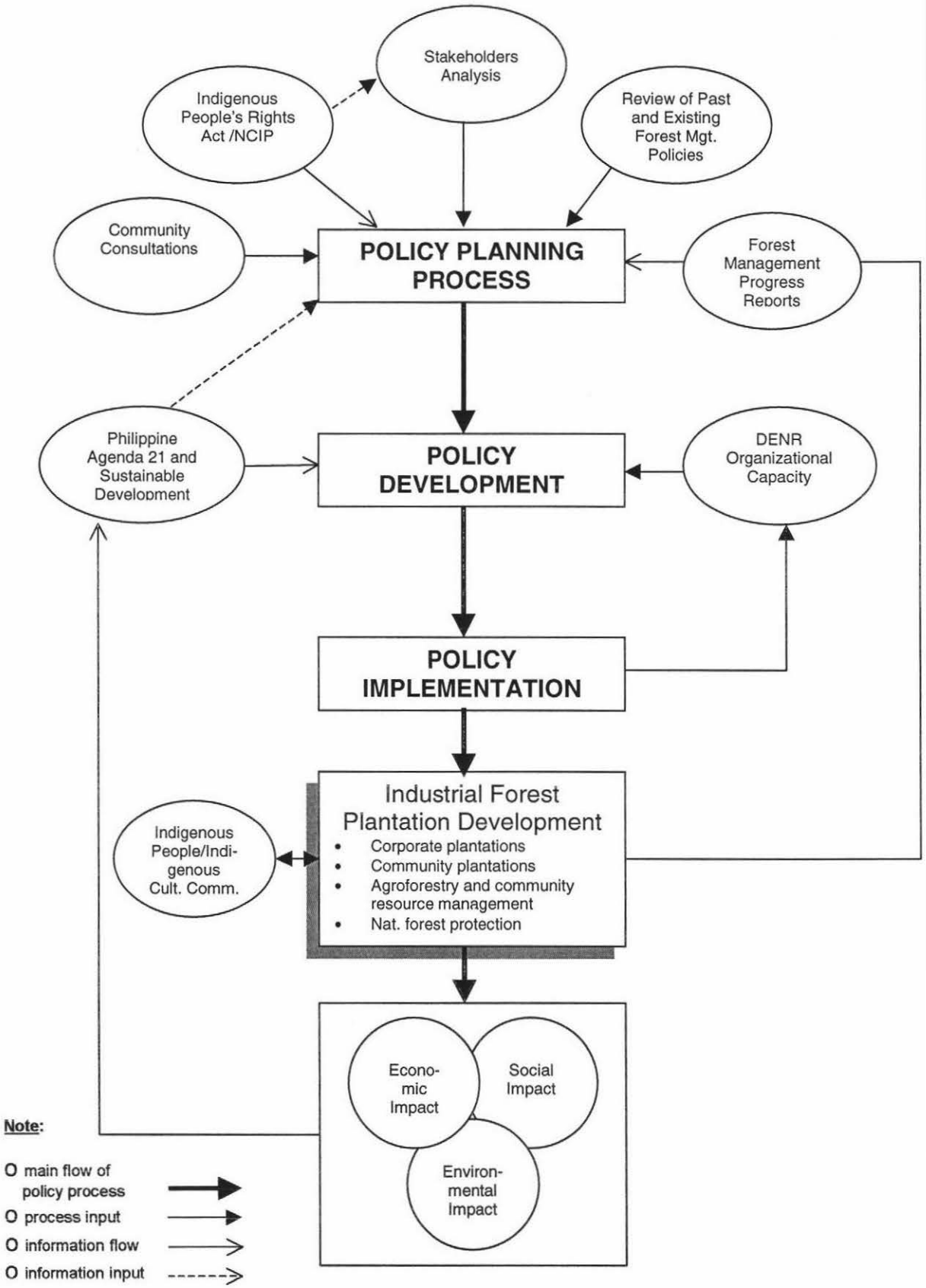
Figure 6.17 provides an overview of a proposed policy framework for industrial forest plantation development that tries to integrate in the entire policy process the different issues that impacts on the sustainability of industrial forest

plantations as a forest management strategy. The proposed framework attempts to minimise the fragmentation of policies and tries to balance the regulatory and development aspects of the policy. It encourages wider participation in the policy planning process by incorporating community consultations and stakeholder analysis, which obviously are not present in the present policy framework of the DENR. The recognition of the need for local involvement in the policy planning process will strengthen the link between policy development and the realities on the ground, which can ensure the development of more responsive policies by allowing greater inputs from local groups. It also anticipates the emerging role of the National Commission for Indigenous People (NCIP), who eventually becomes the primary agency concerned in promoting the rights and interests of the indigenous people.

Another important aspect of the proposed framework is its focus on the Philippine Agenda 21 and the Sustainable Development Framework. Considering these major development frameworks and integrating them into the inputs for policy development, allow policies to properly define their economic, social, and environmental objectives. This will ensure that policy objectives can adequately address forest management issues in the pursuit of sustainable development. The proposed framework also provides an assessment of the institutional capacity of the DENR. This will provide greater flexibility to adjust the mechanisms of implementation, which can avoid potential policy implementation problems as what has been shown in this research.

The findings in the case studies and the results of the surveys can provide relevant information and insights into the elements of a sustainable forest management strategy than can be incorporated in strengthening and improving the present institutional and policy framework. From the information generated in the case studies and the experiences of the existing industrial forest plantations, relevant conclusions can be drawn on what are the strengths and weaknesses of the current policy strategy on industrial forest plantations that need to be improved and strengthened. These informations can serve as basis in future planning and formulation of appropriate policies and programmes on sustainable forest management.

Figure 6.17: A proposed Industrial Forest Plantation Development Framework



CHAPTER 7

7 CONCLUSION AND RECOMMENDATIONS

7.1 CONCLUSION

The Philippines three decades ago was endowed with forest resources that contributed substantially to the country's economy. However, the considerable decline in the capacity of this natural capital to contribute to the country's economic growth and to support an ecologically wholesome environment has posed a great challenge to forest management.

The deepening impact of forest depletion on the economic, social, and environmental wellbeing of the country has led the government to constantly search for appropriate strategies to sustainably manage forest resources. Faced with the serious problem of a continuing shortage of wood supply vis-à-vis the increasing demand for wood, and the alarming proportions of forest degradation, the government adopted industrial forest plantations as a forest management strategy. The government considers the development of industrial forest plantations to be a forest management strategy that can address the continuing decline in the productive capacity of forest resources and that can integrate economic, social, and environmental objectives in the pursuit of sustainable forestry development. However, government institutions and plantation developers often lose sight of the social equity issues over access and use of forest resources which seem to be obliterated by the greater focus and emphasis placed on economic and environmental objectives of plantations.

This study is dealing with a dynamic and evolving situation in forest management in the Philippines. This research study examined the impact of industrial forest plantations on indigenous people, which often concern some issues on social equity. In particular, it focused on examining the impact of industrial forest plantations on indigenous people and local communities

particularly the resource rights of this sector in Philippine society. The study dealt with the impacts on the rights of indigenous cultural communities over their lands, territories, and resources therein, which presents a dynamic and evolving situation in the sustainable management of forest resources in the country. Nevertheless, a number of conclusions can be drawn from this research which shows some of the present challenges in sustainable forest management dealing with social equity, economic efficiency, and the contributions of industrial forest plantations as a sustainable forest management strategy.

7.1.1 Promoting Sustainable Development

The study has shown that Industrial forest plantations have the capacity to help mitigate the further exploitation of the remaining natural forests and at the same time contributes to the attainment of sustainable development objectives by promoting social, economic, and environmental sustainability. The three case studies show that the development of industrial forest plantations focuses on addressing three important issues of; developing an alternative timber resource, promoting socio-economic development of upland communities, and environmental rehabilitation through the restoration of forest cover on badly denuded areas. The integration of economic, social, and environmental objectives in the development of forest plantations reflects one of the main strengths of this forest management strategy in the attainment of the goals of sustainable development.

Industrial forest plantations also recognise the important interrelationship between development and environmental protection. It simultaneously pursues the objectives of: developing forest plantations as alternative sources of timber; and, helping mitigate the further exploitation pressures on remaining forests as well as protection of residual forests.

7.1.2 Defining Sustainability in the Context of the Research

Socio-economic Sustainability

This research study showed that the development of industrial forest plantations can offer greater opportunities in promoting socio-economic development in the upland areas that can benefit local communities particularly the indigenous people. Through a range of community participation approaches industrial forest plantations appeared to have had a positive impact on local communities by encouraging socio-economic self-reliance. This social process which strengthens the local social institutions is expected to help alleviate poverty in the uplands. Such anthropocentric or people-oriented focus of industrial forest plantations in trying to balance social equity with economic efficiency of resources show the relative potential of this strategy as sustainable forest management approach.

As shown by the case studies, industrial forest plantations promote social sustainability by helping improve socio-economic conditions in the villages. The introduction of sustainable farming technologies, such as agroforestry to replace the unsustainable "kaingin" system of slash and burn farming in some villages, harmonises land use practices that can attain both environmental and economic sustainability in the uplands. Agroforestry as a farming technology promotes soil conservation and can promote alternative livelihood activities, discouraging economic activities that are environmentally destructive such as clearing forests for agricultural purposes, gathering of rattan and other forest products, timber poaching, and etc., that are purely dependent on forest exploitation.

The case studies show that forest plantation development activities has encouraged community participation, resulting in a decline in the incidence of destructive forest activities and an increase in the incomes of villages. Aside from employment, which induces community participation in the development process, the people were also encouraged to organise community associations. These associations, such as, the Kapalong Cultural Development Foundation (KCDF) in ALSONS and the Provident, Manobo, Banua-on, and Talaandig (PROMANBATA) foundation in PTFI, help institutionalise strong organisational

principles necessary for effective management of community resources. It is also expected that these institutions will facilitate community empowerment enhancing the development of socially, and economically self-reliant communities. It is expected that with socially empowered communities, access of upland villages to resources would increase as a result of a stronger community involvement and participation in forest plantation and other development activities.

The involvement and participation of local communities as emerging from the experiences noted in the case studies, calls for the integration of community organising as a major component in forest plantation management. A well-organised community leads to an informed community that can actively participate in the development process. It has been observed in the case studies that people's perceived interests in the development of plantations is fundamental to ensuring their long term participation. Although industrial forest plantations by themselves can not totally tackle issues on poverty alleviation in upland communities, active community participation, and government support in terms of favourable policies, social sustainability could be attained with this forest management strategy.

Economic Sustainability

This research shows that the development of industrial forest plantations complement some of the economic functions of natural forests. Although industrial forest plantations cannot substitute for natural forests in terms of overall economic function, the development of alternative sources of timber could help achieve the country's economic goals. With the continuous depletion of the country's natural forests along with the increasing population and the projected increase in the demand for wood, the economic role of industrial forest plantations as a sustainable source of timber is likely to be emphasised. Given the availability of suitable areas for forest plantation development and good management practices that allow plantations to attain a sustainable "plant-harvest-plant" cycle, industrial forest plantations appear to be economically sustainable. They could maintain a steady flow of timber products without

reducing the natural capital from the natural forest and could sustain the other benefits that may be derived from the utilisation of forest plantations. But, long-term economic sustainability of industrial forest plantations also depends on a range of factors, such as: availability of investments, and the presence of a favourable policy climate for investment to encourage private sector investment in plantation forestry, etc.

The experience in the Philippines as shown in this study also indicates that the government alone does not have sufficient capacity to develop and manage large-scale industrial forest plantations. Hence, private sector and corporate participants in forest plantations are being encouraged. However, one of the major apprehensions aired by the corporate investors in plantation forestry is the fragmented and unstable policy framework of the government on industrial forest plantation development. There is therefore a need to introduce reforms to the existing policy framework if industrial forest plantation as a forest management strategy is to be economically sustainable. For instance, there is a need for an appropriate policy that would rationalise wood processing through plant modernisation and retooling for high-value added wood products that requires raw materials that matches the available supplies of forest plantations rather than from natural forests. This would ensure the long-term viability of industrial forest plantations as part of the raw material base making it economically sustainable.

Environmental Sustainability

It is has been shown by the case studies that the development of industrial forest plantations in the Philippine context emphasises the economic goal. But, in the pursuit of sustainable development the economic and environmental goals are reciprocal goals. Such interdependence in these development goals, which are said to be mutually reinforcing, has been shown in the study.

The development of industrial forest plantations does not substitute for natural forests, it can not replicate the environmental functions of natural forests. Industrial forest plantations however, have usually been associated with environmental benefits such as control of soil erosion, increase in nutrient

cycling through organic litter decomposition within the plantations, and creating a habitat for some animals, etc. Moreover, the timber production function of industrial forest plantations reduces the exploitation pressure from the natural forest. If there is sufficient timber to be harvested from plantations there would be no need to log natural forest to the same extent as when there are no industrial forest plantations. Hence, the fact now seems to be accepted that industrial forest plantations have great benefits for the retention of natural forests.

Some environmentalists often regard industrial forest plantations as vast boring monoculture plantations that reduce biodiversity. This could only be true if it involves plantations, which are replacing indigenous natural forests. The case studies have shown that industrial forest plantations are not detrimental to the protection of biodiversity. In BFI, ALSONS, and PTFI, the plantations are being developed on denuded areas usually grasslands, which have been rendered unproductive by repeated exploitation and are mostly prone to severe erosion. This helps restore vegetation cover on these denuded areas which enhances their environmental rehabilitation. The case studies likewise reveal that through the assisted natural regeneration (ANR) activities of industrial forest plantations, the remaining patches of natural forests within the plantation areas are protected and can be further developed. These patches of small natural forests usually serve as habitats for indigenous species. Hence, industrial forest plantations are shown to protect biodiversity in the plantation areas as well as in adjoining natural forests.

7.1.3 Recognition of Indigenous Rights

Whilst industrial forest plantation could be a sustainable forest management strategy, current policy settings indicate that there are major conditions that need to be met for the strategy to be sustainable. The definition of property rights is important condition that needs focus in the development of industrial forest plantation policies. The property rights issues should focus on rights of indigenous people living in the uplands. This sector in the Philippine society is the most affected sector in any upland development programme.

The case studies show that previous forest management strategies made no significant progress in recognising the rights of indigenous cultural communities over their land. Based on this research, it seems that there have not been forest management policies in the past that has been culturally significant to the indigenous cultural communities. The indigenous people's aspirations for their land includes recognition of their property rights, as well as protecting and developing the land to provide and maintain the basis for their social and cultural existence. This sector of Philippine society received minimal attention in terms of policy, which was one of the factors contributing to the failure of programme and policy implementation in the past.

It can be seen from the case studies that strategies to integrate and define property rights with upland development programmes would seriously affect the success and sustainability of any forest management policy. Existing forest management strategies are yet to consider how land tenure in the uplands involving indigenous people would be harmonised in relation to the contractual tenure granted to developers of industrial forest plantations. While the new legislative solution provided under Republic Act 8371 addresses the issue, the historical aversion against acknowledging the legitimacy of ancestral land claims of indigenous people remains evident. The integration of all upland-oriented forest management policies through this piece of legislation would spell out a better chance of success in implementing a better land tenure policy in the uplands. This could provide an appropriate basis in harmonising the traditional tenure of indigenous cultural communities with the contractual tenurial lease issued by the government to industrial forest plantation developers making it consistent with the goals of sustainable development.

The approaches and strategies being employed by industrial forest plantation developers to the problem remain a temporary solution, which is yet to be institutionalised through policies and forest management regulations. As long as this major issue remains unresolved there would be a continuing constraint in the search for equity and sustainability in industrial forest plantations.

7.1.4. Institutional and Policy Adjustments

This study reveals that industrial forest plantations at its present status can be a sustainable forest management strategy. However the attainment of social, economic, and environmental goals of this forest management strategy is strongly dependent on the policy processes, which give rise to the actual consequences on the ground. There is a need to introduce reforms in the overall institutional processes and policy framework of the DENR in particular, to attain the desired outcomes of industrial forest plantations. For instance, the DENR should examine the existing policy framework and identify processes, which link policy development efforts to realities on the ground. This is necessary to provide a stronger and a more integrated basis for development of policies that is more workable in terms of implementation and in dealing with the technical, institutional, and local political context of the affected communities. The emerging experiences from the existing industrial forest plantations should be considered in development of future policy strategies for improving the present forest management strategy.

It can be concluded from this research study that industrial forest plantations could only be sustainable if:

- *The land made available for forest plantations are free from land tenure conflicts and other land security related issues;*
- *In the process of development no land suitable for basic economic activities of the villagers/communities are taken, such as areas appropriate for agricultural or food production purposes;*
- *The development of industrial forest plantations should not ignore the culture and the rights of indigenous cultural communities;*
- *The development of plantations should not have negative impact on natural forests within and nearby the plantation areas.*

If the above conditions are met and development of industrial forest plantation policy is designed to consider the "bottom-up" perspective where local needs, community values, and indigenous rights are consistent with the overall national goals of sustainable development, then sustainable and equitable forestry programmes are achievable.

7.2 RECOMMENDATIONS

Whilst this thesis is dealing with a dynamic and evolving situation in sustainable forest management in the Philippines, some recommendations may be drawn from the results of this study that can provide range of approaches which can be integrated to strengthen the present industrial forest plantations strategy.

7.2.1 Collaborative Management

The increasing awareness on the recognition of the rights of indigenous people (IP) and the lack of adequate institutional mechanisms that are culturally significant to the indigenous people highlights the need to strengthen and improve industrial forest plantations as a forest management strategy. To attain the objective of promoting efficiency and social equity in the management of forest resources in line with sustainable development principles, a socially and culturally feasible approach that can be integrated in industrial forest plantation development is the concept of 'collaborative management'.

Collaborative management is a process whereby the stakeholders are allocated management rights to a particular resource. The 'collaborative management' concept as a process allows the indigenous people to have direct participation in the management of industrial forest plantations. Given that most of the areas being developed into forest plantations are within ancestral domains of indigenous people, the integration of this concept in the development process can be socially and culturally feasible. The concept of collaborative management has the potential of strengthening sustainable management of industrial forest plantations. It can promote greater participation and responsibility among the indigenous people over the management of common resources within the plantation areas being part of their ancestral domains. Through this system, the indigenous people are given opportunity to participate in the development process and can integrate indigenous traditional knowledge and values in the management of resources within the area.

7.2.2 Community-Based Forest Management Approaches

The condition for a sustainable economy requires a socially equitable system of resource management and utilisation. The results of this research study show that there have been tangible indicators of the contributions of industrial forest plantations in promoting socio-economic development among the villages and communities in the uplands. However at this stage, they are not sufficient indicators of long term economic sustainability for the local communities and indigenous people. There is a need to encourage and further strengthen the socio-economic approaches of industrial forest plantations to ensure long term sustainable income, food supply, as well as economic activities for the communities.

The concept of 'community-based forest management' can be encouraged and formally introduced as an integral component of industrial forest plantations to promote and further strengthen socio-economic development. The important aspect of community-based forest management is the building and strengthening of local institutional capacity among the villagers to carry out basic resource management functions within their communities.

The community-based forest management approach can introduce the agroforestry system, which can further strengthen the socio-economic functions in community resource management. The agroforestry system is a sustainable land management system that increases the overall productivity of the land by combining the production of crops and forest trees with animals and livestock on the same unit of land. This system of land management applies land management practices that are compatible to the cultural practices of the indigenous people.

The results of the case studies show that there are manifestations of acceptance and support by the villagers in the development of industrial forest plantations. Such community attitude indicates willingness on the part of the local communities to participate in the development process given the

appropriate recognition of their authority to take responsibilities for managing their own resources. The successful adoption of community-based forest management as an integral component of industrial forest plantations can provide opportunities for the communities for future partnerships and joint venture forest plantation development with private investors. Given adequate capacity to manage their own resources they can also develop their own community forest plantations that can be a source of future income for the people in the villages and communities.

7.2.4 Role of the National Commission for Indigenous People (NCIP)

The emerging role of the National Commission for Indigenous Peoples (NCIP) is very critical in promoting policies in forest management that can be culturally significant to the indigenous people such as industrial forest plantations. Given its functions as the primary agency of the government mandated to protect and promote the interests of indigenous peoples, the NCIP should take an active role in promoting the integration of indigenous peoples' concerns in relevant forest management policies that affect the interests of indigenous peoples in general. A basic programme could be, the encouragement and promotion of research on the various aspects concerning the different indigenous tribes in the country in relation to forest management. The NCIP should co-ordinate closely with the Department of Environment and Natural Resources (DENR) and participate in the development and formulation of policies in forest management that can be culturally and socially significant to the indigenous people. The NCIP, being a newly created agency of the government to protect and promote indigenous peoples' rights should also draw insights from the experiences of countries like New Zealand, who have been successful in dealing with issues related to customary lands and rights of indigenous people. These experiences could provide a good basis for developing more responsive programmes, policies, and activities directed towards promoting the interests of indigenous people in the Philippines which are socially and culturally significant to them.

Finally, the results of this study can lead to the conclusion that the long-term economic, social, and environmental sustainability of industrial forest

plantations are not only dependent on resolving the technical, institutional, and management issues. It is equally important to address the social equity issues involving the rights of indigenous people, as well as the policy issues that give rise to the actual consequences on the ground. The factors identified in this research as constraints towards the achievement of sustainability in industrial forest plantations, and the proposed policy framework, can serve as basis in addressing the present inadequacies and in improving the existing institutional and policy framework, that could contribute to industrial forest plantations as a sustainable forest management strategy.

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APPENDIX "1"

DISTRIBUTION OF CERTIFICATES OF ANCESTRAL DOMAIN CLAIMS (CADC) ISSUED BY REGION

(As of 6 June 1998)

REGION	PROVINCES	TRIBES	TOTAL AREA (Hectares)
CAR	Kalinga Abra Ifugao Benguet Mt. Province Apayao	Kalinga, Gubang, Mabaca, Banao, Kalanguya, Ibaloi, Kankana-ey, Balangao, Kadaclan, Isneg, Iowak, Bago, Balatoc, Welwang, Masadiit, Karao	578,366 hectares
Region 1	Pangasinan Ilocos Sur	Ikalahan, Kalanguya, Iwak, Kankana-ey	33,998 hectares
Region 2	Quirino Nueva Vizcaya Isabela Cagayan	Bugkalot, Agta, Kalanguya, Ikalahan, Ayta, Isneg, Ibanag, Dumagat	362,221 hectares
Region 3	Zambales Nueva Ecija Tarlac	Ayta, Kalanguya, Dumagat, Abelling	96,658 hectares
Region 4	Oriental Mindoro Occid. Mindoro Palawan Quezon Aurora	Iraya Mangyan, Alangan Mangyan, Tagbanua,'Batak, Tadyawan Mangyan, Palwan, Dumagat, Tao Buhid	382,893 hectares
Region 5	Sorsogon Camarines Sur Camarines Norte	Agta-cimarron, agta-tabangnon, agta-itom, kabihug	94,362 hectares

REGION	PROVINCES	TRIBES	TOTAL AREA (Hectares)
Region 6	Negros Occidental Aklan Iloilo Capiz	Magahat-Bukidnon, Sulodnon, Bukidnon-Aklanon, Sulod-Bukidnon, Ati, Bukidnon-Karolanos	22,257 hectares
Region 7	Negros Oriental Bohol	Eskaya, Ati, Bukidnon	4,373 hectares
Region 9	Basilan Zamboanga del Norte Zamboanga del Sur	Samal, Subanen, Yakan, Kalibugan	72,179 hectares
Region 10	Bukidnon Misamis Oriental Misamis Occidental Camiguin	Matigsalog-Manobo, Higaonon, Bukidnon-Umayamnon, Subanen, Manobo-Higaonon, Bukidnon, Manobo, Bukidnon-Hogaonon, Bukidnon-Pulangiyen, Kamigin	184,178 hectares
Region 11	South Cotabato Davao del Sur Sarangani Davao Oriental Davao del Norte	T'boli, Ubo, B'laan, Ata-manobo, Tagacaolo, Mandaya, Tagacaolo-Kalagan	398,573 hectares

REGION	PROVINCES	TRIBES	TOTAL AREA (Hectares)
Region 12	Cotabato Sultan Kudarat	Manobo, Manobo-Aromanon, T'boli, B'laan, Tiruray, Buayanon, Maguindanaon	52,715 hectares
Region 13	Surigao del Sur Agusan del Norte Agusan del Sur	Pakuan-Manobo, Higaonon, Mamanua, Manobo, Banua-on	263,262 hectares
TOTAL AREA **TOTAL CADCs Issued**			**2,546,035 HECTARES** **181**

Source: Indigenous Cultural Affairs Division, Special Concerns Office, DENR 1998.

APPENDIX "2"

Qtn/3rev/1105

SURVEY OF LAND TENURE SECURITY AND INDIGENOUS PEOPLE'S RIGHTS AND SOCIO-ECONOMIC IMPACT OF INDUSTRIAL FOREST PLANTATIONS

PART I . ***PERSONAL DETAILS***

1. GENDER : Male ( ) Female ( )

2. AGE GROUP :

25 Years and below --------- ( )
26 Years – 35 Years --------- ( )
36 Years – 45 Years --------- ( )
46 Years – 55 Years --------- ( )
56 Years – 65 Years --------- ( )
Above 65 Years old --------- ( )

3. WHAT IS YOUR HIGHEST EDUCATIONAL ATTAINMENT?

Elementary ------- ( )
High School ------- ( )
College ---------- ( )
Vocational --------- ( )
Postgraduate ------ ( )
Others (please specify) _____

4. ARE YOU HEAD OF A FAMILY?

( ) Yes ( ) No

If Yes, how many children or dependents do you have ? _____ *Who are the others staying in your household?* _____

5. WHAT ETHNIC GROUP DO YOU BELONG? _____

6. WHAT IS YOUR FAMILY'S MAIN SOURCE OF LIVELIHOOD?

(Please specify) _____

7. WHAT ARE YOUR FAMILY'S OTHER SOURCES OF LIVELIHOOD?

(Please specify) (a)_____

(b) _____

(c) _____

8. WHAT IS YOUR FAMILY'S GROSS ANNUAL INCOME?

( ) Less than P25,000
( ) P26,000 – P40,000
( ) P41,000 – P60,000
( ) P61,000 – P80,000
( ) P81,000 – P100,000
( ) Above P100,000

PART II. ***LAND TENURE AND LAND SECURITY***

9. HOW DO YOU DESCRIBE YOUR STATUS IN THIS AREA?

( ) Original Settler ( ) Descendant of an original settler

( ) Migrant

If you are a migrant, what is your reason for migrating to this area?

_____

_____

From where and when did you migrate to this place?

_____

10. AS A RESOURCE, WHAT IS YOUR CONCEPT OF LAND IN TERMS OF ITS OWNERSHIP AND ITS USE? *(Question will be further explained to participant)*

_____

_____

_____

11. DO YOU OWN LAND WITHIN THIS AREA?

( ) Yes ( ) No

If Yes, how many hectares is your land holding?

(Please specify) _____

12. HOW DID YOU ACQUIRE THE LAND?

_____

_____

13. DO YOU REGARD LEGAL TITLES OR LEGAL INSTRUMENTS AS IMPORTANT IN THE POSSESSION OR OWNERSHIP OF LAND?

( ) Yes ( ) No

14. DO YOU HAVE TENURIAL SECURITY IN THE OWNERSHIP AND POSSESSION OF YOUR LAND?

_____ *If yes, what is the nature of the tenurial instrument?*

_____

How long did it take you to secure such title or legal instrument?

_____

_____

15. WHAT IS YOUR VIEW ON THE GOVERNMENT'S POLICY TO RECOGNIZE THE RIGHTS OF INDIGENOUS CULTURAL COMMUNITIES (ICCs) TO THEIR ANCESTRAL DOMAINS AND ANCESTRAL LANDS?

_____

_____

_____

16. *WHAT FORMS OR SYSTEMS OF RECOGNITION ARE THE RIGHTS OF THE INDIGENOUS PEOPLE or INDIGENOUS CULTURAL COMMUNITY ACKNOWLEDGED BY OTHER SECTORS IN THE COMMUNITY?*

_____

_____

_____

_____

—

_____

PART III. <u>LARGE-SCALE INDUSTRIAL FOREST PLANTATIONS</u>

17. WHAT ARE THE ONGOING PROGRAMS ON FORESTRY AND UPLAND DEVELOPMENT THAT YOU ARE AWARE OF IN THIS AREA?

_____

_____

_____

18. DO YOU FEEL THAT THESE DIFFERENT PROGRAMS IN THE UPLAND AREAS, SUCH AS THE DEVELOPMENT OF LARGE SCALE FOREST PLANTATIONS THREATEN YOUR POSSESSION TO YOUR LAND?

( ) Yes ( ) No

19. DO YOU FAVOR THE DEVELOPMENT OF LARGE SCALE INDUSTRIAL FOREST PLANTATIONS IN THIS AREA?

( ) Yes ( ) No

20. WERE THERE CONSULTATIONS/NEGOTIATIONS WITH THE PEOPLE OR COMMUNITIES BEFORE THE ACTUAL DEVELOPMENT TOOK PLACE?

( ) Yes ( ) No

Were you told on how the members of the community can be involved in the actual development of these plantations?

( ) Yes ( ) No

21. HOW WAS THE CONSULTATION CARRIED OUT AND HOW WERE THE PEOPLE OR GROUPS OF PEOPLE INVOLVED?

_____

_____

_____

_____

_____

22. HOW ARE THE LANDS OWNED BY THE INDIGENOUS PEOPLE OR INDIGENOUS CULTURAL COMMUNITIES TREATED BY THE LAND DEVELOPERS?

_____

_____

_____

_____

23. WAS THERE ANY CASE OF ANYONE BEING EJECTED FROM HIS LAND TO GIVE WAY FOR THE DEVELOPMENT OF PLANTATIONS?

( ) Yes ( ) No

If Yes, was there any offer of compensation or alternative for relocation? ____ Yes / ___ No

24. WHAT WERE THE FORMS OF COMPENSATION FOR THOSE WHO HAVE BEEN EJECTED FROM THEIR LANDS? (Please specify)

a. _____

b. _____

c. _____

25. HOW LONG DID IT TAKE FOR THEM TO WAIT BEFORE THEY RECEIVED FULL COMPENSATION? (Please specify)_____

26. DO YOU KNOW OF ANY CASE WHERE LAND OWNED BY AN INDIVIDUAL OR GROUP OF INDIVIDUALS WAS USED FOR PLANTATIONS?

( ) Yes ( ) No

If Yes, was this covered by any form of written agreement? ___ Yes ___ No

27. HOW DID THE DEVELOPMENT OF INDUSTRIAL FOREST PLANTATIONS IN THIS AREA AFFECT YOUR LIVELIHOOD?

_____

_____

_____

_____

28. WHAT SHORT AND LONG TERM ECONOMIC BENEFITS DO YOU EXPECT FROM THE DEVELOPMENT OF FOREST PLANTATIONS IN THIS AREA? *(Please specify)*

_____

_____

_____

PART IV. ***SOCIO-ECONOMIC ASPECT***

29. *ASIDE FROM EMPLOYMENT* WHAT OTHER FORMS OF LIVELIHOOD OPPORTUNITIES WERE INTRODUCED FOLLOWING THE ENTRY OF INDUSTRIAL FOREST PLANTATION DEVELOPMENT?

_____

_____

_____

30. BASED ON YOUR PERSONAL ASSESSMENT, DO YOU THINK THERE WAS A LOSS OF ECONOMIC BASE SERVING AGRICULTURAL PURPOSES? (i.e. crops, medicinal plants, wood for fuel, game hunting, etc.)

( ) Yes ( ) No

If Yes, can you briefly describe the economic loss?

_____

31. *WHAT DO YOU THINK ARE THE EFFECTS BROUGHT ABOUT BY THE DEVELOPMENT OF INDUSTRIAL FOREST PLANTATIONS ON THE* ***LIFESTYLES AND CULTURE*** *OF THE PEOPLE IN THE ENTIRE COMMUNITY AS A WHOLE? Please describe briefly the changes if there was any?*

Can you say that the people at the present stage have gained economically from the development of forest plantations? _____ *(Yes)* _____ *(No)*

32. GIVEN A CHOICE, WHAT DO YOU THINK WOULD BE BETTER ALTERNATIVES IN DEVELOPING UPLAND AREAS THAT CAN ENHANCE THE ECONOMIC WELL-BEING OF THE UPLAND COMMUNITIES?

33. HOW DO THE MANAGEMENT OF THESE FOREST PLANTATIONS RELATE TO THE PEOPLE AND TO THE COMMUNITY IN GENERAL? (The question w*ill be further explained to the participant)*

34. ARE THERE COMMUNITY ORGANIZATIONS THAT BRING THE PEOPLE'S CONCERNS TO THE MANAGEMENT OF THESE PLANTATIONS?

( ) Yes ( ) No

How can these organizations benefit the people or the community in general?

_____

_____

_____

_____

THANK YOU VERY MUCH for taking part in the survey, your assistance is greatly appreciated.

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APPENDIX "3"

MASSEY UNIVERSITY
Department of Resource and Environmental Planning
Palmerston North, New Zealand

09 March 1998

Hon. CARLOS O. FORTICH
Governor, Province of Bukidnon
and
Chairman, Board of Directors
Bukidnon Forests Incorporated
Malaybalay, Bukidnon
PHILIPPINES

Dear Gov. Fortich,

I am pursuing a postgraduate programme in Resource and Environmental Planning at Massey University in Palmerston North, New Zealand, wherein I am currently doing a thesis on the "Sustainability of Industrial Forest Plantations in the Philippines." This topic which deals with an issue that has utmost significance in addressing the wood supply and forest management concerns in the country today, requires me to undertake case studies of some existing Industrial Forest Plantations in Northern and Central Mindanao. This is to enable me to analyze existing institutional processes as well as social conditions which may serve as major factors that might have significant effects on the long term sustainability of Industrial Forest Plantations in the Philippines.

As such, from a range of existing industrial forest plantations in Mindanao, I have selected the ***Bukidnon Forests Incorporated*** as one of the proposed case studies for this particular research. As a case study, I will be conducting a field research to collect data on your different forest plantation management strategies, interview key people or individuals in your organization, conduct visits to your plantation areas, and interview local people and officials who are residents within the areas of your plantation. It is also emphasized in this regard that any data or information that may be generated, obtained, or collected in this particular study will be used primarily for academic purposes and not for any other purpose in order not to jeopardise your operations as well as to protect the interests of your firm/company.

In view of the foregoing, may I respectfully request for your permission and approval to use the ***Bukidnon Forests Incorporated*** as a case study for this particular research. Should you need more information or details I would be glad to discuss with you or your duly authorized representative the research and the procedures for carrying out the case study. I can be contacted through the following address:

ALLAN L. GONZALES
Department of Resource and Environmental Planning
Massey University, Private Bag 11222
Palmerston North, New Zealand
or
Tararua Flat 4-20, Moginie Village
Massey University, Private Bag 11222
Palmerston North, New Zealand
Phone Number: (64)6-354-1503
Email Address: *A.L.Gonzales@massey.ac.nz*

Thank you.

Sincerely yours,

ALLAN L. GONZALES

Noted:

Dr. CLAIRE FREEMAN
Thesis Supervisor

MASSEY UNIVERSITY
Department of Resource and Environmental Planning
Palmerston North, New Zealand

09 March 1998

Mr. MAXIMO C. LOZANO
Project Director
Reforestation and Agroforestry
C. ALCANTARA & SONS, Inc.
Km. 7, Lanang, Davao City 8000
PHILIPPINES

Dear Mr. Lozano,

I am pursuing a postgraduate programme in Resource and Environmental Planning at Massey University in Palmerston North, New Zealand, wherein I am currently doing a thesis on the "Sustainability of Industrial Forest Plantations in the Philippines." This topic which deals with an issue that has utmost significance in addressing the wood supply and forest management concerns in the country today, requires me to undertake case studies of some existing Industrial Forest Plantations in Northern and Central Mindanao. This is to enable me to analyze existing institutional processes as well as social conditions which may serve as major factors that might have significant effects on the long term sustainability of Industrial Forest Plantations in the Philippines.

As such, from a range of existing industrial forest plantations in Mindanao, I have selected the ***C. Alcantara & Sons, Inc.*** as one of the proposed case studies for this particular research. As a case study, I will be conducting a field research to collect data on your different forest plantation management strategies, interview key people or individuals in your organization, conduct visits to your plantation areas, and interview local people and officials who are residents within the areas of your plantation. It is also emphasized in this regard that any data or information that may be generated, obtained, or collected in this particular study will be used primarily for academic purposes and not for any other purpose in order not to jeopardize your operations as well as to protect the interests of your firm/company.

In view of the foregoing, may I respectfully request for your permission and approval to use the ***C. Alcantara & Sons, Inc.*** as a case study for this particular research. Should you need more information or details I would be glad to discuss with you or your duly authorized representative the research and the procedures for carrying out the case study. I can be contacted through the following address:

ALLAN L. GONZALES
Department of Resource and Environmental Planning
Massey University, Private Bag 11222
Palmerston North, New Zealand

or
Tararua Flat 4-20, Moginie Village
Massey University, Private Bag 11222
Palmerston North, New Zealand
Phone Number: (64)6-354-1503 ; Fax No. (064)6-354-1503
Email Address: *A.L.Gonzales@massey.ac.nz*

* Communications may also be sent through (Philippine Contact Address):

ALLAN L. GONZALES
c/o Bukidnon Forests Incorporated
BFI Cpd., Sumpong
Malaybalay, Bukidnon 8700
Phone Nos.: (063)88-813-2037; (063)88-841-2115
Fax No. : (063)88-841-2115
Email Address: *bfibuk@cdo.webquest.com*

Thank you.

Sincerely yours,

ALLAN L. GONZALES

Noted:

Dr. CLAIRE FREEMAN
Thesis Supervisor

MASSEY UNIVERSITY
Department of Resource and Environmental Planning
Palmerston North, New Zealand

09 March 1998

Mr. LUTGARDO LOPEZ
General Manager
Provident Tree Farms, Inc. (PTFI)
Felix Y. Manalo St.,
Punta, Sta. Ana, Manila
PHILIPPINES

Dear Mr. Lopez,

I am pursuing a postgraduate programme in Resource and Environmental Planning at Massey University in Palmerston North, New Zealand, wherein I am currently doing a thesis on the "Sustainability of Industrial Forest Plantations in the Philippines." This topic which deals with an issue that has utmost significance in addressing the wood supply and forest management concerns in the country today, requires me to undertake case studies of some existing Industrial Forest Plantations in Northern and Central Mindanao. This is to enable me to analyze existing institutional processes as well as social conditions which may serve as major factors that might have significant effects on the long term sustainability of Industrial Forest Plantations in the Philippines.

As such, from a range of existing industrial forest plantations in Mindanao, I have selected the ***Provident Tree Farms, Inc.*** as one of the proposed case studies for this particular research. As a case study, I will be conducting a field research to collect data on your different forest plantation management strategies, interview key people or individuals in your organization, conduct visits to your plantation areas, and interview local people and officials who are residents within the areas of your plantation. It is also emphasized in this regard that any data or information that may be generated, obtained, or collected in this particular study will be used primarily for academic purposes and not for any other purpose in order not to jeopardize your operations as well as to protect the interests of your firm/company.

In view of the foregoing, may I respectfully request for your permission and approval to use the ***Provident Tree Farms, Inc.*** as a case study for this particular research. Should you need more information or details I would be glad to discuss with you or your duly authorized representative the research and the procedures for carrying out the case study. I can be contacted through the following address:

ALLAN L. GONZALES
Department of Resource and Environmental Planning
Massey University, Private Bag 11222

Palmerston North, New Zealand
or
Tararua Flat 4-20, Moginie Village
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c/o Bukidnon Forests Incorporated
BFI Cpd., Sumpong
Malaybalay, Bukidnon 8700
Phone Nos.: (063)88-813-2037; (063)88-841-2115
Fax No. : (063)88-841-2115
Email Address: *bfibuk@cdo.webquest.com*

Thank you.

Sincerely yours,

ALLAN L. GONZALES

Noted:

Dr. CLAIRE FREEMAN
Thesis Supervisor

cc:

-Mr. Roberto Justo
Forestry Manager
912 San Vicente St.
Butuan City

-Dr. Cesar C. Nuevo
Manager, Forest Dev. Dept.
Zillovia, Talacogon,
Agusan del Sur