

**PARTICIPATORY FOREST RESOURCE MANAGEMENT FOR DISTRICT
DEVELOPMENT. A CASE STUDY OF THE ASSIN-FOSU DISTRICT**

**A Thesis submitted to the Board of Postgraduate Studies
University of Science and Technology, Kumasi in
Partial fulfillment of the requirements for the
Degree of Master of Science in Development
Planning and Management**

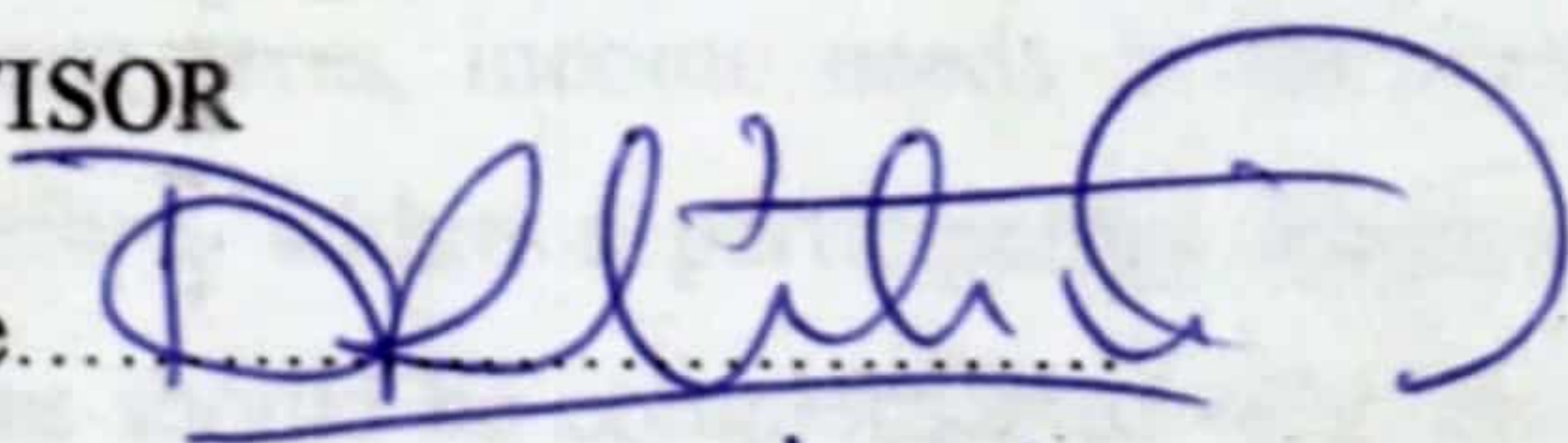
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ABSTRACT

After several decades of excluding communities from the decisions concerning their local environments and the economic benefits derived from their exploitation, forestry institutions at the International and National levels have come to realise the need for involving local populations in protecting and managing forest resources.

In developing countries around the world where participatory management practices have been introduced, rural communities have shown willingness and potential to collaborate in forest management, mainly because the conditions of the surrounding forests are closely related to their livelihoods. However, under the harsh economic conditions affecting especially the rural areas, local populations find difficulties in allocating their limited resources for forest management, when the same resources have to be allocated to other activities such as agriculture, cattle rearing or trade upon which their livelihoods depend. Therefore, in order to promote involvement of communities in forest management, it becomes necessary to create a situation where their participation derives substantial economic benefits to sustain or significantly complement their livelihoods.

This research focuses on a study area within the High Forest Zone of Ghana, where pilot projects for participatory forest management are carried out. Discussions held with the community members directly involved in the projects, showed that although there is a desire by the communities to manage the forest resource, lack of financial benefits derived from such activities is a serious disincentive for participation.

Although timber plantations can generate substantial revenue for local populations in the long term, income needs in the immediate and short term must be satisfied. Therefore, within a participatory forest management scheme, plantation of timber species should be complemented with the production and commercialisation of non-timber forest products and other small-scale forest-based enterprises, which in the course of this work are referred to as "livelihood projects".

There is awareness from the local population on what activities should be undertaken under the "livelihood projects". However, institutional constraints limit the technical, managerial and financial support available to the projects. The Collaborative Forest Management Unit (CFMU), which is the body responsible for the promotion and operationalisation of the Participatory Forest Management Program in Ghana, limits its participation to the provision of technical support related to forestry.

The research shows the different areas and kind of support that the study site projects require in order to operate on sustainable basis. The proposed interventions focus on the institutional, economic, organisational, human and physical conditions, and place emphasis on the role that the CFMU can play in providing integrated solutions to the projects by providing the technical support related to the livelihood projects, and facilitating access to further support by linking the projects with other relevant institutions.

Making these pilot projects a success story will be essential for the CFMU to implement Participatory Forest Management Programs at a broader level.

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LIST OF ABBREVIATIONS

CFC	Community Forest Committee
CFMP	Collaborative Forest Management Program
CFMU	Collaborative Forest Management Unit
DA	District Assembly
DFID	Department for International Development (UK)
FAO	(United Nations) Food and Agriculture Organization.
FD	Forestry Department of Ghana
FORIG	Forestry Research Institute of Ghana
HFZ	High Forest Zone
ITTO	International Tropical Timber Organization
NGOs	Non Governmental Organizations
NTFPs	Non-Timber Forest Products
ODA	Overseas Development Agency (Now DFID)
PFM	Participatory Forest Management
PFMP	Participatory Forest Management Program

CHAPTER 1. INTRODUCTION

1. Introduction to the Problem

In developing countries where financial and technological resources are scarce, natural resources are seen as the most important means to generate income and achieve economic development at the national level; they can be considered as the major assets of the country. This is also true at regional, district or community level, natural resource management is a crucial aspect for development at all levels. However, at the community level, resource management takes a broader dimension, due to the fact that it is a source of products on which livelihoods of the surrounding settlements are highly dependent.

Most of the time, the economically important natural resources are controlled and exploited by National Governments or private companies, as in the case of oil, natural gas and all minerals underground in Mexico; and, gold and timber resources in Ghana to quote just two examples. These practices provide scanty benefits to the district and community level, if at all. Usually local population is employed in the exploitation of those natural resources receiving a very low wage, or else, external agents pay small royalties to local authorities which at the end may not necessarily benefit the inhabitants of the community. Furthermore, the same practices undermine the potentials of the communities to take advantage of the resources surrounding them.

This has been the case of forest resource management, where traditional forestry programs designed at the national level focus either on exploitation for industrial and commercial use, or on conservation programs that restrict the access of community members to the forests.

The results derived from such strategies have shown serious negative impacts on economic, environmental and social sustainability. It is only recently, after various successful experiences in experimental projects, that the idea of community participation has been seen as a fundamental aspect in ensuring a more effective forest management.

Apart from the benefits that community participation brings in terms of the conservation and monitoring to the forest resource, participatory management programs have a high potential to bring significant improvements on the livelihoods of the population at the local level when implemented effectively under the right conditions.

Therefore, the main idea of this paper is to come up with strategies to maximise the economic benefits of Participatory Forest Management Program to the participating communities.

To get a practical view, the research was carried out in two of the pilot sites of the Collaborative Forest Management Program for Off-reserve forests in Ghana; the Adwenase and Namtee dedicated forests in the Assin-Fosu District.

1.2. Statement of the Problem

Participation is not an automatic and permanent process. People need motivation to undertake and sustain efforts directed towards one particular objective. In this case, involvement of community is required for an effective forest management. But, if their participation is not yielding improvement in their livelihoods, it will decline until all support is finally withdrawn.

The problem is stated as:

Most Participatory forest management programs have failed to derive substantial benefits that attract and sustain the interest of communities to participate.

Without community participation, large areas of forest would be open for encroachment and further deforestation, due to the limited capacity of the Forestry Departments in developing countries to control this activities on their own.

1.3 Research Goal and Objectives

The main goal of the research is to identify strategies to help communities increase the sum total of economic benefits derived from their participation in forest management, and the conditions required to implement them.

Specifically, the objectives of the research are the following:

- To identify the conditions required by the projects to operate on sustainable basis.
- To assess the financial impact that forest management has brought to the communities owning the dedicated forests.
- To identify activities that can be undertaken within the forest and have the potential to become important sources of income for the project.
- To define the institutional and organisational requirements to undertake those activities and ensure a broad-base distribution of their benefits.

1.4 Justification of the Objectives

Within the framework of decentralisation, the Forestry Commission in Ghana is involving communities to promote efficient forest management.

The involvement of the community in the process has a number of positive aspects on the effective and efficient management of forest resources. However, for community members to participate, there must be a tangible benefit derived from their participation that motivates them to contribute with their already limited resources.

In a capitalist system, no participation in benefits will be allowed unless quantifiable inputs are provided. Therefore, the capacity of the community will determine the level of participation in the economic benefits derived from forest management and exploitation. In order to be sustainable, the community must be organised under cohesive, representative, participatory and accountable structures with specific roles and procedures, capable to produce its own financial resources and ensure an equitable distribution of benefits and responsibilities.

It is also necessary to analyse which elements could be included in the forest management program to facilitate the implementation of activities addressed to improve the financial situation of the project and its participants.

1.5 Research Questions

Based on the above mentioned objectives, the following questions were formulated to serve as reference throughout the research:

1. What are the aspirations and interest of the community to participate in the project?
2. How do the benefits received up to this moment affect the level of motivation?
3. What strategies can be followed in order to maximise the benefits derived from the project and thus increase the level of motivation?
4. Who can assist in the implementation of such strategies, and how?

1.6 Underlying Assumptions

The assumptions underlying the research are as follows:

1. Participatory forest management programs have a high risk to fail if they are not capable to provide participants with benefits that supersede those derived from their traditional activities.
2. The more attractive benefits appear, the more interest community will have to participate bearing the costs associated with it according to their capabilities.
3. Sustained participation depends on sustained generation of benefits

1.7 Scope and Limitations

- The research is limited to analyse and increase the benefits derived from the Participatory Forest Management Program to communities. It will not attempt to analyse all the benefits that may reach the community derived from other activities in the forest sector. Or the benefits that the program might bring to other interest groups apart from participant communities.
- The research will not go into economic and technological analysis of the alternatives identified as potential sources of income. "Effective economic valuation is a complicated and complex task. Doing it right can provide much useful information for decision-making. Doing it wrong can be worse for decision-making than not doing it at all" (Gregersen et. al., 1995). The limited experience of the author

n economic analysis tools and the time constraints will not allow going into these analyses. However, they must be part of a more in-depth study.

The research will place emphasis on direct economic benefits, without quantifying the indirect and non-tangible benefits of forest management.

The requirements for implementation of proposals will be focused in the institutional and organisational setting.

The research will be carried out in what is classified by the Forestry Department in Ghana as an Off-reserve forest patch. In forest reserves, there are more restrictions, imposed by the Forestry Commission, in regards to the activities that can be undertaken within them. Therefore, the proposals will be considered in an Off-reserve forest context, although some of them can also be valid for forest reserves.

1.8 Research Design and Procedures

1.8.1 Analytical Framework

In the course of the research, the following aspects were looked at

- Elements of sustainability and the role of economics in participatory forest management projects.
- Project participants' needs and aspirations
- Potential sources of income in the study area
- The role of institutions at the District level in community projects.

1.8.2 Research Procedure and Methodology.

i) Literature Review

- Review literature on Participatory Forest Management
- Review general information on Participatory Forest Management in Ghana

Output:

- Background and definition of the problem
- Topic-related experiences in Participatory Forest Management
- Definition of research purpose and objectives
- Select study area

ii) Data Collection

▪ Field visit to Project Site

The author visited both sites for data collection in May 2001, in which discussions were held with both groups of volunteers and their co-ordinators at their respective sites.

Members of the Forestry Department at the regional level and the range supervisor for the area participated in the discussions, as well as members from a neighbouring District Assembly wanting to learn from the groups' experiences. The range supervisor served as an interpreter, and all of the participants were invited to share their comments in an open discussion after the purpose of the visit was explained. Following the group discussions, the co-ordinators were interviewed individually by the author.

Objectives:

- a) To identify the participants and their characteristics. Collect information about their present conditions in regards to their activities, aspirations and the benefits received from the project
- b) To discuss their present needs and ideas about things that can be done within the project to improve their present condition
- c) To familiarise with the study area
- d) To hold interviews with project co-ordinators
- e) To identify potential sources of income

Tools: Group discussions, direct observation, interview schedule.

Outputs: Understanding of the participant's needs and priorities
 Identification of the existing needs for the project.
 Identification of potential sources of income

▪ Field visit to forest owning communities

A meeting was held with the Chiefs and Elders of the three owning communities, where members of the Forestry Department, various volunteers and the author himself were present.

After the ceremonial introduction of the participants, the co-ordinators conducted the meeting and acted as translators. The current issues about the situation of both forests were addressed

Objectives: To get a better understanding of the views and role of local institutions in respect to the project.

Tools: Focused group discussion

Output: Enhanced understanding of the forests' situation through the views of the owning communities represented their Chiefs and Elders

■ **Visit to Institutions at the District Level**

Interviews were held with the Range Supervisor (Community level), the Forest District Manager (District level), and with staff from the CFMU at their headquarters in Kumasi (Regional level). The purpose of such interviews was to find out how does the Forestry Department perceives the Adwenaase and Namtee community forests, and what can be done to support both projects regarding their present situation. In the same line, the Planning Officer of the Assin-Fosu District Assembly was interviewed, to find out whether the communities are included in the development plan for the District or not, and the reasons why. In the same way, the procedure to be followed in order to obtain support from the common fund was inquired.

Objectives:

- a) To identify the different actors and institutions at District level that could be relevant for the project
- b) To hold interviews with the actors or the heads of such institutions regarding the role they can play in the project

Tools: Interview schedules

Output: Definition of existing institutional linkages and the interactions required to address the needs and proposals of the project.

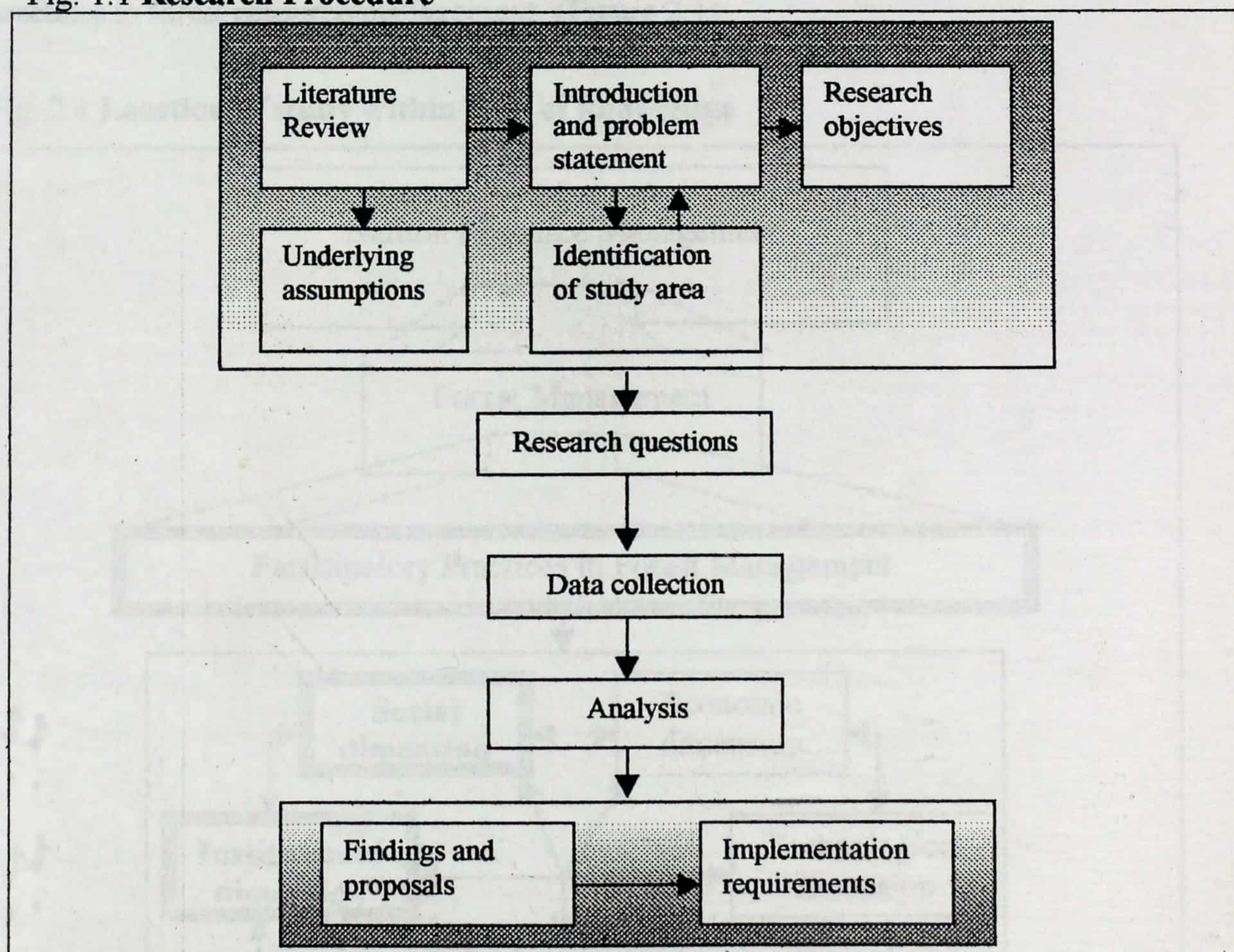
iii) Analysis of Collected Data

The data collected will be analysed to identify the elements required for the sustainability of the projects, to assess the impact the project has had in the community and to identify the activities that can be undertaken in order to support the groups' needs.

iv) Planning

- Define the areas of intervention based on the requirements for the sustainability of the groups identified during the analysis stage.
- Propose intervention
- Describe institutional and organisational requirements

Fig. 1.1 Research Procedure



Source: Author's construct

CHAPTER 2. REVIEW OF RELATED LITERATURE

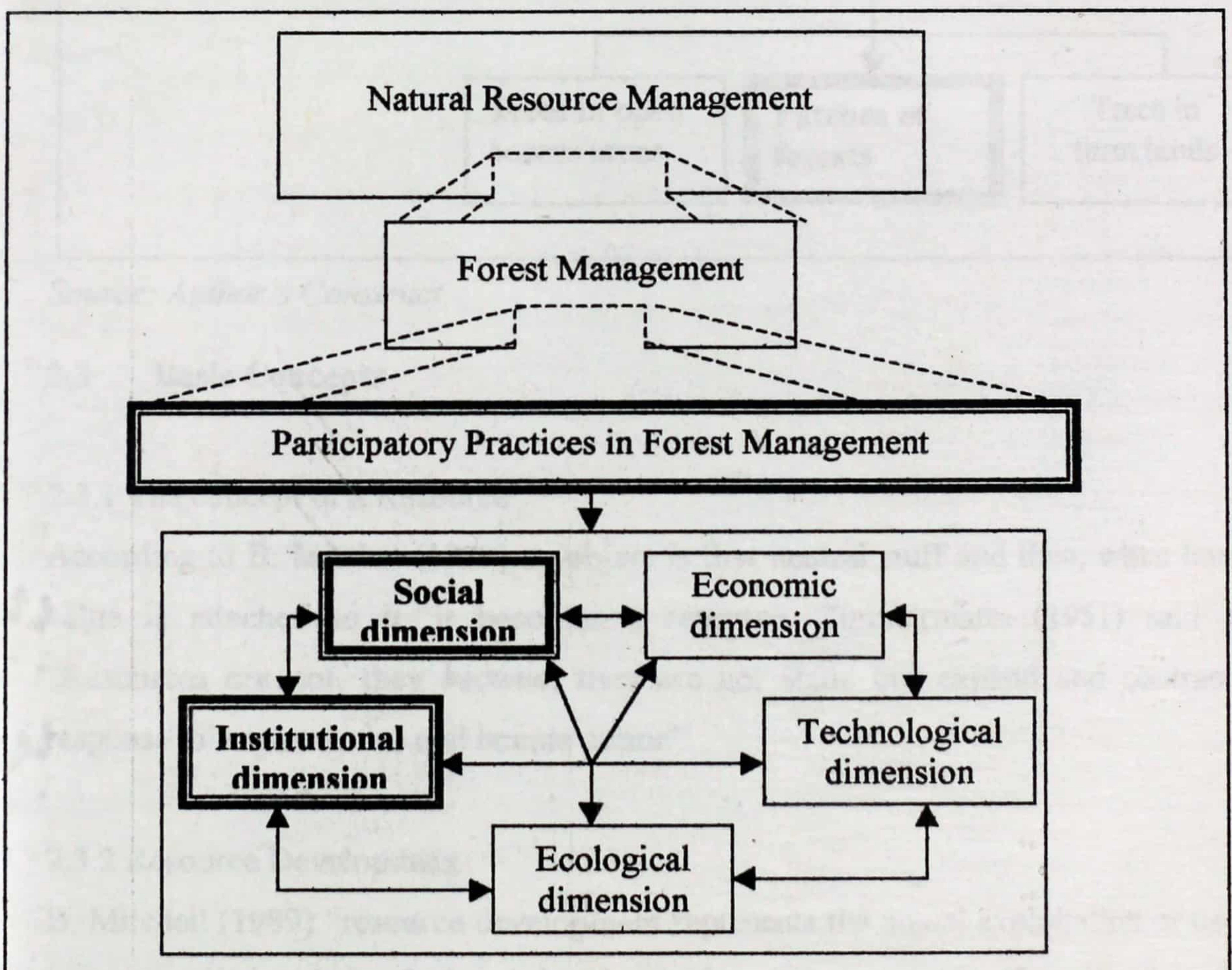
The core concepts of this work are the ones related to Participatory Forest Management and the flow of benefits to stakeholders derived from it. The concept of Participatory Forest Management will be analysed as one approach to Forest Management, being itself part of the Natural Resource Management field.

The literature review covers aspects of the relationship between Forest Management and its impacts on communities, using experiences reported by different authors. Finally, Participatory Forest Management will be looked at in the context of Forest Management in Ghana.

2.1 Location of Study within Field of Knowledge

The study deals mostly with the social and institutional dimension of participatory practices in forest resource management. (Figure 2.1)

Fig. 2.1 Location of study within field of knowledge

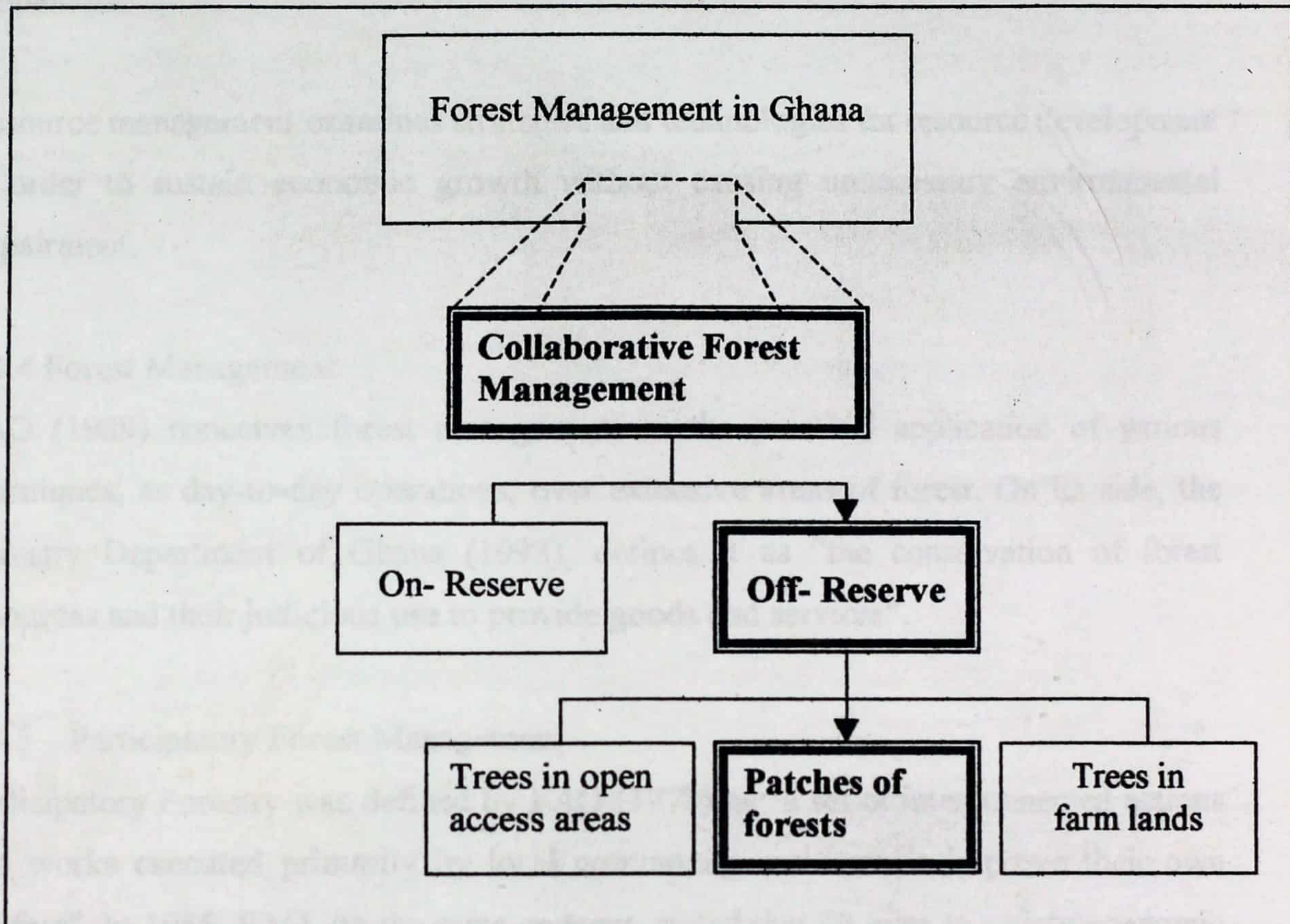


Source: Author's Construct

2.2 Location of Study within Forest Management in Ghana

Within the context of forest management in Ghana, the study attempts to make contributions in the area of participatory management of forest patches outside reserved areas

Fig. 2.2 Location of study within forest management in Ghana



Source: Author's Construct

2.3 Basic Concepts

2.3.1 The concept of a Resource

According to B. Mitchel (1989) an object is first neutral stuff and then, when human value is attached to it, it becomes a resource. Zimmermann (1951) said that "Resources *are* not, they *become*; they are not static but expand and contract in response to human wants and human action".

2.3.2 Resource Development

B. Mitchell (1989) "resource development represents the actual exploitation or use of a resource; it involves placing value, extraction and processing of a neutral stuff to become a resource to meet human wants.

2.3.3 Resource Management

According to O'Riordan (1971) resource management "may be defined as a process of decision-making whereby resources are allocated over space and time according to the needs, aspirations and desires of man within the framework of his technological inventiveness, his political and social institutions and his legal and administrative framework."

Resource management examines strategies and technologies for resource development in order to sustain economic growth without causing unnecessary environmental impairment.

2.3.4 Forest Management

FAO (1989) conceives forest management as the practical application of various techniques, as day-to-day operations, over extensive areas of forest. On its side, the Forestry Department of Ghana (1998), defines it as "the conservation of forest resources and their judicious use to provide goods and services".

2.3.5 Participatory Forest Management

Participatory Forestry was defined by FAO (1978) as "a set of interconnected actions and works executed primarily by local community residents to improve their own welfare". In 1985, FAO, on the same concept, stated that "It aims to satisfy economic and welfare basic needs of the community through its involvement and participation". (FAO, 1985)

In another definition provided by the Overseas Development Institute (2000), "Participatory Forest Management (PFM) refers to any situation in which local people, whether as a community or individuals, are involved in trying to manage the forest resource or benefit from it in some way. Usually as a result exerting some degree of control over, or access to it. PFM is therefore broader than forest co-management in the sense that the state may or may not be directly involved".

In the present paper, the term is used interchangeably with: Community-based forest management or collaborative forest management.

2.3.6 Other Useful Concepts

Since in the course of this paper it will be dealt with the direct flow of benefits to stakeholders, the following definitions are useful

a) Financial and Economic Benefits:

"Financial refer to monetary flows and subsistence values to resident stakeholders"; while "Economic refers to the broader national or social perspective of an investment project, including valuation of non-market or externality benefits to society". (ODI, 2000)

b) Stakeholder:

"Any group of people, organised or unorganised, who share a common interest or stake in a particular issue or system" (Grimble and Wellard, 1997). "Individuals or groups with an interest in the use of the natural resource base in a particular place, area or region" (Brown and Wyckoff-Biard, 1992)

2.4 Resource Management and Local Development

"The fundamental issue of resource management in developing countries is to eradicate poverty through increased growth and sustainable development". In operational terms, poverty in developing countries is associated with low levels of income and consumption per head, low gross national production, poor employment opportunities and a degenerating economic base. At the local level, other important reasons that accrue for low level of income include little diversity in economic base, low work-hour per head, and poor opportunities for non-farm employment (Omara-Ojunga, 1992).

"Escalating poverty forces people to rely directly upon and to exploit ruthlessly environmental resources. National governments are compelled to cut back investments in resource conservation by avoiding introduction of conservation measures into the development planning strategy. To curb the present magnitude of poverty, questions related to the diversification of the resource base, controls on population growth and ethics of production, consumption and human relations at international, national and local community levels need to be tackled" (Omara-

Ojunga, 1992). According to the World Commission on Environment and Development, (1987) diversification of the resource base in ways that will alleviate both poverty and ecological stress is hampered by disadvantageous terms of technology transfer, by protectionism and by declining financial flows.

From the ideas mentioned above, it is possible to conclude that the resource base plays a crucial role in the development of non-industrialised countries. The appropriate management of natural resources would lead to economic development and industrialisation. By appropriate management is also meant that the practices must balance exploitation of a diversified resource base in a way that ensures sustained yield of benefits for future generations. Mismanagement of the resource base would lead to environmental deterioration and a consequent reduction in the alternatives for the population to pursue an improved standard of living.

2.5 Different Approaches in Resource and Forest Management

At a broad level, resource management studies take different points of departure. The physical environment is the one used by the **ecological approach**; the human attribute for the **ethnological approach**, and the controls on the interaction between physical and human attributes as the third basic departure point in the **economic and technological approach**.

2.5.1 Ecological Approach

This approach is based on concepts associated with the behaviour and functional characteristics of ecosystems. Major concern is minimising environmental impairment of exploitation (not to exceed carrying capacity of the area). Key concepts are community, succession and climax:

a) Community: In the ecological sense includes all the population of organisms occupying an area. "The best way to control a particular organism...is to modify the community". (Odum, 1971)

b) Succession: Involves the development of an ecosystem; according to R. L. Smith (1974), it involves a gradual and continuous replacement of one kind of plant and animal by another that is more complex.

c) *Climax*: In theory, succession proceeds and finally slows down to an equilibrium or steady state. A climax community is a self regulating and permanent community (R.L. Smith, 1974). Stability implies constant supply of resources from one generation to the other.

The current view in resource management is that ecology acknowledges the necessity for growth and development but does not accept the view that environmental degradation is unavoidable companion of growth and development.

Some forest initiatives related to this approach are the *strictly protected areas* (including debt-for-nature swaps), and the *Scientific Forest Management*. (Barraclough and Ghimire, 1995)

2.5.2 Economic Approach

According to Omara-Ojunga (1992), in a free, competitive market situation, the objective of resource allocation is to achieve economic efficiency by minimising production costs (labour and capital input) and maximising monetary profits. The market value of resources will determine which resources are to be selected for use. Economic motivation has dominated resource use and management policies in developing countries.

Omara-Ojunga (1992) goes on to say that economic theory depends on a number of assumptions that may be summarised as:

1. Production factors are freely substitutable.
2. Demand can be identified and consumer preferences for different uses are known and can be compared
3. Benefits from resources can be quantified in monetary terms
4. Resource use has no external effect on the physical environment and economic situation.

These assumptions are not all tenable. As a result, the economic approach often is used to provide an ideal against which present practices can be compared.

In the economic approach, cost-benefit analysis is the most commonly used technique of resource allocation. However, social and environmental costs are often not considered or internalised due mainly to market constraints, the difficulty to calculate them, lack of social and environmental responsibility and the lack of a regulatory framework to enforce the internalisation of such costs.

An initiative related to this approach is the *Industrial forest management*: With a rapid growth of demand for industrial timber supplies, industrial users of forest resources in developing countries should be improving forest management to provide sustainable yields. In fact this has not happened to an appreciable extent for natural forests. Industrial users have in most places accelerated the degradation of these forests with no adequate measures to sustainable yields (Poore et.al., 1989)

2.5.3 Technological Approach

The effective application of the economic approach has been enhanced greatly by the development of technology. Technology not only has aided the achievement of economic efficiency but also is expected to reduce the fears of resource depletion and the urgent need to cut down economic growth and consumption.

At the same time, there are a number of resource development activities which either have been deferred or neglected until appropriate technology is acquired. As a result, an impression has been created that resources in developing countries are still underdeveloped.

2.5.4 Ethnological Approach

Fiery (1960) suggested that public consent be incorporated in resource allocation and management. The ethnological approach stipulates that cultural differences in part influences the way people perceive and use the resources.

The other significant perspective of the ethnological approach is institutional arrangements. Fernie and Pitkethly (1985) said, "all resource problems – overpopulation, hunger, poverty, fuel shortages, deforestation – are fundamentally institutional problems which warrant institutional solutions. The success or failure of resource management is intrinsically tied up with institutional structures - the pattern

of agencies, laws and policies which pertain to resource issues. It should be noted that almost all development countries inherited colonial administrative structures, laws and policies. Politics tend to play a major role in resource allocation. (Omara-Ojunga, 1992)

The idea of social forestry can be considered as part of this approach, where social goals are included into the resource development strategy. In recent years, "Community" or "social" or "rural development" forestry has grown in importance. "Although some of the products of such projects may have a commercial or market outlet, most of them are for indigenous consumption. Their objectives include increasing rural employment and raising the living standards of the poor" (FAO, 1985)

What is now known as social forestry is not new. Rather it is a new name for age-old practices of combining tree growing with crop and livestock production in time and space, and for the co-operation of members of a community in protecting, managing, and sometimes planting certain forest areas to meet their needs for fuel, fodder and other forest products and also for exchange on markets.

However, social forestry to date does not appear to have made much impact in most developing countries either in improving rural livelihoods or in slowing deforestation. "These programs face the same difficulties of most development efforts intended to reach the rural poor. In addition, most sustainable forestry practices imply longer-term investments than those commonly associated with crop and livestock production.

Such programs are confronted with three broad sets of closely interrelated difficulties. The first is to find appropriate forestry technologies and practices to promote, and then to demonstrate how they can advantageously be integrated into rural people's farming and livelihood systems. The second includes the operational, administrative and financial problems of making the programs effective on more than a small pilot scale on the ground. The third comprises the socio-economic, political and cultural obstacles that prevent most of the rural poor from improving or even successfully defending their meagre livelihoods with or without social forestry". (Barraclough and Ghimire, 1995)

From different case studies presented, Barracough and Ghimire (1995), concluded that social forestry programs in Central America provided little continuity or professional incentives for their staff. They were largely dependent on volatile foreign aid funds for their continued existence. When these were reduced or arrived late, the key professionals left to gain a living elsewhere. National budgets were continuously reduced so that there were often no counterpart funds for this kind of activity as for other social programs.

The case studies indicate that social forestry programs by themselves, no matter how well planned and executed they may be, will have little impact on slowing deforestation or improving the livelihoods of the rural poor in developing countries. In other words, social forestry programs would have to be integral parts of a broader sustainable development strategy in order to be successful.

2.5.5 Summary and Implications of the Approaches

According to FAO (1985) Traditional Forestry projects have two broad objectives – Industrial or Commercial, and environmental or protective. These have been and still are the major activity of Forestry Departments of National Governments and International Agencies.

“Resource management is a decision-making process in which optimal solutions regarding the manner, timing and allocation of resource use are sought within the economic, political, social and institutional framework. Each of these approaches can be applied over space and time with varying degrees of emphasis. The choice from a range of potential practices depends on goals and strategies as influenced by technology and income levels”(Omara-Ojunga, 1992)

Initiative in accordance to these ideas is the *Multiple use management of public forests*, and the *Land use planning and ecological zoning*. Long term land use planning is particularly crucial when dealing with values derived from forested areas such as clean air and water, protection of biodiversity, aesthetic satisfactions and sustainable yields of non-commercial as well as marketable forest products. Nevertheless, data required for comprehensive land use planning are seldom available at regional or national levels. Land-use planning and zoning in any detail is usually a function of local governments and agencies that are in closest touch with local problems and realities. It is important to know, however that it can be seriously

influenced by large landlords, outside interests, and other local elite whose goals may not have much to do with those of the rural poor.

Comprehensive participatory land-use planning is necessary for any realistic mode of sustainable development. Such planning has to be flexible and participatory within an institutional and policy context conducive to such development. (Barraclough and Ghimire, 1995)

2.6 The Need for Including Communities in Forest Management

2.6.1 Different Roles and Interests

Within the context of structural adjustment programs or decentralisation policies, the state has to retreat and transfer parts of its tasks, also in the field of nature conservation, to local communities and organisations. After legally withdrawing resources from the local communities, the state has not been capable to effectively protect these resources against overexploitation by invading outsiders.

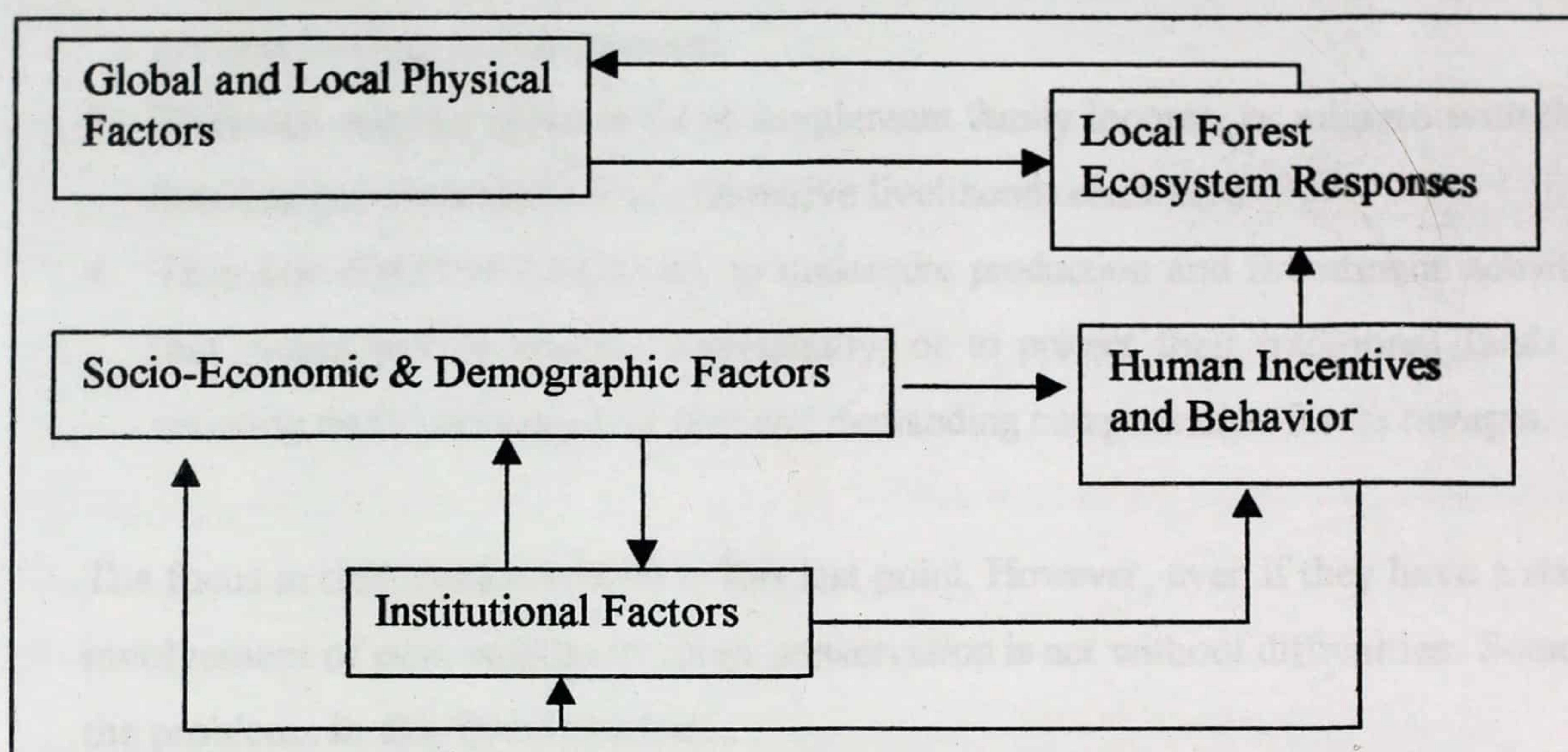
Governments of developing countries have both external and internal pressures to take the management of their forest to a sustainable basis. Externally, the global concern on deforestation calls for the protection of tropical forests. Internally, they must conserve the resource base that generates income and foreign currency to fulfil debt payments and internal budgetary requirements.

Besides National debt and other internal economic demands, there are several other causes for the depletion of the forest resource in developing countries. Analyses of such causes normally focus at the macro level, disregarding the study of local circumstances influencing deforestation. From this perspective "the role of people at the local level is crucial" (Gibson, McKean and Ostrom, 2000).

The International Forestry Resources and Institutions Program of the Indiana University, U.S.A. uses a diagram to show the multiple factors affecting the forest condition. The drawing suggests that that, ultimately, the human responses at the local level have a direct impact on the local forest ecosystem. (Fig. 2.3)

Gibson and Becker (1995) cited a number of scholars and practitioners that recognise the crucial role that local people can play in the protection and management of natural resource management. Among others: "Ostrom (1990); Hecht and Cockburn (1990); Marks (1984); Blockhus, et. al. (1992); Poffenberger (1990); Bromley et.al (1992); McCay and Acheson (1987); UNFAO (1990); Ascher (1995); and Agrawal (1995)".

Fig. 2.3 Factors affecting local and global physical conditions



Source: The International Forestry Resources and Institutions (IFIRI), Indiana University, U.S.A.

Local population can effectively contribute in forest conservation mainly by providing knowledge on tree species and local conditions of the forest, and by assisting the forestry departments in conservation and monitoring tasks. As it can be seen in several case studies, some of them presented in the next section, Forestry Departments in Developing Countries cannot cope with the responsibility of patrolling their forests to monitor illegal operations and to enforce the laws and regulations in that regard.

Besides its adverse effects on the environment, deforestation has a negative impact in the livelihood of people especially around off-reserve forest areas; distance to collect fuel-wood and water increase, animal and plant species disappear, traditional values associated with the forest are threatened, and opportunities for alternative sources of income reduce. Local population has thus, also an important stake in the conservation of the forest resources.

Based on different case studies, Barraclough and Ghimire (1995) identified four general responses to deforestation by negatively affected local people, although in practice, they added, there are numerous variations, and they are not exclusive:

1. Individuals and households can adapt customary production and consumption patterns to the new circumstances.
2. They can attempt to find alternative sources of livelihood in the locality, such as engaging in commerce, services or waged labour, often engendered by the same process leading to deforestation.
3. They can migrate temporarily to supplement family income, or migrate with their families permanently to find alternative livelihoods elsewhere
4. They can organise collectively to undertake production and investment activities that would not be feasible individually, or to protect their traditional lands by resisting deforestation politically and demanding compensation for its ravages.

The focus in this work is related to this last point. However, even if they have a stake, involvement of communities in forest conservation is not without difficulties. Some of the problems in this respect include:

- Past policies adopted by developing countries influenced by colonial rule, and enforced by forestry departments, have left a negative impression in the minds of the local people, affecting their will to collaborate with such institutions.
- Local population attribute deforestation to outsiders exploiting the resources and making high profits out of them. They feel excluded from such privileges or from the benefits derived from them.
- Generally, agriculture provides their means for subsistence. Activities undertaken for forest conservation will compete with agriculture in terms of time, resources and benefits.
- Insecurity of rights to land use. Who owns the resource? Who should care for it?

Although local initiatives may arise with the purpose of protecting the forests, the process cannot depend only on that. Forestry Departments must encourage communities to participate in forest conservation activities. In doing this, they have to design programs that motivate participation, and to generate a propitious institutional and legal framework.

Van den Breemer, Drijver and Venema, (1995) reported that Sypkens, in a case study from Senegambia, proposes a strategy in 5 stages for motivating participation in local resource management:

- a) Prove the possibility of real benefit
- b) Convince them that improved resource management yields long term benefits for them and the community
- c) Provide logistical support
- d) Achieve consolidation
- e) Exploit the "ripple" mechanism: respond to requests for support from communities elsewhere.

Taking the first stage "prove the possibility of real benefit" it becomes necessary to analyse what are the different kinds of benefits that can be derived from forest management.

2.6.2 Type of Benefits Derived from the Forest

Forest benefits can be classified as use values, or non-use values. (ODI, 2000)

Use values are further classified as:

- | | |
|-------------------|---|
| Direct: | -Extractive (for market or subsistence) |
| | -Non-Extractive (ecotourism, recreation, research, spiritual) |
| Indirect: | -Mainly as a result of environmental or ecological services for users and people outside the forest. |
| Option/Potential: | -The value that various stakeholders place on keeping open the option of receiving future direct or indirect benefits. i.e.: undiscovered uses. |
| Non-Use values: | -Existence: People who do not use, but value the fact that the forest exists. |
| | -Bequest value: It represents the value to pass-on the forest in its present condition as an inheritance to future generations. |

The sum total of the benefits is the **Total Economic Value of the Forest**. Different strategies are required if one is to promote or emphasise on one or more of these values. Different forestry programs have priorities on the benefits and the

beneficiaries. Knowing the different kinds of benefits, and identifying the stakeholders in the forest resource, a matrix is built to relate the stakeholders and their corresponding interests. (Table 2.1)

Table 2.1 Distribution of total economic value among stakeholders

Stakeholders	TOTAL ECONOMIC VALUE			
	Extractive direct use values	Non-extractive direct use values	Indirect use values	Preservation values
Local Forest Users	Forest and agricultural products (sale, subsistence and inputs into the farming system.	Cultural and spiritual values	Micro-climate, hydrological, soil conservation and nutrient cycling	Preserving use values for descendants
Commercial interests	Timber, commercial NTFPs, genetic material for pharmaceutical development	Tourism	Downstream irrigation/water benefits to commercial farmers, water and electricity	Undiscovered commercial potential of biodiversity
National and Forestry Department Interests	Forest revenue, and foreign exchange	Recreation, tourism, education, science	A range of watershed protection services	Future biodiversity
Global Society Interests	Globally traded products	Science (esp. medical), education	Global environmental services, e.g. carbon sinks	Existence values, future medicinal discoveries

Source: ODA, 2000. Adapted from Lampietti and Dixon, 1995

2.6.3 Management of Commons

One of the most relevant aspects that must be appropriately defined before community participates in forest management, is the security of land tenure and/or the rights of use. Forest resources are considered as common resources; considering this, the following questions arise: who owns the resource? And who should benefit from its management? Therefore, it is crucial to understand the particularities of undertaking management of common property. This section provides a better understanding on that respect.

For several decades political economists have given two dimensions used to classify goods:

- Excludability
- Subtractability

These dimensions can derive four possible combinations: Pure Public goods are non-excludable and non-subtractable; private goods are excludable and subtractable; club goods are excludable but non-subtractable; and common goods are difficult to exclude but subtractable. That makes common goods difficult to produce and easy to deplete. It turns out that most environmental and natural resources are common-pool goods. The difficulty lies in restricting the rate at which they are consumed. (Gibson, McKean and Ostrom, 2000)

McKean (2000) has numbered a series of attributes required for successful common property regimes:

- User groups need the right, or at least no interference with their attempt, to organise
- The boundaries of the resource must be clear, as well as the rights of that particular group to use the area.
- The criteria for membership in the group of eligible users must also be clear.
- Users must have the right to modify their use rules over time.
- Use rules must correspond to what the system can tolerate and should be environmentally conservative to provide a margin of error. (carrying capacity)
- Use rules must be clear and easily enforceable
- Infractions must be monitored and punished
- Distribution of decision-making rights and use rights to commons need not to be egalitarian, but must be viewed as "fair"
- Inexpensive and rapid methods are needed for resolving minor conflicts
- Devolution of authority from larger institutions
- Institutional overlap: Reviving recently weakened institutions instead of inventing wholly new ones
- Financial sustainability: the project must pay for itself, not require subsidy

Adding to these conditions, Bergh and Van den Breemer (1991) distinguish 5 different levels or categories of management actions according to the type of interest: Strictly private interest is at stake for the person who plants a mango tree on his plot in the hope of harvesting the fruit after a few years. This is "Management action of **Level 1**". For the women who produce oil, the protection of the palm forest is first and foremost a group interest-"management action of **Level 2**", but also a community interest "**Level 3**". Interest of the whole village is **Level 4**, for instance, the concern for bush-fires. **Next Generation Level** is when a person plants a tree expecting to inherit it to his descendants.

The interest to take action is said to be higher at "Level 1" and decrease with each subsequent stage. In reality, the interest will depend on the value of the output or the benefit obtained by each individual as a result of the action taken, independently of the level at which that management action took place. This means that individuals will have interest to participate in common interest activities, as long as the benefits perceived from the communal action supersedes the benefits of the individual action.

2.7 Experiences in Participatory Forest Management

The idea of this section is to find the most relevant aspects in participatory management experiences that have contributed to their success or failure in order to be able to identify the elements required for a sustainable operation of participatory forest management projects.

2.7.1 Elements of Success and Sustainability of Projects

Derived from the analysis of multiple case studies, all authors formulate more or less identical general conditions. The conclusions arrived at by the different authors, are mentioned below as conditions required for successful and sustainable operation of participatory forest management projects; those conditions are grouped according to their nature:

a) **Institutional conditions**

- Legal security for the actors with regard to their access to natural resources and to the results of their efforts and investments (Gibson and Becker, 1995; Van den Breemer, Drijver and Venema, 1995)
- Communities must have the legal support to enforce the law. (Banana and Gombya-Ssembewjje, 1995)
- Forest institutions are required to support local initiatives (Gibson and Becker, 1995)
- Users must perceive the rights system to be relatively fair. (Gibson and Becker, 1995)

b) **Economic conditions**

- Local communities must have a stake and a share in the benefits in order to participate. (Jeffery and Chooye, 1989; Van den Breemer, Drijver and Venema, 1995)
- People participate in forestry activities when this bring food security and the guarantee of a higher financial income, or when they may strengthen political ties, which, eventually, may offer more interesting opportunities. (Van den Breemer, Drijver and Venema, 1995)

Amongst other authors, McNeely (1988) and Panayotou (1991) propagate the use of economic incentives for the conservation and management of natural resources. Those incentives, however, must be generated by the management project itself. Etzioni (1988) on the other side argues that "morality is a much more widely used and less costly and less coercive mechanism for attending to the commons than government inducements or public incentives provided via the market".

A deep and long term commitment by a special person is needed to start and guide the process towards local management; but there is the risk that the process may depend too much on this person, which is a fragile basis for continuity. (Gozuda case of local resource management in Cameroon, Drijver and Van Zorge, 1995)

c) **Organisational Conditions**

- Management practices must be in accordance with an approved local plan for management (Van den Breemer, Drijver and Venema, 1995)
- Participants should be able, by means of strong local organisations, to defend their interests. (Van den Breemer, Drijver and Venema, 1995)
- They must construct local level institutions that control the use of the resource
- FAO (1985) suggest the use of monitoring and evaluation in participatory forestry projects to assess if the desired goals and objectives are achieved
- A relatively small number of users (Gibson and Becker, 1995)
- Aid should be limited in scale, in many instances better and more sustainable results are achieved with a large number of well-designed small-projects. (Sypkens, 1995)

d) **Human conditions**

- Raising the awareness of problems and their possible solutions; involvement and participation in decision-making; self-reliance and self-confidence. (Van den Breemer, Drijver and Venema, 1995)
- Participants should possess knowledge and means, that is, have the *capacities* for sustainably using and managing natural resources. (Van den Breemer, Drijver and Venema, 1995)
- Locals must value the resource (Bromley et. al., 1992; McCay and Acheson, 1987; Ostrom, 1990; McKean, 1995)
- Users should not be strongly divided by cultural or ethnic differences (Gibson and Becker, 1995)

e) **Physical Conditions**

- Management practices must maintain the regenerative capacity of natural resources. (Van den Breemer, Drijver and Venema, 1995)
- The management area must have sufficiently small boundaries (Gibson and Becker, 1995)
- Users should live near the resource to have better control (Gibson and Becker, 1995)

Similar to the conditions mentioned above, the Department for International Development DFID, enumerates 5 types of capital assets that need to be strengthened for improving the performance of participatory forest management groups: (Carney, 1999)

- Human capital (family labour, experience)
- Natural capital (forest, land)
- Financial capital (credit, capital)
- Social capital (institutions, rules, networks)
- Physical capital (infrastructure, equipment)

It is in accordance to these assets, that the participants will design their livelihood strategies. Often one form of asset (or capital) enables people to access, or make better use of another.

2.7.2 Challenges for Participatory Forest Management

In the same manner, as it was done in identifying the conditions for success and sustainability, after dealing with diverse case studies some authors outline the current challenges faced by participatory forest management projects in developing countries:

As one of the main challenges in participatory forest management, it is that it must provide significant benefits if the community is to go to the trouble of establishing and enforcing the rules about resource use. (Campbell et.al., 1999). This begs the question on whether community based forest management programs or projects have sufficient value to stimulate community participation. This remains a puzzle for most projects. (Cunnigham, 1995).

For community-based forest management, the financial problems seem to be particularly acute. This is because the activity tends to take place on low value forestland. (Higher value forest is usually managed by more powerful interest groups); Institutional, tenure and market uncertainty tends to cause high-risk levels, and this is aggravated by communities limited prior exposure to markets. (ODI, 2000) Various economists have pointed out that returns to forest management are likely to be low if only forest product values are included. This is fundamentally due to market

and policy failure, but also results from the high “cost” of time resulting from slow natural growth and high interest discount rates¹. (ODI 2000)

Sustainable production systems in forest regions would have to be more attractive and profitable for peasants and other forest users than the other alternatives available to them. Alternative employment opportunities in non-farming activities would be needed for those whom these improved production systems could not accommodate (Barracough and Ghimire, 1995).

“Forestry alone can not solve the problem of poverty in the rural areas. Although there are a variety of activities that forest management can contribute for local economies, co-ordination with other institutions is strongly required to address the various and complex needs of the local population.”²

In reference to the economic structures, the emergence and maintenance of sustainable agricultural and forestry systems depend crucially on their being integral parts of broader socio-economic and political structures nationally and internationally that are conducive to sustainable development more generally. (Barracough & Ghimire, 1995)

Subsistence oriented forest management systems, as those practised in the middle hill areas of Nepal, seem to be more stable, even though the forest resource appears to offer little hope in terms of relieving their high poverty levels. (ODI, 2000)

2.7.3 The Role of Economics in Forest Management

“Generally there is insufficient understanding of the cost and benefits faced by different stakeholders, especially the incentives of local forest users in Participatory Forest Management situations”. (ODI, 2000)

Economic analyses are complex nature, and that is the reason why stakeholders in PFM rarely carry them out. Nevertheless, their use leads to better informed-decisions, and allows to know the winners, losers and pay-offs in a particular operation. They are also useful in the monitoring and evaluation of the project activities.

¹ The present value of future flows of money.

² Personal communication with François Reuter. Forest Sector Development Program, Kumasi, Ghana.

It can be speculated that the sum total of all marketed, subsistence and service value of community-based forest management in a region may be substantial, though there have been no serious attempts to calculate this in detail, and it is unclear whether non-market values would provide sufficient incentives for people to participate in the projects.

2.8 Forest Management in Ghana³

2.8.1 Past and Present Forest Management Policies and Instruments

A brief summary of relevant events is presented to get an overview of the policies and regulations that have directed forest management in Ghana.

- 1909 The Forestry Department was created. Aimed to reserve 20 to 25% of the total land area of the high forest zone
- 1927 The Forest Ordinance was passed to speed up the process of reservation, giving the government the power to constitute forest reserves compulsorily.
- 1940 By the mid-40's almost 20% of the High Forest Zone was reserved.
- 1948 The first National policy was formulated. In regards to off-reserve forest it stated: "controlled, progressive utilisation without replacement of the remainder of forest resources not permanently dedicated to forestry...prior to the destruction to farming". As a consequence, timber contractors, backed by the Forest department, adopted "forest mining" activities, which created antagonism with the traditional forest users
- 1957 Ghana's Independence. After Independence the government regarded timber and cocoa harvests as natural economic resources to be extracted cheaply from rural areas to fund national development programs
- 1962 Concession act vested the right to all timber trees in the president. Farmers ultimately lost all rights to utilise timber trees standing on their farms.
- 1974 Forest protection decree prohibits a whole range of activities within reserves.
- 1984 Launching of the Economic Recovery Program promoting log production and export

³ Based on: Forestry Department of Ghana, Guidelines for collaboration in the management of off reserve forests, (1998) and Daniel K.B. Inkoom, Management of Non-Reserve Forests in Ghana, A case study of Mpohor Wasa East District. (SPRING Research Series, Dortmund, 1999)

1986 The Forest Resources Management Project (FRMP) was launched with the main objectives of stabilising industrial forestry production, Promoting forest conservation and tree planting to counteract fuel wood shortage and ecological deterioration, and strengthening forestry sector institutions including communities for its involvement in forest management.

1993 Launching of the Collaborative Forest Management Programme

1994 Introduction of the interim measures which involved communities in the monitoring of timber felling.

Government formulates New Forest and Wildlife policy. It emphasises in sustainability, multiple use values, efficient commercial utilisation and equity through participatory management.

The policy recognises people's rights of access to forest resources for maintaining a basic standard of living and a corresponding responsibility to ensure sustainable use of the resource.

2.8.2 New Forestry Legislation

To support the new forest policy, a new act (TRM) 547 and Legislative Instrument (LI 1649) have been passed. The Timber Resource Management Act, (TRM) 547, has made provisions for farmers to be involved in and benefit from the felling of trees from the off-reserve areas. Under the Act, Timber contractors shall not fell, cut or remove any timber tree standing within farms or cultivated areas without the prior permission of the farmer or cultivator.

2.8.3 The Forest Situation in Ghana

The situation of timber resources in Ghana is depicted in a report by the United Nations Industrial Development Organisation (UNIDO, 1997) which states that "without rapid development of plantations, Ghana could well become a net importer within 30 years"⁴

The country needs to keep on using the forest resource for its significant contribution to the Gross Domestic Product⁵. Nevertheless, this must be done in a sustainable basis, and strictly following the maximum allowable felling quotas. In order to do

⁴ Quoted by: Awuah Stephen, Kwasi (1999).

his, it is crucial to stop illegal felling of timber. Achievements have been made in this respect, but the problem is still acute as it is reported by the Forestry Commission and corroborated in several newspaper articles.⁶

2.9 The Collaborative Forest Management Programme (CFMP)

The program was formally started in 1993 with the support of the British government. It was described by the Forest Service Division as "a working partnership between the local people and the Forest Service Division to ensure that the management of all forest resources is equitable and more efficient". The program is to be implemented across the High Forest Zone in Ghana. (Forestry Department, 1998)

2.9.1 Guiding Principles

According to the New Forest Policy (1994) the Forestry Department pursues the "Conservation and sustainable development of the nation's forest resources for maintenance of environmental quality and perpetual flow of benefits to all segments of society"

2.9.2 Objectives

- a) Create a working partnership between Forestry Department and local people
- b) Improve benefit to local people from forest management. (Equity)
- c) Increase involvement of local people in forest management. (Efficiency)

In order to meet the objectives of collaboration, it is necessary to examine thoroughly the potential of involving local communities in the management of the management of the forest. The CFMP adopted a learning approach, which concentrates on:

- a) Devising effective or workable strategies.
- b) Matching the workable strategies identified with the institutional capacity to implement them
- c) Expansion of lessons learnt through the institutionalisation of systems across the High Forest Zone

⁵ 8% to GDP and 11% of export earnings. (Forest livelihoods studies, ITTO, 1998).

⁶ Among others: "Halt illegal felling of economic trees", Daily graphic, (18/Jan/01); "Protect forest reserves", Daily Graphic, (20/Jan/01)

2.9.3 Operation

The Collaborative Forest Management Unit (CFMU) is the administrative body responsible to implement the CFM Program. The structure of the CFMU is shown in Annex 3. Although it can be rendered small in terms of staff number, it has the political, technical and manpower support from the Forestry Department and other national and international institutions related forestry. (i.e. The Department for International Development, DFID; The Forest Resource Institute of Ghana, FORIG; The International Tropical Timber Organisation, ITTO)

Based in the learning approach, the CFMP has come up with 3 different collaborative guidelines in the areas of:

- Forest reserve Management
- Off-Reserve Forests Management
- Management of NTFPs

The project has been successful in involving local people in the management of the forests. This has already shown positive results particularly in the following areas:

- Improved monitoring of illegal timber felling
- Participation of farmers in decisions regarding timber trees standing on their farms
- Improved access to NTFPs to forest-dependent communities
- Establishment of plantations for timber trees and fuel wood.
- Development of forest management plans through collaboration

The policy guiding the program recognises people's rights of access to forest resources for maintaining a basic standard of living and a corresponding responsibility to ensure sustainable use of the resource.

It is necessary, however, to analyse what impact has the program had in the livelihoods of the involved local people. We come again to the question: Is it enough for communities to "maintain a basic standard of living" in return to their participation in forest management? Will this bring enough motivation for communities to participate in the program?

Within the strategy of the CFMP is the formation of Community Forest Committees (CFC) in order to develop and promote innovative structures for community representation. Under the concept, major stakeholders in each community are represented. These representatives are educated on forestry laws and regulations with the purpose of educating others within their respective communities.

2.10 Collaboration in the Management of Off-Reserve Forests

2.10.1 Objectives

The General Objectives are those proposed by the Collaborative Forest Management Program. The Specific Objective of the guidelines for off-reserve forest management is to support collaboration in:

- a) Local management of patches of forests
- b) Management of trees in farming systems and timber production
- c) Commercial plantations in degraded areas.

It is intended that the communities and individuals plan their own activities and programs, and conduct the forestry operations whilst the Forestry Commission provides the technical and if possible logistical support. Through an effective collaboration program, the Forestry Commission wants to stimulate the introduction of new management systems for the sustenance of the off-reserve timber resource (Forestry Department, 1998).

2.10.2 Operation

Off-reserve areas are producing at least 70% of total round logs coming out of forests. The timber resources off reserve are mostly found in the remaining patches of natural forest, and in cocoa and food crop farms and fallows all over the high forest zone. The resource is found to be threatened by excessive logging, farming, bush fires and surface mining (Forestry Department, 1999).

Emphasis for off-reserve management has been placed in the following activities: Forest inventory, land-use types, reviewing existing regulations and strategies used by the Forestry Department, determination of allowable annual cut and the procedures for Timber Utilisation Concessions (TUC). As a result from the reviewed regulations,

farmers are now to be consulted before awarding a concession and have been given the right to harvest planted trees and sell to contractors.

For the Forestry Department, working with people off reserve involves more or less the use of private land, therefore voluntarism and motivation to participate are the key principles for encouraging participation.

Communities are also encouraged to Dedicate existing patches of forest to be managed by approved plans. That has been the case with the Adwenaase and Namtee forest sites. The communities have decided to Dedicated their forest and manage them under a plan, which has been designed by them with the support of the Forestry Department. By analysing the case of these two project sites, it is intended to come-up with a model that can be adapted by other communities owning patches of forest, and therefore contributing to the overall management of off-reserve forests in the country.

2.11 Summary

The Literature review helps in understanding the position of Participatory Forest Management among different forestry approaches. Given its social orientation, the involved communities are expected to improve their livelihoods as they participate in the process. The different types of benefits than can be derived from the forest, and the main elements required for the sustainability of Participatory Management projects were identified through experiences shared by different authors.

This chapter also provided general information about the past and current situation of forest management in Ghana, which, together with the findings of the literature review, will serve as a background for the analysis of the study sites.

CHAPTER 3. ANALYSIS

3.1 Profile of Study Sites

3.1.1 Location and Main Features

The Project sites are inside what is named the High Forest Zone (HFZ) of Ghana, which covers about one third of the total territory of the country in its Southern and South-western part (see annex 1). At the beginning of the century, the HFZ was covered with 8.2 million hectares of Tropical High Forest; now it contains only about 1.2 million hectares, the bulk of which is inside forest reserves. The area continues to be a forest environment botanically wealthy and capable of yielding many rich harvests including cocoa, oil palm, maize, plantain and timber (Forestry Department of Ghana. Collaborative Forest Management Guidelines. June, 1998).

The Adwenaase and Namtee forests cover an area of 215 ha. and 190.5 ha. respectively. The first is owned by the Assin-Akropong community, while the second is jointly owned the Worakase and Akenkausu communities the latter. These are moist semi-deciduous forests, not regarded by the Forestry Department as forest reserves, but as dedicated forests owned by communities. In other words, they are off-reserve forests entrusted to the communities for their management.

The communities and the forests are located in the Assin-Fosu District of the Central Region of Ghana (see annex 2).

3.1.2 History of Forest Management

Both, the Adwenaase and Namtee dedicated forests, are considered as sacred forests. In the 19 Th. Century, during the Ashanti wars, the communities came to settle in these forests following their Ancestors, whom, it is believed, are still dwelling in the forests. (Adwenaase and Namtee management plans, 1995)

After some time these communities left the forests to settle in the surrounding areas. The forests remained sacred, but later, other communities came to settle around the

forests. Growing population and new generations started to encroach for farming activities, collection of forest products and even for building houses inside the forests.

Even though there were taboos to prevent people from going into the forests, they were not sufficient to restrain individuals. At the same time communities bordering with the forests were named as custodians of the forests, but finally these custodians took advantage of their position for their individual benefit.

In view of the difficulties encountered by the Chiefs and Elders in ensuring protection of the forests, the owning communities decided to call upon the Forestry Department to jointly manage and administer the forests, and to give them the status of a Dedicated Forest. (Community reserved forest).

In January 1994 a meeting was held involving the related interest groups, where a consensus was finally reached to protect the forest for the benefit of the communities in the area.

Through the Collaborative Forest Management Unit of the Forestry Department, and the Overseas Development Agency of Britain (now DFID), the owning communities received support to create a management plan themselves which would direct the efforts towards preserving and developing their forests.

3.2 The Management Plans

A plan was written separately for each of the forests by their respective owning communities, where they reflected their ideas and aspirations. In the end, both management plans resulted quite similar. They are divided in three main parts:

1. The Forest Situation
2. Forest Management Program
3. Forest Administration and By-laws

The plans also include mapping, zoning, and inventories. Such information was prepared jointly by Forestry Department technical staff and a group of volunteers formed by community members. These volunteers have since then been responsible of the day to day management of the forests.

In this section, the general aspects of those plans will be described as being common to both forests. Clarification will be made when a certain aspect refers only to one of the two plans.

General Purpose of the Plans:

- To protect and manage the forest for the development of the community.

Specific Objectives:

- To generate income from timber, commercial harvesting of non-timber forest products (NTFPs) and tourism, for community development
- To maintain the forest for future generations so they can learn about the historical, cultural and ecological aspects of the forest.
- To protect the environment to provide rain, windbreak, prevent erosion, fresh air, protect watercourses and biodiversity.
- To ensure provision of NTFPs for domestic purposes
- To help teach other communities whom might want to manage their forest through becoming a learning center.

Guiding Principles:

- There should be a balance between protection and the benefits coming from the forest.
- There should be no dominance by anybody, rather unity and consensus.

Beneficiaries of Forest Management

For the Adwenaase community forest, any revenue accruing from the forest is to be utilised for the development of the Assin-Akropong community under the Assin-Akropong Traditional Council.

Regarding NTFPs, the people of all surrounding communities will have free access to these products for domestic purposes.

The forest volunteers are not regarded as beneficiaries, rather they will be considered under planning for the development of the forest and they can from

time to time be compensated for the work they are doing by money set aside for the development of the forest.

In the case of Namtee forest, the beneficiaries will be the communities of Worakase and Akenkausu, and all other communities "depending on the effort they put into helping to manage the forest".

On sharing the benefits, first, the cost incurred in the development of the forest may be deducted. Then the remainder may be divided into three parts as follows. 1/3 to the elders, 1/3 for the chiefs, 1/3 for the development of the community. The 1/3 for chief is for the upkeep of the office of the stool and the palace, the 1/3 for elders is for the upkeep of the various stools and also for any cost incurred in looking after visitors.

Interest Group Analysis

This exercise was done to identify the interest and fears of the forest users within the area; Women, villagers inside the forests, villagers near the forests, youth, landowners, volunteers and the Forestry Department were involved. All of them agreed that they want to obtain some kind of benefit from the forests, being them NTFPs, timber, employment, farming land and areas for research in the case of the Forestry Department. Their fears were generally that the groups might be denied access for such benefits. Looking at the interest and fears of the volunteers, the exercise provides the following information:

Volunteers for Adwenaase

- Interests: Protect and plant in degraded areas to attract tourists
- Fears: Fire destruction; volunteers would be ignored in sharing of benefits; some uncooperative people destroy the forest.

Volunteers for Namtee

- Interests: May receive pay and be employed to work in the forest. Protect the forest so that initial efforts may not be in vain. May receive co-operation from all. May obtain some form of ID.
- Fears: May be ignored in benefits sharing. May not be paid for the work done. May be replaced by favourites of elders

Resources for forest development

The communities would contribute towards the development of the forest with the following resources:

- Communal labour
- Local knowledge on herbs and medicines
- Supply of local materials (sand, tree gravel)
- Financial contributions (fund raising and levies)
- Timber royalties

Other institutions identified as possible source of support are:

- District Assembly
- Forestry Department
- NGOs, and
- Fire Services

The Forestry Research Institute of Ghana (FORIG), was not considered in the original plan, but has started to implement a program on the sites related to management systems of the forest resource.

Problems to be Faced

Protection of forest boundary

Poor participation, since the benefits from planting trees are long term

Illegal chainsaw operators

Distance from the owning communities to the forest areas (18 km. / 24 km)

Financial and logistical support

Illegal NTFPs harvesting

Non-co-operation of certain people

PART II Forest Management programs

The plan describes three different programs to be undertaken for the management of the forest; the Forest Protection Program, the Forest Benefit Program and the Forest Improvement Program. The sub-programs under each category are listed below¹:

¹ A comprehensive description of the sub-programs is given in the original plans.

1. Forest Protection Programs
 - Boundary protection program
 - Fire protection program
 - Stream protection program
 - Biodiversity protection program
 - Sacred area protection program
 - Educational program
 - Forest protection monitoring program

2. Forest Benefits Program
 - Timber harvesting program
 - NTFP harvesting program
 - Processing and marketing program
 - Ecotourism program
 - Farming benefit program
 - Permit issuance program
 - Accounts and auditing program
 - Forest benefit monitoring program

3. Forest Improvement Program
 - Timber tree planting program
 - NTFP planting program
 - Tree and NTFP nursery program
 - Animal production program
 - Learning center
 - Forest improvement monitoring program

PART III Forest Administration and By-laws

Under this section, the plan is defined as the final authority in the management of the forests. The section includes the roles, responsibilities and authority of each of the groups directly involved in the management process.

1. Role, responsibility and authority of the community in general
 - To respect the management plan
 - Right to use and benefit from the forest

- Authority as owners of the land
- Ensure that all offenders are punished

The Namtee management plan also mentions as responsibilities of the community, to offer communal services when needed and to ensure that accounts are published.

2. Role, responsibility, authority of Chief and Elders

- Define and sanction by-laws
- Administer the forest resources according to the plan for the benefit of the community
- Right to discipline people who brake the by-laws
- Everything they do should be in accordance to the plan

In the Namtee plan, Elders also are responsible of the issuance of permits.

3. Role, responsibility, authority of forest volunteers

- The volunteers have no authority of their own. They only carry out the plan
- They will help with specialist technical advise and work for day to day management and supervision for implementation of the plan
- They will explain the harvesting rules and educate the people
- Report to the elders
- Record keeping and monitoring
- They must know the plan well
- They are not to take money, issue permits and restrict legal access
- They can help prepare permits and inform elders about the condition of the resource
- They can direct people to the correct place to harvest
- There should be unity among the patrols

4. Role, responsibility, authority of Forestry Department

- Technical assistance to the community
- Provide training
- Authority to enforce forest laws
- Provide some logistical support

This summary of the management plans will be a useful reference for the analysis of the existing situation, and for the formulation of proposals and modifications required.

3.3 The Present Situation

3.3.1 Discussion with Volunteers

1) Adwenaase Community Forest:

The group consists of 40 volunteers, 28 male and 12 female. Their main occupation is farming, and they do their voluntary work for the forest on Mondays and Thursdays. The discussion was held in one of the plantations within the forest, where they have planted Teak and Cedrela as timber products, and wrapping leaves and black pepper as NTFPs. Several valuable naturally occurring timber trees are found in this forest. The group has also developed a nursery to expand the plantation and do afforestation in the degraded areas of the forest. So far, the Forestry Department has been helpful in providing seeds and seedlings, technical advice and logistical support whenever possible.

Although it was agreed in the plan not to do exploitation of forest products until the year 2003 in order to allow its natural regeneration, the volunteers have started to grow Maranthaceae, used traditionally as wrapping leaves, to get some income in order to support their activities.

The volunteers argue that they have been doing voluntary work for over 6 years without receiving any kind of payment or support. They claim to be all heads of family, and that they need support for their activities. It is the Elders only that provide some support and encouragement whenever possible, but unfortunately, this does not happen very often.

They said that their main concern remains to be the forest, and that they really want to build the forest for posterity. After years of work, the group has been successful in creating the proper environment that has resulted in the replenishment of the animal population. Farming has been stopped within the forest and the plants and plantations are growing healthy.

When the idea of "Multiple Land Use Forestry" came up during the discussion, the volunteers commented that they want a natural forest and do not want to go into farming inside the forests. However they accept the idea of going into "livelihood projects", as the co-ordinator of the group calls them. This includes doing activities such as snail farming, bee-keeping and mushroom growing in order to generate income. For that purpose, the District Agricultural Development Office agreed to provide technical advice, but financial support is still needed to start these projects.

The women of the group raised their voice demanding that the financial aspect must be addressed. They said that the community is not supporting the volunteers at all. The volunteers feel that there is many people coming to see the project, but none of them gives the kind of support required.

In relation to membership, the group has maintained the same number of volunteers since the beginning, and they are not ready to take new members that can enjoy form the work done by the initial group.

In the management plan, no benefit is considered directly for the volunteers. The group wants to review the plan so that they can receive 10% from the income generated in the community forest.

ii) Namtee Community Forest

The group consists of 35 volunteers; only 16 were present in the discussion at the forest site, 13 men and 3 women. Initially the group was formed by 40 members, but 5 of them have left because, as they said, "nothing was coming out of the forest". The volunteers have farming as their main occupation, and their ages ranging from 19 to 65, with an average age around 40 years. They work twice a week under a roster; that explains why only about half of the group was present at the discussion.

Apart from the initial tasks of mapping, zoning, inventorying and boundary cleaning, the group has been successful in reducing illegal activities and has established a plantation of Teak and Cedrela, as well as a nursery.

The group finds difficulties to monitor the boundaries of the forest due to the long distance from the community (17 km. from Worakase and 24 from Akenkausu), and because there are "non-owning" communities right beside the forest which access it without permission to collect NTFPs.

The group does not want to go into farming within the forest, because all of them have their own farms and can do it there, besides it would be difficult to protect their crops from stealing. The forest, they say, is only for Timber products and NTFPs. They also have the interest to go into livelihood projects like mushroom growing and bee keeping, although monitoring remains a problem to be solved. At some point, the group employed two retired policemen and illegal activity was successfully controlled, nevertheless, the group could not continue to pay for that service.

The group complains that the actual economic situation of the country will not allow voluntary work. While other community members are working for their own benefit in their farms, the volunteers are supposed to be doing work for the community without getting something in return. The group does not regard that situation as fair. The volunteers argue that they need to get direct benefits out of their work; so far they have not received any, and even in the development plan there is nothing to address this issue. In the beginning they did not think about direct benefit, but now the plan needs to be reviewed in that regard. The only support so far has been received from the Elders, whom give what they have whenever they are able to do it.

These volunteers are of the view that the Government should give them more support since they are the only authentic example of community forestry in the country. The District Assembly is reported not to be interested in supporting the project although they show it to outsiders as a success in the District.

Although they mentioned financial and logistical support as their main concern, they also admit that the group needs technical advice and training in management skills.

At this time, the group is not willing to accept new members who could take advantage of the work done so far. The volunteers are only considering to replace an ageing or death member with that same person's son.

3.3.2 Interviews with Group Co-ordinators

i) Co-ordinator for the Adwenaase Volunteer Group

Mr. Wallace Kwame Koomson is the co-ordinator for Adwenaase, he is a member of the community, a teacher by profession, and a farmer. Mr. Wallace has a Diploma in Social Studies, and, as a group representative, he has learned about forestry in meetings, seminars, workshops and continuous interactions with the Forestry Department, and recently the Forest Research Institute of Ghana (FORGIG).

He was named co-ordinator for the group, being one of the pioneers in the idea of formal management of the sacred forest. Since 1989 he acts as a co-ordinator between the Elders, the volunteers and the Forestry Department. He says to be moved by the need to preserve the environment.

About the group, he says that they can be encouraged to perform effectively with some financial support. Given the difficult economic situation of the country, it makes it really difficult for the group members to do voluntary work without bringing anything to their houses.

He feels that apart from external support, the group could help itself by going into what he calls livelihood projects, referring to soap making, bee keeping, snail farming, aquaculture, and other activities that can be undertaken within the forest without affecting its nature.

For that purpose he recognises the need of networking for technical and financial support, for instance with the Department of Agriculture, Forestry, prominent members of the community, and other schoolteachers. Asked about the District Assembly he answered that both, the assemblyman and the Assembly itself do not show interest in supporting the project.

The group opened a have a bank account with the idea of managing the funds transparently. At the time of this interview, they had ₵79,000 thousand cedis in it, (U.S. \$12), ₵20,000 came from the selling of wrapping leaves and ₵50,000 from a

donation. The control of disbursement lies in the Elders. The volunteers take the decisions, seek approval from the Elders, and implement.

The criteria "as at now", he says, is first community interest and then individual interest, that is said to the volunteers. However, some volunteers find it difficult to agree with that idea, because, they say: "Others spend time in their farms without helping the project, why should they benefit?" According to Mr. Wallace, that remains to be an issue. He feels that the situation might get out of control if no support is coming, and the group will end up having no volunteer to work. As a consequence illegal activities will deplete the forests' resources in the next few years.

As he sees it, "the hope lies in the things we have planted and in the livelihood projects to be undertaken". He feels that one crucial aspect to be successful in the livelihood projects is having the appropriate managerial skills, which would help him in keeping the group motivated and efficiently managing the resources available. On top of that, he also requires the skills to write proposals in order to get support from other institutions; so far, neither the Forestry Commission nor the District Assembly have helped him in this regard.

ii) Co-ordinators for the Namtee Volunteer Group

Since there are two communities owning the Namtee forest, each community has a co-ordinator for their volunteers: Mr. John K. Pinkrah for Worakase and Mr. Oduro Kokroko for Akenkausu.

An interview was held with Mr. John K. Pinkrah, as the general co-ordinator of the Namtee forest volunteer group. Mr. Pinkrah's main occupation is farming. He finished the Senior Secondary School, and received some training in the army. Through working together with the Collaborative Forest Management Unit of the Forestry Department, he and the volunteers have learned from experience about inventories, plantations, nurseries and general aspects of forest management. Acting as a representative for the group in workshops, meetings and seminars, he has also learned about the general situation of forests in Ghana. He says that it is the CFMU and the Overseas Development Agency, who made them open their eyes to the need of managing the forest.

He mentions that the activities of the group are aimed at growing timber trees and vegetation for preserving the forest for future generations and for tourists to come. They want the forest to become into what it was. In doing that they face several problems mainly related to monitoring of boundaries to avoid the illegal collection of NTFPs, lack of co-operation from other communities, and the perception that the volunteers are not treated fairly.

He is interested in generating income and using the money to help the volunteers and the community. He claims for support, and thinks that the community, the District Assembly, the Government and NGOs should provide that support. Presently, the group keeps close linkages with the volunteers of the Adwenaase forest, the Forestry Department and recently with the Forest Research Institute of Ghana.

When asked about what the group can do to help itself, Mr. Pinkrah mentioned that the group can go into bee keeping, in order to generate income while they wait until the group is able to harvest the timber species they have planted.

These timber harvesting activities, apart from generating money for the Stool (Chiefs and Elders) and the District Assembly, should derive direct benefits for the volunteers, he says, otherwise the group will keep on losing members until no one is left.

3.4 Other Actors Involved

3.4.1 The Traditional Council: Chiefs and Elders of the Owning Communities.

The Traditional Council complained that outsiders have been coming to visit and study the sites without leaving anything behind after they go. They are of the idea that finance is the kind of support needed for both reserves.

The Elders support the volunteers whenever is possible, but they are aware that such help is not enough and that further assistance is required to cater for them. The Traditional Council also agrees that the plan should be reviewed to include direct benefits for the volunteers from the income to be generated.

During the meeting, it came out that their vision of the forest in the future is:

1. To have big timber trees in the forests
2. To help getting rains
3. To produce Teak for sale
4. To attract tourist to see big Odum trees, and
5. To support community in projects (markets, schools, electrification)

When asked by the Traditional Council about the purpose of their visit, one of the Forestry Department representatives answered that the intention is to continue to provide technical support for the development of the forests. However, after a discussion involving all the participants, the representatives of the Forestry Department agreed that it could be within the capabilities of the Department to provide logistical support in the form of means of transport (motorbike or bicycles), cutlasses and Wellington boots.

This was taken as a general agreement, and besides that, the co-ordinators were invited by the Forestry Department representatives to visit a site where communities are growing mushrooms, so they can use the same technology at their respective sites. In this way, the Forestry Commission reaffirmed its position as a provider for technical and sometimes logistical support, exclusively for issues related to forestry practices.

3.4.2 The Forestry Department²

The Forestry Department is the main institution with which both community forests have linkages, they have been working in collaboration since 1994, and the Department has been very active in providing technical advice, seeds, seedlings, and logistic support whenever possible. The relationship between the groups and the institution is held in good terms not only at the local level, but also at the district and regional level. In fact, both community forests are regarded as pilot projects in the learning approach adopted by the Collaborative Forest Management Unit in its attempt to involve communities in protecting the forest resource in the Country.

² At the present time, the Forestry Department in Ghana is referred to as Forestry Commission. However, in this paper the term Forestry Department will be used to avoid confusions for readers outside Ghana.

Range Supervisor

The person interviewed in this case was Mrs. Jacqueline Twintoh, who was responsible of that area, and has been working closely with the volunteers for the last two years.

The kind of support she provides is mainly technical advice for the plantations and nurseries, but the most relevant aspect, she thinks, is that her only presence boost up their morale and makes them feel that they are not alone in their efforts. Her presence reminds them that the Forestry Department is interested in the projects.

In her opinion, it is very important that the Forestry Department continues to be present at the sites, paying regular visits and keeping the relationship in good terms. The volunteers need back up from the Department to enforce the laws concerning their forests. She admits that the range supervisor's activities are limited to forestry issues although she can help circumstantially in other areas. To dedicate more time to other areas outside forestry, she would need to ask permission from the District Manager.

The Range supervisor is aware that both groups need financial assistance, and she agrees with that need. She knows the work of the volunteers is demanding, and that something must be done to help them cater for their families. The volunteers, she said, need incentives to continue with their work, and that other institutions like NGOs, or donors could provide financial assistance, medical services and/or working inputs.

About her perception on the groups' aspirations, she said the groups want to assist other communities to get involved in community forestry, make their forests a tourist attraction, sell out some of their timber species and do more afforestation. She supports the idea of the volunteers going into the livelihoods projects mentioned before, as a means of generating income.

When the time for harvesting of timber trees comes, the forestry department can help the communities by assigning these forests a good contractor, one who will be socially responsible.

District Manager

Mr. Isaac N. Eshun is the Manager of the Forestry Department for the Assin-Fosu District. He was interviewed with the purpose of knowing the objectives of the Department at the District level, and his perception of the Adwenaase and Namtee community forests.

He was quick to answer that the Objectives of that office were to effect the policies and regulations of the Forestry Department. The policy in Ghana calls for the collaboration of communities in managing the forests, and that is precisely what is taking place in the two community forests. The officer sees the projects as very relevant for controlling off-reserve forests and helpful to the Department in performing its tasks, which are, mainly, to reduce illegal timber operations, and create awareness in the population for their involvement in monitoring activities.

Mr. Eshun continued to say that the department has helped the projects immensely; from the beginning they have participated making surveys, bringing experts, providing seedlings and other materials, drawing maps and helping to write the management plan. At the moment, one technical officer (range supervisor) is stationed there to give technical advice.

All those services have been rendered free of charge, however, the department is undergoing institutional transformations, and its orientation is expected to change to become a sort of private provider charging for its services. It is uncertain how will this affect the collaborative projects.

In spite of that, he knows about the difficult situation that the groups are experiencing, and he agrees that the volunteers need material benefits in order to be motivated to continue with their work. In that respect, the Department has no immediate plans.

To improve the support to the project, the District Manager suggests helping the communities to enforce the laws concerning their forests.

The Collaborative Forest Management Unit (CFMU)

The CFMU of the Forestry Department is the body created to build a partnership between the Forestry Department and the communities for managing the forests in an equitable and efficient manner. Mr. Alex Asare, head of the unit gave his opinion about the challenges faced by the CFMU in involving the communities to participate.

He says that getting the communities involved is not an easy task. The difficulties lie at 2 levels: 1. Getting ideas from them, and 2. Generate give and take situations.

1. In getting ideas from them, he said that the challenge is to create some kind of interest in them, so that they start to be proactive. That requires intensive education campaigns. At the same time, this interest will be competing with more urgent ones, such as their daily tasks, health and education.

2. He says that there should always be give and take; in most cases Forestry agencies are not keen in giving power. Agencies will be happy if communities help them, but they do not want to give remuneration for that.

The CFMU has defined rewards systems in activities such as border cleaning and tree planting, concerned about rising the attractiveness for participation. For the same purpose, the idea of improving production and access to NTFPs is being supported.

Asked about the possibility to support livelihood projects related to NTFPs as a means of increasing the benefits to communities from participation, he answered that the CFMU can handle the livelihood project as a trial run, but to commit the Forestry Department into the whole process is not foreseeable. That would mean going into business promotion, which is something out of its scope. According to him, the role of the Forestry Department could be only to test and give away, and it would be then that other NGOs like Technoserve, he suggested, could come in to continue the support.

3.4.3 The District Assembly

According to the communities, the District Assembly has not been involved in supporting the development of the community forests, and it seems to have no interest in doing so.

Asked about the reasons why the Adwenaase and Namtee projects have not been included in the development plan of the District, Mr. Owusu-Kyeremeh, the District Planning officer, answered that normally the people from the Forestry Department keep their information for themselves. A plan is currently been prepared, and all the decentralised departments have submitted their projects, except the Forestry Department. The Planning Officer himself says not being aware about the Adwenaase and Namtee community forests.

The District assembly, he says, is interested in afforestation, and is trying to involve communities in doing that. The Assembly has used resources from the common fund to buy seeds for some communities interested in afforestation.

In order to have access to the common fund, a plan must be submitted by the communities to the District assembly indicating the kind of support needed, the activities to be undertaken in the project, and the way it is expected to pay the money back. Afterwards, technicians in the corresponding field must validate the plan. The plan should be submitted to the District Assembly through the respective Assemblyman; that is, the representative of the Assembly in the community.

Once the Assembly has received the plan, it has to compete with other projects to be selected included in the development plan. The Assembly will then select from the plan the projects to be implemented in a particular year, looking at the District's priorities and urgencies. Still, the selected projects are sent to the National capital for authorisation.

The list of selected projects for the year was requested, and in the list, 14 projects were sent for authorisation to Accra, the National Capital. Out of the 14, there were 10 for the area of Education, 3 for Health and 1 for the construction of a market. The Head offices in Accra finally authorised 10 projects for the District in this year. Mr. Kyeremeh concluded by saying that in the end, all the projects implemented are to benefit the population of the District in one way or the other.

3.4.4 The Forestry Research Institute of Ghana (FORIG)

FORIG has selected both community forests for the implementation of a project called Adaptive Collaborative Management (ACM) on behalf of the Center for International Forestry Research (CIFO). The project has just started in the sites with a reconnaissance survey and start-up workshop on March, 2001.

In an interview held with Dr. Dominic Blay, the project co-ordinator, he said that this project is currently carried out in various countries. The objective is to improve the ability of forest stakeholders to adjust their systems of management and organisation to respond more effectively to the complex and dynamic circumstances.

The project is oriented mainly towards capacity building, and along side, it will provide some support, in kind, for the communities to rehabilitate their forests. A social science researcher scientist will identify the needs of the community related to their management systems. The project, however, cannot address the needs of income-generating activities in the forests, for that would be beyond its scope.

3.5 Summary

The summary of the main findings obtained from the information collected during the discussion with the groups, the interactions with institutions related to the community forests, and the literature review, will be presented in the beginning of the next chapter to be used as a base for proposals and recommendations.

CHAPTER 4. SUMMARY OF FINDINGS, PROPOSALS AND CONCLUSIONS

This Chapter will start by summarising the main findings of the analysis and, thereafter relating them to the specific objectives defined in Chapter 1, in order to come up with proposals and recommendations to attain the main goal of the research.

4.1 Summary of Findings and Implications

4.1.1 The Volunteers and Co-ordinators

- The discussions held with the volunteers and their co-ordinators show that the conditions for both community forests are quite similar. It is possible to conclude that the sustainability of the groups will depend on their ability to generate direct benefits and distribute them fairly among the different stakeholders. The kind of support to be provided should therefore address the requirements of the livelihood projects, which include technical knowledge for production, market analysis, managerial skills and access to finance. In terms of the actual support, it was also found that the groups are only working in close relationship with the Forestry Department, with very limited support from their respective communities.

4.1.2 The Traditional Council

- From the discussion with the Traditional Council, it is possible to infer that apart from protecting the forests for its religious values, their main interest lies in developing the forests in order to get economic benefits out of it. They perceive that the main pre-condition to achieve this is to receive external financial support.

4.1.3 The Forestry Department

- The Forestry Department is providing substantial technical and logistical support to both community forests because it is interested in them as pilot projects to involve communities in forest management.
- The range supervisor recognises the need of the involved groups in getting direct benefits from their work, and that for this purpose it is necessary to provide additional support that is not exclusively related to forestry. However she is not in

position or entitled to provide the kind of integrated support that addresses the needs of the groups

- The main interest of the District Forest Office is to control illegal felling of timber in order to sustain the yield of the forest resource. The Forest officers see the Collaborative Forest Management Program (CFMP) as an essential element in achieving that purpose.
- Although the District Manager knows about the economic difficulties of the volunteer groups, he recognises that the Department has no immediate plans to directly address that issue.
- The CFMU has found difficulties in involving communities in forest management mainly because of the lack of initiative from the local population and the competition of forestry activities with other most urgent needs.
- The CFMU is aware of the need of involved communities to derive benefits out of their participation, but the Department is not in a position to support income generating projects that would enhance the total economic value of forest management.

4.1.4 The District Assembly

- The District Assembly gives priority to projects that address urgent needs of broader sections of the District's population.
- The role of the Assemblyman is crucial to promote the projects in his respective area, written proposals must be submitted to the District Assembly in order to be included for selection.
- There is limited communication between the District Forest Office and the District Assembly; both institutions act independently from each other.
- Communication between the forest projects and the District Assembly is almost non-existent.

4.1.5 The Forestry Research Institute of Ghana (FORIG)

- The project to be carried out by FORIG, has a fixed agenda that focuses on management practices in relation to a changing natural environment, but is not attempting to address the particular needs of the groups.

From the summary of findings, it is possible to conclude that both projects are working in isolation on their attempts to generate the necessary income to support their activities, being this crucial for the sustainability of the projects under study. The collapse of these projects would be a serious drawback for the collaboration in the management of off-reserves forests in Ghana.

4.2 Findings Related to Research Objectives

4.2.1 Objective No. 1:

To identify the conditions required by the projects to operate on sustainable basis.

A comparison between the present conditions of both groups and the conditions required for the sustainable operation of Participatory Forest Management projects suggested by different authors in section 2.7.1 of this work, shows that there are various elements which must be strengthened in order to ensure the continuity of these community forests projects on sustainable basis (See Table 4.1). In this case the success of the projects is directly related to the effective and sustainable operation of the volunteer groups.

Table 4.1 Conditions for the Sustainability of the Adwenaase and Namtee Projects.

Institutional conditions

- An institutional setting should support local initiatives addressing their specific needs

Economic Conditions

- The groups' individuals must have a share in the benefits in order to participate
- Their participation must bring food security or guarantee of a higher financial income

Organisational Conditions

- Management practices must be in accordance with an approved local plan.
- Participants should be able, by means of strong local organisations, to defend their interests
- Monitoring and Evaluation tools must be used to assess if the desired goals and objectives are achieved

Human Conditions

- Participants should possess knowledge and means for sustainably using and managing the forest resources.

Physical Conditions

- Users should have improved access to the forest to ensure better control

Source: Author's Construct

The above-mentioned elements define the areas for intervention, which will be addressed in section 4.3

4.2.2 Objective No. 2:

To assess the financial impact that forest management has brought to the communities owning the dedicated forests. As mentioned by the volunteers and confirmed by the co-ordinators and Traditional Council, the projects have had no impact in the development of the owning communities. Furthermore, the projects have derived no financial benefits to the actors directly involved. This is the main concern presently affecting the motivation of the volunteers.

4.2.3 Objective No. 3:

To identify activities that can be undertaken within the forest and have the potential to become important sources of income for the project. The plantations of timber species (*Teak* and *Cedrela*) that have already been established in the forests are seen as the main source of income for the medium term. For the immediate and short term, the cultivation of *Maranthacea* (wrapping leaves) and black pepper, together with the so called "Livelihood Projects" proposed by the group of volunteers and their co-ordinators, which include Bee-Keeping, Snail farming, mushroom farming among others, are seen as a source of alternative income.

A recent study prepared by the Forest Sector Development Program of the Forestry Department, (François Reuter, 2001), shows a list of alternative income generating activities that can be undertaken within the forest under a Multiple Land Use Planning. The list goes almost from A to Z (See Annex 4). Apart from those already proposed by the volunteers, it should be explored under economic criteria, what other products can be included in the livelihood projects or other small-scale forest based processing enterprises.

According to Arnold (Natural Resource Advisers' Conference, DFID, 1998), the forest can provide a variety of outputs for livelihood that can be categorised as subsistence goods, farm inputs, income and reduced vulnerability.

Under those related to income three categories are found:

1. Products characterised by easy access to the resource and low capital and skill entry threshold. Producing for local markets, mainly low return activities often to fill particular income gaps or needs of households.
2. Some forest products provide the basis for more full-time and higher return activities; usually associated with higher skills and capital entry thresholds, serving urban and rural markets.
3. Some low-input gathering activities involve raw materials for industrial processes and external markets. There is high dependency on middlemen, which can easily manipulate prices given the limited contact of the gatherers with the external market.

The kind of products under category number two, are able to generate income for a number of people above the household level. It is necessary to assess the benefits that can be derived from the different alternatives and support only those that maximise the returns.

Economic analysis is also required to forecast the revenue to be obtained from the plantations in the following years. That would be a basis for decision-making about the optimal number of trees to be planted.

4.2.4 Objective No. 4:

To define the Institutional and Organisational Requirements to Undertake those Activities and Ensure a Broad-Base Distribution of their Benefits. This objective opens the discussion for the proposals and recommendations, which are the focus in the next section.

4.3 Proposals for Intervention

The areas of intervention identified in section 4.2.1 will be used as basis for the definition of proposals, which are also grouped under the categories of Institutional, Economic, Organisational, Human and Physical conditions.

4.3.1 Institutional Conditions

- The institutional setting should support local initiatives addressing their specific needs

Proposals: a) CFMU to develop guidelines for livelihood projects based on case studies

b) Establish a co-ordinating team under the CFMU to facilitate linkages between involved communities and other institutions providing relevant support

Community Forestry cannot be regarded exclusively as a forestry activity. Although it is forest-based, it is linked to the complex socio-economic context of the involved communities. Forestry practices are only one of the dimensions of that complex whole. Integrated solutions are required to address the needs of Participatory Forest Management projects in relation to their different dimensions (social, economic, organisational, technical, environmental and institutional).

On the other hand, Participatory Forest Management projects are dynamic and require a particular kind of support as they move from one stage to another. The following questions arise: Who should provide that support? Who will facilitate access to the required support at a specific stage?

A single body or institution, like the CFMU, is not likely to be capable of supporting these projects at all stages. It can however define the linkages required at the different stages based on case studies and include the information on how to establish such linkages in the guidelines to be given to communities undertaking Participatory Forest Management projects. The guidelines should be formulated, promoted and distributed by a co-ordinating team under the CFMU. The creation of this team does not imply recruitment of more personnel, but a shift in the direction of efforts, which determines the allocation of available human resources

For the particular situation of the Adwenaase and Namtee forests, it is proposed that the CFMU should direct efforts in drawing guidelines in collaboration with the relevant institutions, indicating the necessary steps to develop the livelihood projects including the technical aspects for production, the steps for market analysis and the institutions that can provide the technical or financial support along the process. From the experiences derived in these projects, a set of guidelines must be designed for communities that wish to undertake the livelihood projects.

In terms of networking, different programs at national level, such as the Rural Enterprise Program of the National Board of Small Scale Industries, the Village Infrastructure Provision of the Ministry of Food and Agriculture or the Micro Project Program of the Ministry of Finance and Economic Planning, can be accessed with the appropriate guidance. NGOs such as Technoserve, which supports self-help enterprise development, could easily provide support for livelihood projects with the backing of the Forestry Department. Universities and training institutions could also provide input to the projects if the appropriate channels are designed for students to assist with their knowledge and research in exchange for practical experience.

If the objective of the CFMU is to design successful programs for participatory forest management, it must support the initiatives of local communities aiming at ensuring the sustainability of the projects under such programs.

4.3.2 Economic Conditions

- The groups' individuals must have a share in the benefits in order to participate

Proposal: c) Modify the management plan in a way that a percentage of the revenue generated from the forest is allocated directly to the group of volunteers. The percentages suggested are 50% of the revenue generated from NTFP and livelihood projects, and 10% of the revenue generated from timber products.

The New Forest Policy gives absolute freedom to communities to decide on how they are to share the revenue generated from forest management. It is the owning communities that must agree in the distribution of the benefits and therefore they are to take the decision on allocating a percentage of the revenue to the group of volunteers.

- Their participation must bring food security or guarantee of a higher financial income

Proposal: d) The creation or reorientation of a unit within the Forestry Department responsible to undertake or support economic and market analyses for forest-based income generating activities.

Economic analysis is a key tool that must be used in the decision-making process of communities choosing the activities to be undertaken in order to maximise returns. The CFMU should make efforts in this direction developing a body specialised in economic and market analysis for timber and non-timber forest products.

This requires specific skills, which are not likely to be found at the community level. DFID and FAO have developed guidelines both for economic and market analyses respectively, that could be used as starting point in developing an economic analysis unit within the Forestry Department. The CFMU could also outsource some of these activities by using their linkages with other institutions; for instance, the Forestry Research Institute of Ghana has a socio-economic unit that could play a significant role in this respect.

4.3.3 Organisational Conditions

- Management practices must be in accordance with an approved local plan.

Proposal: e) Make the necessary modifications to the management plan in order to open the possibilities for different activities that can be carried out in the forests under a Multiple Use Management.

The owning communities seek to have a natural forest, and therefore have refused ideas such as Taungya, rice and oil palm plantations since they are regarded as farming activities that should be undertaken by individuals in their own plots. However, the revenue generated in private plots is not likely to be shared for common use. It is necessary to generate with common labour the income required to support the groups' activities and plantations like the ones mentioned above could serve that purpose. The area for the ancestors must be strictly protected, but other areas within the forests should also be seen as a gift to the respective communities representing an opportunity for their development.

Authors like Panayotou and Ashton, (1992) sustain that Multiple Use Management holds the key to economic profitability, social acceptability and ecological sustainability.

- Participants should be able, by means of strong local organisations, to defend their interests

Proposal: f) Improve the relationship between the communities and the groups of volunteers through public education using schools, and social or religious ceremonies.

g) Open group membership to other community individuals, but under certain conditions that ensure an economically convenient size, where founding members maintain their status.

Under the present conditions, both forests could be regarded as "group projects" rather than community projects. Under such circumstances the groups are likely to be excluded from different kinds of support, which aim at a broader number of beneficiaries. The projects must show a potential of bringing community development in order to qualify for support from external institutions (i.e. District Assembly). Support from other members in the community will also be limited if only a reduced group would benefit from the forests.

Keeping the possibility open for other community members to participate and directly benefit from the projects, would help in improving the relationship between the groups of volunteers and their respective communities, giving thus the projects a wider representation and a better position to mobilise internal and external resources.

Some volunteers could reject the idea of accepting new members into the group since those new members would benefit equally from the work already done, but, under certain schemes, new members can be allowed to work voluntarily for some time until they earn a position where they could also be direct beneficiaries. It is however recommended that the size of the group remains at a level where distribution of benefits and responsibilities are economically convenient to its members.

- Monitoring and Evaluation tools must be used to assess if the desired goals and objectives are achieved

Proposal: h) Define clearly the goals and objectives of the income generating projects, and define a monitoring and evaluation scheme to assess their development.

Economic analysis is relevant to this point, where forecasts and outputs are to be assessed along the development of the project. The Monitoring and evaluation scheme would be used as a tool to assess the profitability of the livelihood projects, to correct deviations from the norm, and to question the validity of a specific project.

4.3.4 Human Conditions

- Participants should possess knowledge and means, for sustainably using and managing the forest resources

Proposal: i) Provide the necessary skills in the areas of management, project and proposal writing, accounting, and monitoring and evaluation.

Given the technical assistance that the Forestry Department is willing to provide for production techniques of timber and non-timber forest products, there is not a skills gap in this respect. However, as was found from the data collected, several managerial skills are missing. For instance, proposal writing is required to apply for support from external institutions; plan preparation is relevant to program the activities according to the available resources; accounting skills are required for transparency; and leadership skills to appropriately manage the human resource and keep a high level of motivation.

Again, networking is essential for this task, where universities, training and vocational institutes, NGOs, and national programs can participate. Support from the CFMU can be very valuable in identifying and establishing relevant linkages.

4.3.5 Physical Conditions

- Users should have improved access to the forest to ensure better control

Proposal: j) Construction of a security post for permanent vigilance of the income generating projects for an improved control and monitoring.

Monitoring of the livelihood projects and other income generating activities within the forest require close control to prevent looting and natural destruction. Particularly in the case of the Namtee forest, where the owning communities are far from the forest (24 and 17 km.), and surrounding communities closer to it forest have shown no respect for the boundaries, control systems should include day/night vigilance from the volunteers under a roster. According to the volunteers the only effective protection of the forest resource was experienced when the owning communities hired forest guards.

The 35 volunteers can be organised under a roster to effect night vigilance on the facilities of the income generating projects. This will imply that one volunteer has to spend one night per month in the forest and can be excluded from voluntary work for

that particular week. The security post can be constructed with communal labour and local materials.

4.3.6 Additional Recommendations

- From the author's point of view the idea of Eco-tourism should not be considered for these sites, given the high uncertainty of the market and their reduced competitive advantage.
- Since the present work attempts to give proposals for improving the management of forest patches off-reserve, it is suggested that communities should be encouraged to dedicate their forests and form community forest committees as an equivalent to the structure of the Namtees and Adwenaase forests; where traditional authorities and the group of volunteers are responsible for their forests. Ideally each patch of forest should be attached to a Community Forest Committee.
- The idea of livelihood projects should be promoted for communities managing forest reserves using the guidelines to be drawn from experiences in pilot sites.
- The Forestry Department should outsource nurseries for afforestation programs at the national level to forest-managing communities under a contract.

4.3.7 Summary

The proposals attempt to strengthen the Adwenaase and Namtee projects in its various dimensions, namely Institutional, Human, Financial, Physical, and Organisational, for the implementation of income generating activities, which was found to be the central requirement for the sustainability of both groups under their present conditions.

The ultimate objective is to make these projects an experience of success to be replicable in other forest patches off-reserve, and in forest reserves managed under Participatory Forest Management Schemes.

4.4 Conclusions

Participatory forest management in the case of the Adwenaase and Namtee community forests is yet to prove its capacity to positively influence the development of the owning communities. Apparently, this is expected to happen when the timber species within the forest are ready to be harvested.

At this stage, the projects are seeking to maintain their sustainability by generating income in order to support the activities of the community members directly involved in the management of the forests.

As stated in Chapter 1, the goal of the present work is to identify strategies to help communities increase the sum total of economic benefits derived from their participation in forest management, and the requirements to implement them.

The strategy identified is to complement plantation of timber products with alternative income generating projects or "livelihood projects", which consist in the production and commercialisation of non-timber forest products, and the establishment of small-scale forest based enterprises under a multiple use management; where conservation and exploitation must be balanced.

It is expected that by increasing the economic benefits, participation in forest management will be more attractive to communities; giving the projects higher possibilities of being sustainable in a situation where competition between means for sustaining livelihoods is critical.

A body like the Collaborative Forest Management Unit, which is set to promote and ensure the operationalization of Participatory Forest Management Programs, should not be limited to provide technical assistance in forestry, touching the other dimensions of participatory management only superficially.

The CFMU should therefore direct efforts to promote and support local initiatives in this regard, not letting them to succumb in the often-limited capacities available at the local level. One must keep in mind that successful involvement of communities in forest management leads to a better protection of the forest resource and thus, a more sustained yield of timber products.

The impact of Participatory Forest Management in the Local and National economies will only be relevant if successful experiences are successfully repeated and multiplied.

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APPENDICES

Appendix 1.a

Guides for Discussion with District Forest Manager and Range Supervisor

Presentation

Introduction to the purpose of the visit

Name and position of respondent

- **What are the main functions of the institution in the District?**
- **What is the relationship between the District Forest Office and the Adwenaase and Namtee community forests?**
- **What is the relevance of both projects for the forest sector?**
- **How does this institution support the group?**
- **What are the activities planned by your institution for the future in both community projects?**
- **What would your institution need to increase the support to both groups?**
- **Without considering your institution, what kind of help do you think would be relevant for the projects at this time?**
- **Could your institution act as a facilitator for that purpose?**

(Additional questions for the Range Supervisor)

- **Which ideas would you suggest for supporting the community forest projects?**
- **Which ideas have you heard from the groups themselves for this same purpose?**
- **How could you help the groups to implement those ideas?**

Appendix 1.b

Guide for Discussion with Volunteers

Presentation

Introduction to the purpose of the visit

Number of participating volunteers: _____ Sex: _____ M _____ F

Main occupation: _____ Farmers _____ Traders _____ Household _____ Other

- Time dedicated to forest activities (Weekly)
- Type of activities undertaken within the forest
- Motivation, why did you decide to form part of the volunteers group?
- Why do you still participate?
- What do you expect to achieve through your participation?
- In what way does your participation benefits you or the community?
(Financial/Non-financial)
- How do you think you can get direct benefits from your participation?
- In your opinion, Who should be helping the group in that respect?
- Who has helped you so far and how?
- If the group were able to generate income, who would manage it, and who should benefit?
- How can the group help itself in generating their own income or benefits?
- Why haven't you done it?
- What are the main problems you currently face (as a group)?
- What are the good things about the group? What do you enjoy about it?
- What is the most important thing for the group? (Priorities)
- What positive effects that your intervention has brought to the community
- How do you wish to see the forest in 10 years?
- Does the group accept new members?

Appendix 1. c

Guide for Discussion with Volunteers' Coordinators

Presentation

Introduction to the purpose of the visit

Characteristics of the respondent:

Name:

Age:

Main Occupation:

Number of Dependents:

Scholarity:

Other skills:

- Have you been trained? On what? By whom? Was it adequate?
- What are your current training needs?
- When and how did you become coordinator for the group?
- What is your motivation to participate?
- What are your activities as coordinator and how much time you dedicate (weekly)?
- What do you wish to achieve through your participation?
- What does the group wants to achieve?
- How will you achieve that?
- Who can help you to achieve your goals and how?
- Have you asked for that specific support? What was the result?
- What benefits (financial/non-financial) has the group so far received for its activities?
- What can the group do to help itself?
- If the group could generate its own income, Who would manage it and benefit from it?
- What are your ideas to improve the situation of the group?
- How can other members of the community assist the group?
- What would happen if things stay as they are now?

Appendix 1.d**Guide for Discussion with Chiefs and Elders (Traditional Council)****Presentation****Introduction to the purpose of the visit**

- What is the present situation of the group?
- What has the group achieved so far and what would you expect them to do now?
- How do the members of the Traditional Council support the group?
- Who do you think can provide further assistance to the group, and in which way?
- To whom have you asked for assistance, and what has been the answer?
- What would be the ideal situation of the group at this moment?
- How do you wish to see the forest in 10 years?
- If the group were able to generate income, how would it be distributed?
- How would the community in general participate?
- What would be the situation in the future if things remain as they are now?

Appendix 1.e**Guide for Discussion with the District Planning Officer****Presentation**

Introduction to the purpose of the visit

Name and position of respondent

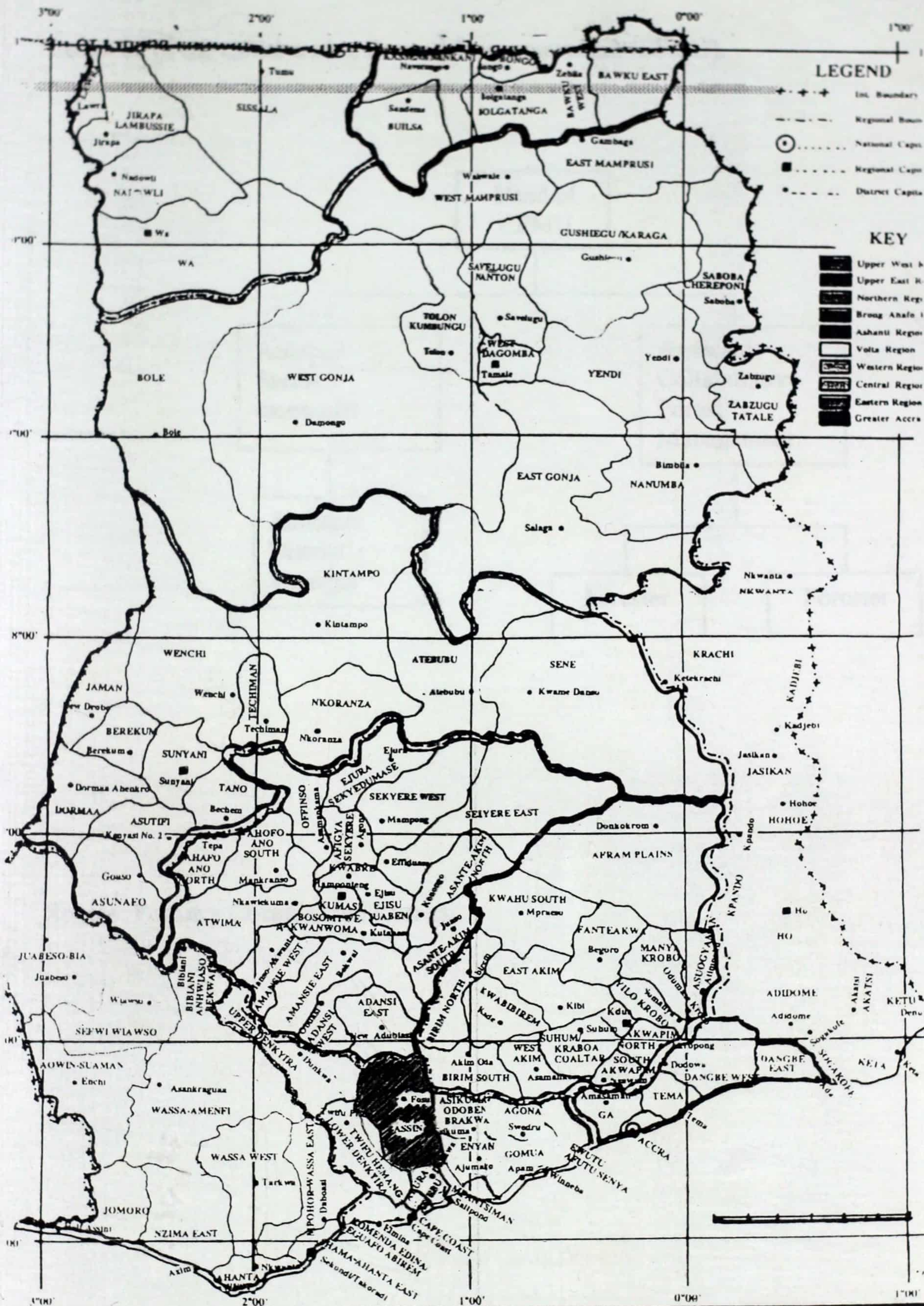
- **How much do you know about the Namtee and Adwenaase community forests?**
- **What is the relation of your section with the group?**
- **What is the relevance of the projects for the District Assembly?**
- **How has the District Assembly assisted the projects?**
- **What would be the requirements for the group in order to receive assistance from the District Assembly? What should the group do and through which channels?**
- **Do the groups qualify to get support from the common fund?**
- **What kind of projects qualify for that support?**
- **Apart from the District Assembly, who should assist this kind of projects?**
- **Given its coordinating role, How could the District Assembly facilitate the process for the development of the group?**
- **If not, Who do you think should do that?**

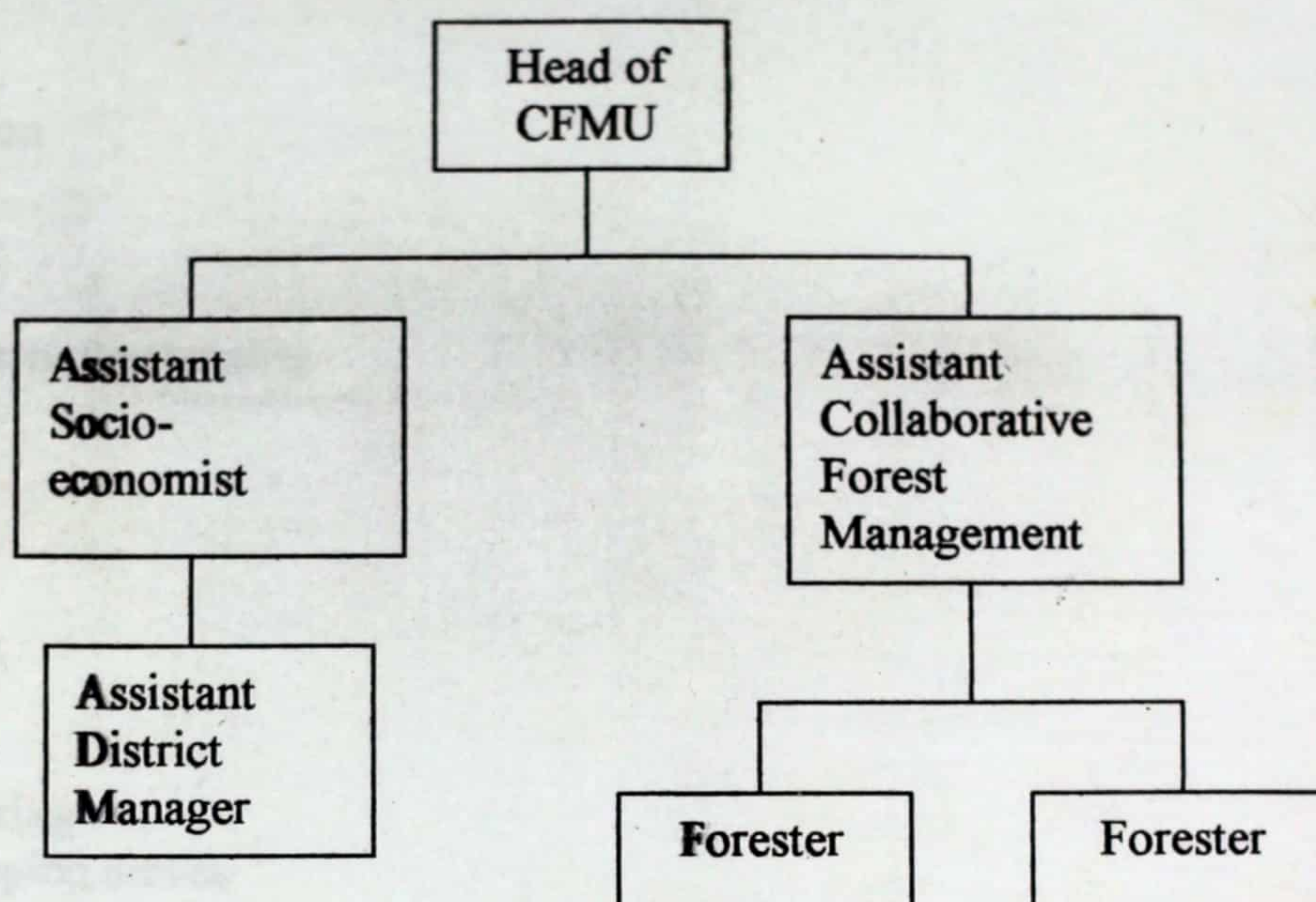
Map of Ghana showing the High Forest Zone and Forest Reserves



Source: Agyeman *et al.*, (1999)

DISTRICT MAP OF GHANA



ANNEX 3**Structure of the Collaborative Forest Management Unit (CFMU).**

Source: Forestry Commission, Kumasi.

Alphabetical list of items/activities that can be considered for sustaining rural livelihoods of forest fringe communities.

Bamboo for furniture
Bee keeping
Building poles
Bushmeat production
Cane for furniture
Cashew nuts
Chewsticks
Community based wood enterprise
Craftmanship
Ecotourism
Firewood
Fowl production
Grass cutter rearing
Household items
Kola nuts
Large livestock rearing
Maranthaceae wrapping leaves
Medicinal plants
Mushroom farming
Oil palms
Raphia palms
Ropes
Silviculture activities
Small livestock rearing in pens
Snail rearing
Spices
Sponges
Taungya plantations
Tree harvesting
Vegetable gardens
Wild Yam