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Conservation, Forest Resources and Sustainable Rural Livelihoods:
A Case Study of Saint Bernard Community, KwaZulu-Natal

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Conservation, Forest Resources and Sustainable Rural Livelihoods: A
Case Study of Saint Bernard Community, KwaZulu-Natal   j

by

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Environmental Sciences at the University of KwaZulu-Natal in partial
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2007

DECLARATION

I, Dumisani L. Buthelezi., Registration Number 200001285, hereby declare that the dissertation entitled:

Conservation, Forest Resources and Sustainable Rural Livelihoods: A Case Study of Saint Bernard Community, KwaZulu-Natal

is the result of my own research and has not been submitted in part or full for any other degree or to any other University.

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Dumisani Lucas Buthelezi   Date

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DEDICATION

- To my late parents who passed away while I was still very young, especially my mother who used to encourage me to go to school even on an empty stomach and without shoes.

- To the rural communities who still struggle to gain access to and use of forest resources in their vicinity.

- To all those South Africans who experience and deal with acts of silent racism in areas of work and in the universities.

ABSTRACT

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There is a growing body of literature that outlines a contemporary view of the role of forests and forestry in rural development. The most common argument highlighted by the contemporary literature indicates that forests provide a wide variety of important products, both for subsistence purposes and as sources of income. This study is based on the premise that an understanding of the issues that relate to access and utilization of forest resources and their management cannot be neglected in the field of rural development, more especially in the African context wherein much of the population is still defined as rural dwellers. Furthermore, given the paradigm shifts that have been witnessed in both the approaches to rural development and natural resource management over the years, it is necessary to examine how forestry has responded to new demands, particularly in relation to its contribution to rural livelihoods. This study intended to examine the conservation and management of forest resources and their impact on sustaining rural livelihoods by using the case study of the Saint Bernard community in the Nhlazuka village in Richmond, KwaZulu-Natal province. In Saint Bernard, a communal system of managing community resources such as trees and forests forms an integral part of decision-making. The study looked at the management of both the natural and plantation forests and their impact on the livelihoods of rural communities, especially in communally owned areas. Given the nature of this study, both qualitative and quantitative methods of social science research were employed to generate data relating to the research objectives and questions. Qualitative participatory techniques used include the ranking exercise, mental mapping and venn diagram. Quantitative data was mainly obtained through a questionnaire survey. The primary data was supplemented with the secondary data relating to the focus of this study.

ABBREVIATIONS AND ACRONYMS

AFRA	Association for Rural Advancement
APS	Afforestation Permit System
CBNRM	Community-Based Natural Resource Management
CIFOR	Center for International Forestry Research
CPA	Community Property Association
DFID	Department for International Development
DLA	Department of Land Affairs
DoA	Department of Agriculture
DoH	Department of Health
DWAF	Department of Water Affairs and Forestry
FAO	Food and Agriculture Organization of the United Nations
ICDPs	Integrated Conservation and Development Projects
IIED	International Institute for Environment and Development
MDGs	Millennium Development Goals
NGOs	Non-Governmental Organizations
NTFPs	Non-Timber Forest Products
ODI	Overseas Development Institute
PFM	Participatory Forest Management
PRA	Participatory Rural Appraisal
RRA	Rapid Rural Appraisal
SAFCOL	South African Forest Company
SAPPI	South African Pulp and Paper Industry
SLA	Sustainable Livelihoods Approach
SMMEs	Small Medium Micro Enterprises
SPSS	Statistical Packages for Social Sciences
SRL	Sustainable Rural Livelihoods
WB	World Bank

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CHAPTER ONE

1.1 Introduction

This chapter presents the main purpose as well as the motivation for this study. It outlines the topic and the main aim of the study. The objectives which guide the focus of the study are also presented here. This introductory chapter further provides an outline of the sequence of all the chapters that make up the study.

There is a growing body of literature that outlines the role of forests and forestry in rural development. The most common argument highlighted by the contemporary literature indicates that forests provide a wide variety of important products, both for subsistence and as sources of income (Angelsen and Wunder, 2003; Arnold, 1998; Bass *et al*, 2004; Lewis at al, 2005; Scherr *et al*, 2002; Warner, 2002). Such products include timber, fuelwood, charcoal, food, fodder, fibre, and medicines (Eade and Williams, 1995; Lewis *et al*, 2005). Most people in the rural areas of the developing world obtain their means of livelihood from their immediate environment. It is apparent therefore that rural livelihoods in the forest fringe communities are dependent, among other strategies, on the direct utilization of forest resources and associated activities (Arnold and Townson, 1998). There is also a growing trend in many countries of the developing world wherein opportunities are being created for rural forest communities to take part in the commercial forest sector (Ndabeni, 2001) and such trends have been highlighted as having a significant contribution in some parts of rural livelihoods (Ojwang, 2000).

This study acknowledges the role that forests play in rural livelihoods. Thus it is set out to highlight and examine the role of forestry in development generally and that of the rural sector in particular. It is based on the premise that an understanding of the issues that relate to access and utilization of forest resources and their management cannot be neglected in the field of rural development, more especially in the African context wherein much of the population is still defined as rural dwellers. Furthermore, given the paradigm shifts that have been witnessed in both the approaches to rural development and natural resource management over the years, it is necessary to examine how forestry has been handled to respond to the new demands in

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development practice, particularly with its contribution to rural livelihoods. It is in this regard that this study intends to examine the conservation and management of forest resources and their impact on sustaining rural livelihoods.

1.2 Motivation for the study

The literature reveals that during the 1960s, the main contribution of forestry to development in many countries of the world was seen as a supply of raw materials for industry, often in pursuit of export markets (Arnold, 2001; Colchester *et al,* 2003; Van Gelder and O'Keefe, 1995). These involved timber, fuel or pulp for paper manufacture (Eade and Williams, 1995; Schmidheiny, 1992). Such an approach to forestry has however changed markedly over the past few decades. The importance of forests to local people began to be widely recognized among forestry and development professionals in the late 1970s (Castren, 2005; Van Gelder and O'Keefe, 1995). As a result, various governments and development agencies for instance, such as the Food and Agriculture Organization of the United Nations (FAO), and the World Bank announced the adoption of more 'people-oriented' forest policies and programs (Eade and Williams, 1995; Hobley, 2005). This move resulted in the emergence and popularity of the concept of community forestry (Arnold, 1992). This approach embraces the role that forests play in addressing some parts of the livelihoods of many communities throughout the world, particularly those of the developing world (Bigombe Logo, 2000). It is based on the premise that communities, especially those who are within or adjacent to the forests are among the major role-players, and for the purpose of managing the forests in a sustainable manner while responding to local livelihoods, it is deemed necessary that such communities be involved in the decision- making processes that relate to the planning and management of forests (Hobley, 2005; Warner, 2002).

Following the adoption of the people-centred approach, the programs and strategies that complement it have been initiated and incorporated into the national forest policies of most countries, particularly those of the developing world (Eade and Williams, 1995; Van Gelder and O'Keefe, 1995. One of the strategies that underlie a people-oriented forest management approach is Participatory Forestry. According to Potters *et al* (2002), participatory forestry has emerged during the past decade as an effective approach to be used by local communities in taking part in decision-making

to ensure the sustainable management and use of forest resources. Participatory forestry is informed by the paradigm shifts that have been witnessed over the years in the interpretation and purpose of community forestry.

In South Africa, with the advent of the democratic transition in 1994, new policies were drafted in various sectors and institutions that are considered to have an impact on the country's development. As part of the re-working of the government's policies across all sectors, forestry was marked as one of the sectors that needed to undergo a process of restructuring. This move has been witnessed with the promulgation of new policy frameworks which emphasize the adoption of an approach that promotes the link between people and forests (Department of Water Affairs and Forestry [DWAF], 1996). In this new dispensation, the role of forests (both natural and plantations) in rural livelihoods is widely recognized and thus forestry remains one of the focus areas in rural development. Hence the concept of community forestry is being increasingly popularized in the new South African forest policy.

Except for the shift in thinking within the forest sector, the South African land reform process has also promoted the involvement of local communities in forestry matters (Von Maltitz and Shackleton, 2004). The land reform process has, in some instances, influenced the creation of communal areas. In communal areas, the community through its institutions, reserves the right to decide on land use planning for their area. This implies that in such areas the community decides on the patterns of use of the forest resources and strategies for their management. Land reform has therefore promoted the transfer of decision-making power to the local communities and such communities are now faced with a huge task of developing strategies for the sustainable management of their natural resources such as forests. This study therefore seeks to examine the potential of local communities in communally owned areas to set up their own participatory strategies for the management of forest resources in the community and the commitment of the government in supporting such communities in initiating their own resource management strategies. The role of the natural forests on local livelihoods is also investigated in this study.

Furthermore, as a result of the legacy of the past, some of the communal areas in South Africa exist within or adjacent to areas that are dominated by commercial

plantation forests. Due to the growing demand of the South African pulp and paper and timber industries, rural communities have been encouraged to use their pieces of land to join the small out-grower timber schemes. Such schemes have been witnessed taking place, especially in the Eastern Cape and KwaZulu-Natal provinces (Everson and Underwood, 2004; Lewis *et al,* 2005). The out-grower schemes are thought to have a potential for local economic development for rural areas (Mayers *et al,* 2001). However, the exotic trees have been widely reported for their environmental and social impacts in South Africa. While commercial forests are one of the best contributing revenue generating commodities in both the domestic and international markets, it is however deemed imperative in this study that their impact on rural livelihoods is also investigated, given their rural location.

1.3 **Aim**

The primary aim of this study is to examine the conservation and management of forest resources and their impact on sustaining rural livelihoods by using the case study of the Saint Bernard community in the Nhlazuka village in Richmond, KwaZulu-Natal.

1.4 Objectives

- To determine the socio-economic profile of the Saint Bernard community.
- To identify the main uses and needs of the forest resources in the community.
- To identify and analyze the key challenges and constraints faced by the community in accessing forest resources.
- To understand and analyze forest conservation and management measures currently employed.
- To examine the extent to which the community participates in decision-making related to the forests.
- To examine the impacts that commercial plantations have on local livelihoods.
- To forward recommendations based on the findings of the study.

This study was conducted in the Saint Bernard community of the Nhlazuka village in Richmond, KwaZulu-Natal province. The Nhlazuka village is ward five of the Richmond municipality. It consists of ten sub-wards which all resemble a rural

characteristic (Nxumalo, 2001). Saint Bernard is thus one of the rural areas of the Nhlazuka village. The Saint Bernard community is basically located in the land that was formerly under the ownership of the Saint Bernard Roman Catholic mission (Trench, 2003). It was only in 1998 through the land reform program that the ownership of the area was transferred to the community with a subsequent formation of the Saint Bernard community committee (Trench, undated). The committee now remains the main statutory body that influences decisions in the community. In this regard, Saint Bernard has thus been transformed into a communal area (Trench, 2003). A communal system of managing community resources such as trees and forests forms an integral part of decision-making in Saint Bernard. According to Trench (2003), in the communal land the residents build houses and have fields within the boundaries of their sites. Outside the boundaries of the household sites there are grazing lands, small plantations and an area of forest (Trench, 2003, Trench, undated). Furthermore, the area lies adjacent to private commercial tree plantations. It is the indigenous forest within the Saint Bernard community and the commercial plantations adjacent to it that made this case study appropriate for this research endeavour.

This study was based on the collection and analysis of data relating to the conservation and management of forest resources and their impact on the livelihoods of the Saint Bernard community. Given the nature of this study, both qualitative and quantitative methods of social science research were employed to generate data relating to the aim and the research objectives. Qualitative participatory techniques used include the ranking exercise, mental mapping and venn diagram. Quantitative data was mainly obtained through a questionnaire survey. The primary data was supplemented with the secondary data relating to the focus of this study.

1.5 Chapter sequence

The second chapter encompasses a literature review of the main issues that relate to the topic of this study. This is followed by chapter three that highlights the South African experiences and the new developments that are associated with the democratic transition in the forest sector. The fourth chapter provides the description of the study area as well as a detailed discussion of the methods of investigation. The description of data and discussion of the results obtained from the application of the methods described in chapter four are covered in chapter five. The final chapter of

the report presents the summary of the key findings based on the objectives of this study, the recommendations and general conclusions will also be submitted in the final chapter.

1.6 Conclusion

This chapter has introduced and motivated the purpose of this study. The topic, objectives and the main aim of the study have been amply presented. In this light, the foundation for the whole study has been laid in this chapter. It should be noted that the study looks at the management of both the natural and plantation forests and their impact on the livelihoods of rural communities, especially in communally owned areas.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter presents a wide range of issues that relate to the topic of this study. Particular focus is paid on the issues that seek to trace the trajectories that have shaped the role of forestry in development over the years. The main argument that is presented here is that the shifts in forestry thinking and practice have been influenced by the paradigm shifts that have taken place in the lexicon of development over the years. Particular attention has been paid on the review of the literature that outlines the historical background of forestry from its traditional macro-economic focus and exclusive management through to the perspective of multiple objectives and role players. The link between forestry and rural development is also presented in this chapter. This is accompanied by an overview of the early community forestry programs, the argument for participatory strategies in community forestry, new perspectives in natural resource management, the contribution of forestry in rural livelihoods and a brief overview of the progress of participatory forestry on the African continent. It is anticipated that an outline of these issues will lay the foundation for the development of a better understanding of the dimensions of South African forestry.

2.2 Interpreting forestry within the ambit of development thinking

In Recent years, there has been growing emphasis on the role that forests resources can play in rural livelihoods (Arnold and Townson, 1998). This does not mean, however, that it is this new thinking that has presented, to humankind, the knowledge about the close relationship between people and forests. In fact, evidence exists that since time immemorial forests in most parts of the world have always supplied a wide range of activities and services to rural communities (Colchester *et al,* 2003; McCracken, 2004). Understandably, this knowledge had, however, remained overlooked by the past forestry policies and programs that reflected a tendency of biasness towards the macro-economic thought that characterized development

thinking, particularly in the 1950s (Bass *et al,* 2004; Hobley, 2005; Van Gelder and O'Keefe, 1995; Pretzsch, 2003).

Through a close comparison between the conventional trend as well as the new interpretations that underpin the contemporary thinking in international forestry policies and practices, perhaps one can indeed deduce that the transformation through which forestry has been embroiled in, at least from the 1950s through to the present dispensation, reflects the paradigm shifts that have been widely witnessed in the lexicon of development, both in theory and practice (Hobley, 2005; Pretzsch, 2003). According to Pretzsch (2003), waves of changing development policy influence the forest sector and shape the guiding targets and strategies of forest development. In other words, the policies and programs under which international forestry has operated over the years have gone through a number of phases. A closer examination of these phases reveals a close correlation with the changing trends in thinking that have characterized the development theory and practice over the years, through to the present dispensation. Within this context, Arnold (2001: 2) postulates that:

> *Programs to manage forest resources so as to increase or better focus their contributions to development out of poverty have been shaped by prevailing thinking about the broader development process. Forestry development has at different times reflected a focus on forest industry, forestry and rural development, and forestry and conservation of biodiversity.*

2.2.1 Traditional Forestry: The forest industry and macro-economic thought

Forestry development had until the early 1970s reflected the traditional macro-economic focus (Colchester *et al,* 2003; Van Gelder and O'Keefe, 1995; Hobley, 2005). The main contribution of forestry to development was seen as a supply of raw materials for industry often in pursuit of export markets (Arnold 1992; Arnold, 2001). These mainly involved timber, fuel or pulp for paper manufacture (Eade and Williams, 1995; Schmidheiny, 1992). Arguably, it is not surprising that forestry had followed this particular trend. In fact, what emerges from the above position is a reflection of how the sector was drawn into the theories of economic development and economic growth that dominated the broader thinking about development particularly in the 1950s and 1960s (Pretzsch, 2003). There is widespread argument that during this period, development theory and practice were strongly focused on industry-led

approaches. The emphasis was on accelerating macro-economic growth by creating a modern industrial sector in the economy, supported by an urban infrastructure and labour force (Arnold, 2001; Hobley, 2005; McKay, 2004; Treurnitch, 1997; Van Gelder and O'Keefe, 1995). In as far as forestry is concerned, Arnold (2001) asserts that it was expected that rural populations would share in the wealth created in this way through the normal workings of the market economy (the 'trickle-down' effect). Basically, the view of a 'trickle-down' effect in development thinking was largely influenced by the modernization theory of development which gained prominence around the 1950s (Treurnich, 1995). The theory stemmed as a response to the apparent development ills that plagued developing countries during this period. The basic point of departure of this school of thought, as described by McKay (2004), is that in order for the poor countries to escape the 'poverty trap', they need to adopt the process of modernization which embraces the use of sophisticated technologies to enhance the production systems leading to stable economic growth, with its benefits to 'trickle down' to the other sectors of the society at a later stage. This model was followed by the Northern countries in their stages of development.

The modernization theory had subsequently impacted almost every sector and institutions that contribute to the process of development, and forestry is not an exception in this regard (Hobley, 2005). According to Arnold (2001), it was argued that forest products enter widely into the economy and face vigorous demand, and that forest industries have above average growth rates and earn and save foreign exchange, and have strong forward and backward linkages to other industries. Arnold (2001) further postulates that the basic argument in this regard was that the rural location of forests could help bring modern sector skills, jobs and infrastructure to the rural economy, and that the choice of different mixes of capital and labour in many forest industry processes adds to their potential for generating rural employment. Ultimately, forestry followed this northern model of establishing large-scale, industrial and commercial plantations and natural forest management to earn revenue and foreign exchange. This pattern of growth subsequently found its way to the developing countries during the colonial era when imperial powers established forestry departments as integral parts of their colonial administrative structures to serve imperial priorities (Colchester *et al*, 2003; Van Gelder and O'Keefe, 1995).

However, in the late 1960s it was apparent that the macro-economic model of development was not an effective approach to equally disperse the benefits of development, particularly to the social sector (Muraleedharan, 2005; Hobley, 2005). Growth was given priority over equity. In this light, Treurnitch (1997) identifies some fundamental flaws that are linked to the model:

- The elite reaped the benefits.
- Problems like inequality and unemployment remained high or higher than before.
- Although the per capita income of poor countries rose substantially, the benefits were unequally distributed among countries and also among regions, as well as between socio-economic groups.
- The gap between the rich and poor countries and the gap between the rich and poor within countries also continued to grow.

With these flaws, it was apparent that the development sectors that had followed the trends that are underpinned by the macro-economic model of development were often unable to deliver the outcomes and therefore were not effectively responding to the other facets of development, particularly the social sector. Such is the case with forestry. Arnold (2001: 2), for instance, asserts that:

> *In practice, the positive impacts of forest industries development proved more limited. To be competitive, they had to employ advanced, capital-intensive technology. Dependence on imported capital equipment and process inputs, and high infrastructure costs, meant that many forest industries in developing countries proved to be a drain on, rather than a contributor to, the foreign exchange balance and the economies of those countries. Their operation needed skills not available in the rural areas, so much of the employment went to outsiders. The unskilled jobs that they did generate for rural people tended to be limited in number, often temporary in nature.*

This implies that the benefits generated out of the forest industries and activities were only scattered to a limited number of individuals or groups within the society, mostly, the well established elites and the governments as the major stakeholder with the exclusion of local communities (Jumbe and Angelsen, 2005). The interest was on enhancing the productivity of the sector with a mere focus on profit maximization. In

their view of the conventional approach to forestry and its implications thereof, Bass *et al* (2004: 227) assert that:

> *The actual uses of the forests have tended to reflect the economic and political powers of particular forests stakeholders and their support from government agencies and policies. They have tended to reflect beliefs, policies and political intentions that express how society wants to organize itself, divide its wealth, consume the products of wealth and embark on what it believes are the best path for development.*

It is now apparent therefore that the forest industry development has never been a major vehicle for poverty alleviation. Having identified the fundamental flaws in the sector, in recent years there has been a proliferation of various approaches with a drive to restructure and organize the traditional forest industry in ways that provide better access to rural populations. Arnold (2001) points out to the emergence of sub-contractors or out-growers as one example of restructuring.

2.3 The new perspective: the incorporation of multiple objectives and role players in forestry

The early 1970s presented a turning point in the paradigms that had long governed the thinking in the forest sector. In the same period, there were shifts taking place in development theory and practice. The development thought was largely characterized by a shift from a pure macro-economic approach to a more people-centred approach. Linked to this was a shift from conventional, exclusionary approaches towards a trend that emphasized the involvement of local communities in natural resource management practices. During this period, the traditional top-down, northern induced thinking about the role of forestry in development faced tremendous criticism (Arnold, 2001; Colchester *et al,* 2003). Warner (2002) asserts that from the beginning of this period, a significant shift away from the narrow focus on industrial forestry and the control of forests by the state and their exclusive management by professional foresters to a situation characterized by multiple users and multiple objectives was noticed.

Van Gelder and O'Keefe (1995) postulate that forestry moved from the traditional orientation of forest protection and the exclusive encouragement of industrial wood

production in the interests of national economic growth, to embrace far broader economic, social and environmental concerns. The incorporation of the social and environmental concerns implies that the scope of interests within the forest sector was set to expand to accommodate a plethora of new ideas from different backgrounds that have subsequently transformed forestry away from a narrow wood-production view to a complex subject. This trend therefore reinforces the ideas and assertions presented above, that the shifts in forestry have been largely influenced by the thinking about the broader process of development.

In contrast to the conventional approach in which success used to be measured by the amount of forest products harvested, export figures or revenue generated, Warner (2002) contends that there is now a demand for forestry agencies to provide more goods and services than in the past. Forest managers are expected to manage forests for conservation, production and services (including recreation) sustainably and more importantly, to provide economic benefits to rural communities, especially in developing countries.   ,

An interesting trend that characterizes the new perspective in forestry has been an increasing emphasis on participatory forestry. Participatory forestry has in recent years become a major subject of concern in contemporary forestry policies and programs of many countries. This approach has encouraged the involvement of communities, local government and other stakeholders (the private sector, non-governmental organizations (NGOs), and international agencies) in influencing forestry policies and interventions that respond to the idea of multiple objectives in forest management (Van Gelder and O'Keefe, 1995; Warner, 2002).

2.3.1 Forestry and rural development

A major breakthrough that underpins the new perspective, and which is of particular interest in this study, is an increasing emphasis on linking forestry and rural development. Pretzsch (2003) asserts that the topic of forest related rural livelihood strategies and poverty alleviation gained importance and dominate the forest development discourse in a rather exclusive way. Jumbe and Angelsen (2005) assert that in many countries of the world, there is a growing tendency of highlighting forest

management as a rural development strategy with an objective of linking the contribution of forests and related activities to poverty alleviation, support for local economic development and biodiversity conservation. Castren (2005) also argues that the role of the forest-fringe rural communities in forest management has, in recent years received tremendous interest from the researchers and policy makers, and in developing countries, forestry professionals have also focused their attention increasingly on the interaction between communities and forests.

Among the reasons that have directed the thinking towards this perspective is that the role that forests play in sustaining rural livelihoods has recently been acknowledged and promoted through formal policies (Warner, 2002; Arnold *et al*, 1998). There is now general agreement that forest resources have a potential to contribute to the improvement of rural livelihoods and poverty alleviation (Angelsen and Wunder, 2003; CIFOR, 2005; Fomete and Vermaat, 2001; Scherr *et al*, 2002) According to the FAO (2003), forests can be vital safety nets, helping rural people to avoid, mitigate or rise out of poverty. While some focus is being given to the potential of planted forests in poverty alleviation through ventures such as small out-grower timber schemes, there is more attention, however, on the role of non-timber forest products (NTFPs) in addressing some of the livelihood needs of the rural households.

It is now clear that while the commercial interests and the goals of biodiversity conservation are still being championed in contemporary forestry policies and practices; more emphasis is increasingly directed towards making forests work for the rural people either through their active involvement in their management and use (Pretzsch, 2003) or in creating opportunities for local economic development (Angelsen and Wunder, 2003; Arnold, 1998; Lawes *et al*, 2004). According to Warner (2002), the rural development forestry or the people-centred approach in forest management can provide the pathway both for sustainable livelihoods and for sustainable forest management. This new approach is, according to Van Gelder and O'Keefe (1995), representing a shift in global perceptions and expectations towards a type of forestry that contributes to the process of sustainable development which subsequently allows for participatory, equitable, decentralized and self-sustaining processes of rural development.

The emphasis on forestry for rural development indeed presents a remarkable and exciting shift in forestry. Steps have been taken on a global level to reflect the expansion of forest management objectives by adopting changes in both forest policies and programs. According to Warner (2002), national policies and programs in most African countries, for instance, are attempting to include conservation and production, as well as poverty alleviation and rural development objectives and to be in agreement with international conventions. On one hand, however, the shift presents a challenge to foresters and policy makers who now need to readjust their old perception of forestry so as to embrace the principles of the new approach. On the other hand, it raises a question as to the degree to which the new policies that embrace the multiple objectives of the forest sector can be consolidated and made sustainable in the long term. In the African context wherein a large proportion of the total population depends on natural resources such as forests for some parts of their

livelihoods, it is of utmost importance that in the process of developing sustainable forest management tools, some focus is based on questioning whether poverty alleviation and the prospects of promoting sustainable livelihoods are considered in this new dispensation. Such must also be a case in the commercial forestry setting which has long been described by its exclusionary nature and degradation of local environments which constitute the important capital for some parts of rural livelihoods (Engelsen, *et al* 2003; Tewari, 2000). Moreover, the extent to which community participation occurs in forestry matters should also be examined.

2.4 The background to the link between people and forests: Some important issues

The adoption of policies and programs that recognize the link between forests and people has been influenced by a wide variety of issues that certainly differ from one place to another. Although this might be a case, the literature however (Arnold, 1992; Casson, 1997; Hobley, 2005; Bigombe Logo, 2002; Van Gelder and O'Keefe, 1995) reveals three major global issues that have had a profound impact in the sudden shift towards this thinking, particularly in the 1970s. These are discussed below.

- With the failure of the traditional development strategies that were narrowly based on industrialization, a shift in the mid 1970s towards a focus on the people-centred rural development was witnessed. Such a focus did much to draw attention to the dependence of rural people on forests and trees (Arnold, 1992; Van Gelder and O'Keefe, 1995). Hobley (2005) argues that during this time, development thinking and practice moved towards questioning the basic needs of the rural poor within the broader framework of rural development. As much as the focus was based on helping rural people to meet their basic needs, in forestry this notion served to highlight problems where local people were finding it difficult to acquire biomass to meet their basic energy requirements (Van Gelder and O'Keefe, 1995).   ;

- The realization of the first oil price hike in 1973 is also noted as one of the influential factors (Arnold, 1992; Casson, 1997; Bigombe Logo, 2002; Van Gelder and O'Keefe, 1995). Here the attention was drawn to the dependence of some 2 500 million people or roughly half of the world's population on firewood, charcoal and other biomass fuels for cooking and other essential energy needs. For the first time, national energy balances of supply and demand began to be constructed to include fuelwood (Van Gelder and O'Keefe, 1995). According to Hobley (2005), the scenario of eco-crisis and livelihood degradation was well developed and has been highly formative in the construction of forest policy and practice in countries such as India. A major concern here was that fuelwood demand was to increase with population growth particularly in the developing world and it was subsequently assumed that this would lead to deforestation (Casson, 1997). However, this assumption has been a subject of a major debate in the past few years.

- Finally, attention was based on the accelerated loss of tree stocks which occurred throughout the Sahelian region of Africa during and after the 1968-1973 droughts, and in the Himalayas prior to disastrous flooding in the plains of South Asia in 1977. This heightened global concern over the environmental role of the tree cover in sustaining soil and water quality and associated

agricultural productivity (Arnold, 1992; Casson, 1997; Van Gelder and O'Keefe, 1995).

It is these overlapping issues that encouraged a series of studies and meetings in the 1970s which subsequently culminated in the Eighth World Forestry Congress in 1978 with its theme on Forests and People (Hobley, 2005). Following this, a number of international organizations like the FAO and World Bank acknowledged the inadequacy of the past approaches in responding to the needs of the vast majority of the rural and urban poor of the developing world (Van Gelder and O'Keefe, 1995). These moves, particularly the 1978 congress, gave the concept of community forestry rapid and intensive exposure. By 1979, field projects and programs were already taking shape (Arnold, 1992).

2.4.1 Community forestry

The move to practically examine the links between people and forests was witnessed in the late 1970s with the adoption and implementation of projects that were described under the broader concept of social or community forestry (Casson, 1997; Hobley, 2005). During this period, the idea of establishing community forestry initiatives was perceived appropriate to engage local communities in forestry activities. As a result, community forestry has since become one of the major policy subjects in forestry. In a nutshell, community forestry can be described as the first strategy with which both the conventional foresters and policy makers have pledged a commitment to quickly respond to the new perspective in forestry and to equally move on par with the shifts in development thinking.

According to Arnold (1992), community forestry was seen to comprise three main elements. These were the provision of fuel and other goods essential to meeting basic needs at the rural household and community level, the provision of food and the environmental stability necessary for continued food production and the generation of income and employment in the rural community. Based on this description, it is apparent that the commitment to community forestry was largely encouraged by the three major global issues of the 1970s that have been outlined above. This link is clearly explained in Van Gelder and O'Keefe (1995). The connection here is

witnessed through the focus of community forestry on the provision of fuelwood, food security and environmental security which are all considered central to the basic needs of rural communities. A closer look on the above issues equally reflects a similar concern as it is also stressed in Bigombe Logo (2002) assertion that community forestry followed the oil crisis and the drought that highlighted the rural population's dependence on fuelwood and other wood products.

Initially, it was stressed that community forestry must be an integral part of rural development (Arnold, 1992). This was indeed a necessary and significant step since the link between people and forests had long remained ignored in the broader view of development, although this link has been in existence for at least the last three decades. When one examines the direction of community forestry in relation to the wider goal of rural development, it appears that community forestry has much to offer within the broader framework of rural development as it equally stretches its focus along the basic needs of the rural poor and acknowledges the need to protect the natural environment which, in many respects, is the natural capital for rural livelihoods, particularly in many parts of the developing world. In this regard, one could perhaps deduce that community forestry, given its nature, has the potential of creating income opportunities poor rural communities which enable them to escape poverty. This is more eminent since community forestry is one of those rural development strategies that fosters a platform for the community to participate in short or long-term decisions that affect them with regard to the use and management of forests and trees. Community forestry has emphasized the involvement of local people (Roberts and Roper, 2005); hence from its inception it was seen as being participatory and directed to rural needs (Brown, 2002). The general perception was to enforce active participation by local groups in the projects with the external support playing a supportive rather than a managerial role (Arnold, 1992). This is in fact embedded within the principles that inform the general focus of rural development. With this, it is apparent therefore that community forestry is not a strategy that exists on its own right, but it is deep-rooted within the parameters of development thinking in general. Hence its focus/ interpretation has been ever-changing with the paradigm shifts in the lexicon of development.

2.4.2 Community forestry in practice

Among the early initiatives that characterized the focus of community forestry, fuelwood provision became by far the most important (Casson, 1997). This is not surprising because the fuelwood crisis, as it has already been mentioned, was initially one of the major global environmental issues that ultimately enforced the link between people and forests. The perception about the persistence of a fuelwood crisis in Third World countries emanated from the concerns for energy shortages that plagued most parts of the world in the early 1970s (Hobley, 2005; Mearns, 1995; Van Gelder and O'Keefe, 1995). This was further perpetuated by the drought conditions that were already witnessed in many parts of the world, particularly in Africa (Shepherd, 1990). A huge number of rural households in the developing world were identified as relying indefinitely on fuelwood for the bulk of their energy needs (Hobley, 2005; Van Gelder and O'Keefe, 1995). It was assumed therefore that because of population growth, there was a likelihood of a widening gap between the demand for fuelwood and sustainable supplies. This would lead to the unprecedented levels of deforestation (Mearns, 1995). Moreover, it was deduced that due to the growing fuelwood scarcity, people were spending much of their time searching for fuelwood and at times, would divert to crop and animal residues as an immediate alternative (Arnold, 1992).

Based on this analysis, a general view was that the principal means of averting the growing fuelwood shortages and the anticipated impacts was to initiate widespread planting of additional trees (Arnold, 1992; Shepherd, 1990; Mearns, 1995). Thus much of the early initiatives in many parts of the world were mainly characterized by widespread afforestation programs in which rural communities grew timber and fuelwood to meet their own needs, and thereby plugging the widening fuelwood gap (Arnold, 1992; Shepherd, 1990).

This move marked a positive intervention of forestry in rural development. However, despite such a remarkable contribution and massive investment, there is widespread evidence that the early community forestry projects and programs failed to deliver intended outcomes (Van Gelder and O'Keefe, 1995; Arnold, 1992; Shepherd, 1990; Mearns, 1995). This was witnessed through the widespread and common resistance,

by local communities, of afforestation projects in many areas. For instance, there are cases where communities uprooted and destroyed the saplings in communal lands (Van Gelder and O'Keefe, 1995). The failure of these projects, however, did not come as a surprise to many people. For instance, Mearns (1995) blames the failure on the initial analysis about the fuelwood crisis with a view that the problem was widely misunderstood. He identifies four serious flaws that are associated with the tree growing approach to traditional community forestry. These are outlined below.

- First, woodfuel consumption patterns defy generalization.
- . • Second, the data on which the analysis rests are generally very poor.
- Third, it is unrealistic to assume that consumption will continue to rise in line with population, even while supplies dwindle to a vanishing point. As scarcity worsens and wood prices or the labour costs of gathering fuels increase, people are likely to respond in various ways, whether by planting trees, using fuel more economically, switching to more abundant fuels such as crop residues, or intensifying efforts to encourage the natural regeneration of woody vegetation.   * ˢ
- Fourth, and most fundamental, it is agricultural land clearance and not woodfuel consumption that is the principal cause of deforestation.

On the other hand, Arnold (1992) submits that the focus on woodfuel (plantations) was basically a narrowed view of the existing relationship between forests and people. He asserts that: .

> *There was little in the first generation of projects which was concerned with outputs from existing forests, or with the food, employment and income dimensions. Indeed, the concern with meeting subsistence needs for fuelwood even led, on occasion, to attempts to exclude income generation activities from the project design on the grounds that it was inconsistent with the perceived subsistence aims of community forestry.*
>
> r   (Arnold, 1992: no page no.)

Another major concern regarding the failure of the early projects is the lack of community participation. There is a widespread concern that much of the failure is attributed to the ignorance about the projects by local communities. This is largely because people were initially not given a chance to voice out their concerns about

their priorities in development. By focusing on fuelwood trees, it appears that the projects were not geared to respond to the complexity of rural development problems. Fuelwood is only one of the many problems rural people face, and is frequently not a priority concern. Van Gelder and O'Keefe (1995: 11) cite examples regarding this assertion:

> *In an area of Malawi which was experiencing growing fuelwood scarcity, a study found that the priority concern, as articulated by the community, was a shortage of construction timber, suitable poles for house building were even more difficult to find than fuelwood. Similarly, a study in Nepal showed fodder to be the principal concern.*

In assessing the outcomes of the early community forestry projects, it was clear that a number of significant issues were not considered in the initial planning of the projects. These are elaborated by Arnold (1992) as indicated below:

- One is that production and use of tree products at the village level is in practice often embedded in complex resource and social systems, within which most of the factors that affect our ability to intervene with forestry solutions are of a non-forestry nature. They are primarily human factors, connected with the ways women and men organize the use of their land and other resources. They therefore require situation-specific approaches and are unlikely to be successfully tackled by generalized solutions or approaches that address only a single element of the situation.

- A second insists that earlier analysis of the nature of women's and men's dependence on trees and tree products was in some respects incorrect or incomplete and the solutions identified were consequently inappropriate.

- A third is that even projects which have sought to identify local needs, aspirations and possibilities have in practice done so more on the basis of the views of planners and others from outside that on the local people themselves. Dialogue to achieve local participation has all too often started only after the project design has been finalized and is in place. Though the concept of participation took root quickly, in practice it has been, and still is, more frequently preached than practiced.

- A fourth is that "community forestry" has suffered from considerable confusion and lack of clarity as to its nature and purpose. The use of this umbrella term seems on occasion to have obscured the fact that the objectives set for projects to support community forestry have varied considerably. Project design, and performance, have frequently suffered from a lack of clarity as to which of these objectives were being pursued or had priority. Although some among multiple goals may be congruent or reinforce each other, others may be in conflict. Planting trees to meet environmental objectives such as soil protection is unlikely to produce sufficient output of saleable products as to be economically attractive to the farmer. Similarly, tree growing designed to generate income is unlikely itself to benefit those with little or no land. Production to meet both subsistence and market needs is unlikely to be achieved with a single production model. Projects originally designed to meet a production goal are unlikely to be equally successful at achieving a subsequently added social goal, such as favouring the poor, unless they are appropriately restructured.

It is now apparent that the objectives of early community forestry were precisely based on generalizations about the link between people and forests. The failure of most of the projects clearly shows that traditional community forestry was initially thought of as a simple initiative that can be easily accepted in every context and in all villages. Although there might have been signs of fuelwood shortages and deforestation, this was not the case in every village (Mearns, 1995; Van Gelder and O'Keefe, 1995). This shows therefore that the analysis of the problem and the implementation of the projects thereafter were carried-out by classical or conventional foresters who retained their conventional approaches and familiar scientific methods about forestry and failed to understand the social dimensions of a community within which the projects were implemented. Besides social dimensions, the planners brushed out the reality of the complex land-use system in the rural areas. More importantly they lacked the understanding of the link that exists between forests and people. Mainly, they failed to acknowledge the use of the non-timber forests products (NTFPs) that form part of the livelihood network of most rural communities.

Fuelwood is only one of many end uses of trees (Van Gelder and O'Keefe, 1995); therefore focusing solely on fuelwood trees was widely a misleading initiative.

The most striking part and a visible loophole in the failure of most projects is that of a lack of community participation (Arnold, 1992; Hobley, 2005). This implies that the conventional planners and policy makers were not well acquainted on how forestry can be adjusted to respond to the new demands of the forest sector and the paradigm shifts that took place in the lexicon of development. From the onset, community forestry was described as an integral part of rural development, with a focus on people- centred development (Roberts and Roper, 2005). However, Arnold (1992) argues that the outcomes of the projects portrayed a scenario that is in variance with the initial plans. Van Gelder and O'Keefe (1995) assert that much of the interventions reflected the top-down approach with only few individuals participating and forestry professionals playing a major role. It is important to note here that if forestry is to respond to the broader framework of rural development, the involvement of multiple stakeholders must be acknowledged. More importantly, the intervention in the community projects should not be conceptualized as a sole responsibility of the foresters working with the communities, rather there is a need to incorporate development planners or social foresters who would demonstrate a good understanding of the community dimensions as well as the complexity of rural development agendas and that of development in general.

The most important point, however, is that contemporary thinking in development emphasizes that local groups or communities should, in any local development intervention, play a significant participatory role with the outsiders or initiators taking a facilitative role (Chambers, 1995; Muraleedharan, 2005). It is therefore pertinent to clearly define what is meant by community participation in such initiatives. Based on the outcomes of the early community forestry projects, one can perhaps deduce that the forestry that is geared to respond to the needs of the rural communities should significantly be embedded on the principles of participatory development which accords the local groups and communities a better position to voice out their development goals and priorities in as far as forestry is concerned (Hobley, 2005). However, the success of the projects that embrace the concept of participation is dependent on how participation is interpreted or understood by the project initiators.

In communal areas for instance, the promotion of participation remains an integral component which determines the strength and commitment of the community members in building a prosperous community. However, the success in the promotion of participation in communal areas also depends on how community institutions understand or perceive the role of community members in decision making.

The emphasis on the use of the concept of participation in contemporary development policies and practices marks the reaction on the failure of the conventional macro-economic approach in filtering down the benefits of development to the poor communities particularly in developing countries (Muraleedharan, 2005). The move has been characterized by a shift towards a new perspective which emphasizes the need to promote a people-centred approach in development thinking and intervention with a view that through popular involvement, poverty and inequality can be effectively addressed in development. Participation, therefore, forms one of the new perspectives in development thinking and practice.

2.5 Participatory Development

Participatory development is informed by the people-centred thinking in development. The protagonists of the people-centred development put people at a core of the development process and consider their participation as an empowerment tool and a prerequisite for the long-term outcome or sustainability of any community development initiative (Chambers, 1994; Eade and Williams, 1995; Holtzhausen, 2004; Kingsbury, 2004; Kumar, 2002; Oltheten, 1995; Swanepoel, 1997). For instance, Kingsbury (2004) asserts that development is meant to be about improving the lives of people so it is logical that development should start with people. He considers participation as the main pillar of community development and a lack of it as a reflection of failure of the capacity of government to meet the development needs of people. Perhaps, the broader and detailed view of what the people-centred development really entails is best presented by Eade and Williams (1995: 15) who postulate that: »

> *Development is about women and men becoming empowered to bring about positive changes in their lives, about personal growth together with public action, about both the process and the outcome of challenging poverty, oppression, and discrimination, and about the realization of human potential*

through social and economic justice. Above all, it is about the process of transforming lives, and transforming societies.

A closer look on the above assertions reveals that in people-centred development, development becomes meaningful only if what characterizes the interventions or initiatives reflect the desires and needs of the local groups and communities, and it is through their participation that this particular trend can be accomplished. A message that hails out from this, therefore, is that community development is not a strategy whereby the elite, government officials or community leaders keep the people busy by involving them in worthwhile actions. It is primarily a process in which ordinary people play the leading part with government, experts and community leaders and the elite playing a facilitating role (Swanepoel, 1997). This approach confirms Kingsbury's (2004) view that community development is in fact about the enhancement of the potential of people to emancipate themselves. It is intended to give them greater control of their lives. This implies that external and internal development interventions, should for instance, open ways through which local groups and communities can be empowered to be in a position to make informed decisions about their development priorities and goals.

2.5.1 What is Participation?

Participation has rapidly become one of the popular jargons in the lexicon of development (Chambers, 1995; Kumar, 2002; Muraleedharan, 2005; Oltheten, 1995). As a result, it has found its way to the agendas of development practitioners and researchers, Non-Governmental Organizations (NGOs) and international agencies whose work is in helping the poor and marginalized communities to realize their development goals. Eade and Williams (1995) assert that in most NGOs and official aid agencies, community participation is a condition of funding. It is widely acknowledged that participation is the most effective strategy for speeding up economic and social progress particularly in the developing world (Muraleedharan, 2005). The same applies in the field of natural resource management (Twyman, 2000). According to Treurnicht (1995), people's participation has been a dominant theme within the evolution of development thoughts since early 1970s. The approach arose out of dissatisfaction with the "top-down" approaches of the traditional development strategies which failed to address poverty and inequality (Kanji, 2003;

Muraleedharan, 2005). Hence, it is increasingly becoming one of the common phrases in the sustainable development debate.

With the shift in international thinking away from the idea of narrowly equating development with economic growth to a broader concern for poverty reduction and redistribution for growth, the people-centred approach in development emerged (Kanji, 2003). Integral to this was the incorporation of the basic needs approach with its primary purpose of addressing basic human needs such as food, health, clothing, shelter and education in development. In this shift, the popular involvement was viewed as an important means of making development interventions more effective and equitable by building on local knowledge to meet basic human needs (Kanji, 2003; Treurnitch, 1997). As a result, the concept of participation has since then won popularity in development practice and theory (Muraleedharan, 2005).

According to Chambers (1995: 30), the popularity of participation has several origins. These are:

> *The recognition that many development failures originate in attempts to impose standard top-down programs and projects on diverse local realities where they do not fit or meet needs, concern for cost-effectiveness, recognizing that the more local people do the less capital costs are likely to be, preoccupation with sustainability, and the insight that if local people themselves design and construct they are more likely to meet running costs and undertake maintenance, and ideologically for some development professionals, the belief that it is right that people should be empowered and should have more command over their lives.*

More importantly, Chambers (1995) also confirms that the popularity of participation is as a result of a deeper and more pervasive shift in development thinking. In this, he talks of the shift from the paradigm of things to the paradigm of people. The paradigm of things had prevailed in the 1950s and 1960s with emphasis placed on big infrastructure, industrialization and irrigation works. The paradigm of people, on the other hand, has been witnessed through the burgeoning literature on people and participation, the increase in numbers of non-economist social scientists in some aid agencies, and by the development and spread of participatory approaches and methods such as Rapid Rural Appraisal (RRA), Participatory Rural Appraisal (PRA) and Participatory Learning and Action (Chambers, 1995; Kanji, 2003).

Chambers (1995) further notes that in theory, the shift from the paradigm of things to the paradigm of people entails much change. Furthermore, he states that top-down becomes more bottom-up, the uniform becomes diverse, the simple complex, the static dynamic, and the controllable uncontrollable. This, Chambers (1995) argues, results in the future becoming less predictable. The transfer of packages of technology is replaced by the presentation of baskets of choice. Most difficult, the paradigm of people implies the third meaning or use of participation, an empowering process, with a shift of power to those who are local and poor (Chambers, 1995). Much of the interpretations of participation tend to concur, in one way or another, with the stipulations and the operating context of the above theory. This link can perhaps be confirmed in the few examples cited below:

> *Participation may be seen to enhance the efficiency, effectiveness, and sustainability of aid programs. It is increasingly linked by donors to the promotion of democratic processes, by strengthening citizen's capacity to participate in national and international policy debates.*
> *:y* *:*   (Eade and Williams, 1995: 14)

> *Participatory planning... should be a two-way learning process of dialogue, negotiation and decision-making between insiders and outsiders, concerning activities to be undertaken by the insiders and supported by the outsiders. It is thus conceptualized in terms of what can be called a "negotiating dialogue" between local people and project staff, aimed at conforming project support to local needs, constraints and opportunities. Simply stated, participatory planning is an effort of the parties involved to elaborate a common agenda for future development actions. This agenda is not completely open: both parties already have their own agendas, mandates and responsibilities. The challenge is to identify and agree upon those actions that fit in with both.*
> (Oltheten, 1995: no page no.)

> *Participation in development may be viewed as a means to an end, where community members are viewed as the implementers rather than the decision makers in the programs.*
> (Baker and Hinton, 1999: 80)

> *Community participation is the way in which communities and stakeholders are involved in the development processes of the municipality. These include policy formulation, budgeting, identification, implementation and monitoring of projects and strategy formulation.*
> (Holtzhausen, 2004: 118)

A common view that exists among the above interpretations is that they all emphasize the crucial role of participation by the local groups or community in any community

development intervention, whether is external or internal. On the other hand, a closer look on the above interpretations reveals that although they share a common goal in as far as development is concerned, they also reflect a broad nature of the process of participation and the fact that the interpretation is dependent on, for example, the goals, priorities and development perspective of the service provider, be it the donor or government agency. Kelly (2001) concurs to this by stating that the meaning of participation depends on who defines it, and why it is undertaken. In this, while there is a general agreement that local communities must participate in development initiatives, there is no clear line which specify the nature and level of their participation. The variety of interpretations rubberstamp the view that there are no universally accepted interpretations that define participation as well as a common agreement on how it can appropriately be achieved and sustained (Clayton *et al,* 1997; Eade and Williams, 1995; Kelly, 2001; Oltheten, 1995). However, attempts have been made to clarify the complex nature of the interpretations. For instance, Clayton *et al* (1997) have identified two broad categories that best define participation. These categories reflect the manner in which participation is most likely to be used in development. According to Clayton *et al* (1997: no page no.), participation can be defined as a means and an end.

> *PARTICIPATION as a MEANS: participation is seen as a process whereby local people cooperate or collaborate with externally introduced development programs or projects. In this way participation becomes the means whereby such initiatives can be more effectively implemented. People's participation is sponsored by an external agency and it is seen as a technique to support the progress of the programme or project. The term 'participatory development' is more commonly used to describe this approach and it implies externally designed development activities implemented in a participatory manner. This approach would appear to be quite widespread and essentially promotes participation as a means of ensuring the successful outcome of the activities undertaken.*

> *PARTICIPATION as an END: participation is seen as a goal in itself. This goal can be expressed as the empowering of people in terms of their acquiring the skills, knowledge and experience to take greater responsibility for their development. People's poverty can often be explained in terms of their exclusion and lack of access to and control of the resources which they need to sustain and improve their lives. Participation is an instrument of change and it can help to break that exclusion and to provide poor people with the basis for their more direct involvement in development initiatives.*

Clayton *et al* (1997: no page no.) further assert that:

> *People's participation in development is concerned with two things: i) structural relationships and the importance of developing people's capacities and skills to negotiate and to seek the resources and changes which they require in order to improve their lives; and ii) the methods and techniques whereby local people can be brought to play a part and to develop a stake in development programs and projects. Both purposes are of equal importance; the former seeks to secure a longer term and sustainable development for poor people, the latter is crucial in providing immediate access to the benefits of development.*

It is interesting to note that the focus of the above view of participation is reflected somewhere else in the literature. For example, Oltheten (1995) with the same view, talks about the "blueprint" or "target-oriented" approach and the "process-oriented" approach. In the "blueprint" approach, projects are defined in terms of mechanisms for the delivery of pre-defined packages of goods and services to specific target groups. Participation in this context is understood in terms of the willingness of people to undertake the required activities. Under this approach, participation is described as "passive participation" because people participate by being told what is going to happen. In the "process-oriented" approach, specific categories of activities are defined by the people themselves. This definition is made on the basis of local resources and needs, with support ("facilitation") from the project. The technical message is not a uniform, pre-defined recipe but a "menu" with various options. Participation in this context is understood to mean that the people themselves assume ownership and accountability for activities, which they have identified and developed with the support of the project. Here participation is described as "interactive participation" because people are more likely to participate in joint analysis, which leads to locally formulated action plans.

Chambers (1995) also shares similar sentiments with the above postulations. However, he warns against the type of participation where people participate with some outside assistance (passive participation). In such initiatives, people are most likely to lose ownership of the projects. He strongly supports the type of participation which empowers local people to do their own analysis and make their own decisions. This is referred to as the change in power relations where the powerful (project managers) learn from the powerless (local communities).

2.6 Participatory Forestry: A new perspective in the link between people and forests

The failure of the early community forestry interventions in the 1970s did not signify an end to the whole idea of linking rural communities to forestry matters, rather this experience appears, in one way or another, to have been of some sort of a lesson through which the flaws have been identified and perhaps rectified (Arnold,2001;Castren, 2005). In this light, the past few years have witnessed a shift in the manner in which community forestry had traditionally been conceptualized (Arnold, 2001; Cooke, 2000; Pretzsch, 2003; Van Gelder and O'Keefe, 1995). A principal concern here has mainly been that the early community forestry interventions were characterized by top-down, exclusionary approaches wherein the governments, superiors and forest agencies were the main role players in the planning and implementation of community projects and programs (Bass *et al,* 2004; Hobley, 2005; Pretzsch, 2003; Van Gelder and O'Keefe, 1995). It has been argued that although such interventions were described as community-based, they were not implemented in a manner that reflects the local realities. Moreover, in many cases, community participation was based on a tokenistic approach in which experts informed local communities of their plans (Arnold, 1992; Van Gelder and O'Keefe, 1995) and hence much of the outcomes were in variance with the anticipated outcomes.

As a result, the shift is characterized by the promulgation of policies and approaches in contemporary forestry interventions at community level that strongly emphasize the need to integrate participatory approaches which emphasize the involvement of local communities, particularly the powerless and marginalized, in the planning and implementation of projects for community development (Cooke, 2000; Warner, 2002). This shift has indeed presented a wave of change in the understanding of the role of forestry in rural development. It is interesting to note that the community forestry that embraces the idea of participation and empowerment of rural communities in forest use and management has been widely used interchangeably with the concept of Participatory Forestry. In fact, Potters *et al* (2002: 70) assert that:

Concepts such as community forestry, community-based forest management, social forestry, joint forest management, collaborative forest management, common property forest management and participatory forestry all refer to approaches with some level of local stakeholder involvement in forestry activities.

Given the diverse nature of the terminology, in this section the concept of community forestry is used interchangeably with that of participatory forestry in discussions about the dynamics of local stakeholder involvement, particularly that of rural communities in forestry activities. The use of participatory forestry applies to various community forestry activities that promote the involvement of local communities in different degrees of decision-making authority. Such activities can either be of commercial interest or those that are driven by the concerns for biodiversity conservation. The argument here is that community forestry cannot be forestry for local people if it is not participatory.

The use of both community forestry and participatory forestry is another example that depicts how the shifts in forestry are linked to those that have been witnessed in development policy and practice over the years. As development shifted the focus away from industrialization, the concern for poverty alleviation and rural development gained popularity. In the past few years, within the broader framework of rural development, there has been a focus on aligning the issues of natural resource management to the concerns for poverty alleviation (Brown, 2002; Jeanrenaud 2002; Twyman, 2000). In this trend, the participation of local communities was viewed as the only vehicle that could effectively integrate the concerns for poverty alleviation and natural resource management. Because forestry is one of the significant sectors that contribute to the process of development, it has been witnessed moving in almost the same direction (Cooke, 2000; Pretzsch, 2003; Van Gelder and O'Keefe 1995; Wollenberg *et al,* 2004). This shift is reflected in Arnold's (2001) assertion that the role of forestry in development has moved sequentially from industrial forestry to forestry and rural development and forestry and conservation of biodiversity. Another example that portrays the link is that more recently, the focus in development has shifted to a more integrated approach of sustainable development. Likewise, Bass *et al* (2004) argue that forestry has become one of the major subjects of debates in the sustainable development agenda. Here the focus is on examining economic, social and

environmental impacts of forestry, particularly to the quality of life of the rural communities.

Participatory forestry should perhaps be viewed as an approach or a strategy for community forestry that highlights the importance of community participation in forestry aimed at promoting the prospects of sustainable livelihoods for the rural poor and sustainable forest management (Warner, 2002; Alden Wily, 2002), as it is a general norm in development thinking and practice in recent years (Agarwal, 2001). Matakala and Kwesiga (2005) confirms that participatory approaches in forest management have been promoted as a result of the failure of the traditional approaches in forest management to sustain the forests they were designed to protect, to involve or benefit those who bear most of the costs of their mismanagement and for the fact that they are rarely financially sustainable.

According to Grundy *et al* (2005), Participatory Forest Management refers to the sharing of products, responsibilities, control and decision-making over forestlands between forest departments and local user groups. Grundy *et al* (2005) further argue that Participatory Forestry Management arose out of the convergence of thinking and debate in three major schools of thought listed below:

- The first is the conservation movement and its focus on global biodiversity reserves.
- The second is the concern of political scientists for democracy and the well-being of local peoples.
- The third is the development lobbyists and their call for sustainable use of natural resources.

A closer inspection of the nature and context of these schools of thought reveals that participatory forestry is driven by two main areas of interest. One is the concern for the role of forestry on livelihood systems of the local people which is driven by the people-centred approaches in development thinking. Another is the need to respond to the new perspective of the conservation movement which is characterized by the devolution of management responsibilities from the central governments to the local institutions with a belief that by giving local communities a stake in forest

governance, they are more likely to sustainably use the resources while ensuring their sustainable management (Shackleton, *et al,* 2002; Warner, 2002; Wollenberg *et al,* 2004). Certainly, in contemporary forestry policies and practices, forests (either natural or plantations) are viewed as being central to sustaining rural livelihoods. A practical trend that has been witnessed taking place recently is that opportunities have been created in many parts of the world for forest fringe communities to participate in forestry related activities that have a potential to contribute on the livelihoods of these communities (Arnold, 2001; FAO, 2003; Ndabeni, 2001; Von Maltitz and Shackleton, 2004). This trend has been witnessed in South Africa through the establishment of business ventures such as the small out-grower timber business schemes that seek to engage local communities in forestry (Cairns, 1995; Mayers *et al,* 2001; Lewis *et al,* 2005; Alden Willy, 2002).

The involvement of communities in commercially-oriented forestry activities through the development of ventures such as the small out-grower schemes (Cairns, 1995) indicates that participatory forestry does not only look at the involvement of local communities in the management of natural forests (Ojwang, 2000), but rather it goes far to recognize the potential of commercial forests and associated activities in addressing some parts of rural livelihoods given the rural location of these types of forests as well as their associated activities (DWAF, 1996; Ham and Theron, 1999; Ndabeni, 2001). In South Africa for instance, the schemes are reported as having a significant contribution to rural livelihoods and in local economic development (Mayers *et al,* 2001; Smit and Pitcher, 2003), although some of the shortcomings have also been uncovered (Cairns, 1995).

As far as natural forests are concerned, in areas covered by indigenous trees and woodlands and where much interest is on biodiversity conservation, the prospect of livelihood security has also been witnessed in recent years. For instance, a wide range of Non-Timber Forest Products (NTFP) is being harvested for both direct use and income generation for rural households (Angelsen and Wunder, 2003). In this category, much emphasis is based on empowering local communities though their participation in the management and use of these resources (Bigombe Logo, 2002). In some cases, communities are managing the resources in collaboration with other stakeholders under certain tenure arrangements (Alden-Wily, 2002; Potters *et al,* <

2002). Here, a pro-poor approach to conservation is adopted. This is in fact regarded as the prerequisite for the sustainable management of natural resources such as forests (Von Maltitz and Shackleton, 2004; IUCN, 2003; Warner, 2002; Wollenberg *et al* 2004).

The shift in thinking in the field of natural resource management is of much interest in this study. This is because the principles of the new approaches in conservation are embedded in significant components of what participatory forestry entails. An outline of the background of the conservation movement is given below with a view that it enables one to compare the traditional approaches with the contemporary ones, thereby examining the progress that has been made thus far. Perhaps, this will further shed light as to why participatory forest management has become a popular word in recent years.

2.6.1 The conservation movement

The concern for conservation emerged as a response to the perceived threat to the world's natural resources such as forests. According to Shitima (2005), conservation involves the scientific planning and wise use of the resources to ensure that they are not depleted. The concept of conservation, however, does not seem to have an equally accepted meaning in its use. For instance, Parker (1980 cited in Hackett, 1995:11) postulates that:

> *Conservation has received many definitions because it has many aspects. It concerns issues arising between groups and involves private and public enterprises. Conservation receives impetus from the social conscience aware of an obligation to future generations and is viewed differently according to one's social and economic philosophy.*

Parker's view clarifies the complex nature of the term. Based on his submission, one can deduce that conservation is characterized by multiple interests. Its use and meaning therefore, cannot be generalized, but is dependent on a number of contexts which differ from one another. The fact that the use of the concept exists between groups and involves private and public enterprise shows exactly how diverse the concept is. As such the interpretation of the term in one context, for example, the

private sector is most likely to clash with the interpretation in other categories or contexts such as the public enterprise or among community groups. Seemingly Parker has presented and catered for almost all the dimensions that are often highlighted in a number of interpretations of conservation. This is because most of the interpretations do not divert much from the above presentation. For instance, according to Dasmann (1976), conservation refers to a careful preservation and protection of something, especially planned management of a natural resource to prevent exploitation, destruction or neglect. However, Dasman (1976) also asserts that conservation can be given both narrow and broad meanings. Oil conservation is an activity aimed at safeguarding petroleum supplies - an important, if narrow, concern. In broader terms, he defines environmental conservation as the use of the environment to sustain the greatest possible diversity of life while ensuring for humanity the physical basis for continued well-being. Dasman's interpretations clearly present the context and diversified nature of the term conservation. However, irrespective of the diverse nature of conservation, there is widespread evidence that there has been a remarkable shift in the manner in which conservation used to be interpreted traditionally to that of recent years. In this regard a distinction can be explained between the traditional and 'new' conservation.

2.6.2 Traditional conservation

Early conservation practices were characterized by narrow approaches to natural resource management. Shitima (2005) argues that traditional approaches to conservation involved setting aside selected sites as reserves and restricting or forbidding use of resources in those areas. Such approaches were thus based on conceptions which frame nature as separate from humanity. For instance, the early conservation literature stressed the dangers associated with the uncontrolled levels of population growth and emphasized the need of protecting nature from people by separating the two (Jeanrenaud, 2002; Shitima, 2005). According to Brown (2002), traditional conservation is characterized by top-down exclusionary approaches in natural resource management. These approaches largely alienate local resource users and are perceived as a drain to scarce resources of many countries. As such the traditional approaches did not recognize the significant contribution of natural

resources, like forests in rural livelihoods and the role of rural people in managing such resources.

Although traditional conservation practices had prevailed through to the early 1960s, there is evidence, however that local communities in the African continent in particular had long been managers of natural resources for their livelihoods (McCracken, 2004; Kajembe *et al,* 2005). Colchester *et al* (2003: 4) postulate that: .

> *Archaeological evidence reveals that people have been managing forests for sustained timber production, through practices such as coppicing and rotational harvests, for at least six thousand years and quite much longer.*

The fact that local communities have long been the managers of their own resources throughout history implies that the conservation practices that prevailed through to the 1950s were based on socially constructed beliefs that were externally influenced, perhaps by the colonizers. Their context reflected a western interpretation of the relationship between nature, development and humanity. This is evidenced in Bell's (1999: 1) assertion that:

> *There has been a historical trend in the ways in which people use resources from informal resource use, to formal resource use. The informal sector is based on rules, laws and policies that are unwritten and flexible; resource tenure is often characterized by communal access. The formal sector, by contrast, is based on written laws and policies that are modified through formal institutions such as parliaments; resource tenure tends to emphasize individual, private, access.*   .

The shift from the informal resource use to the formal resource use system reflects the impact of traditional conservation in changing indigenous African practices in natural resource management. What is perceived as conservation under the formal resource use system has not been well accepted by most indigenous communities because it mainly contradicted with their long-held perception of human-environment relationships (Bell, 1999; Homewood, 2004). The application of formal laws and policies has in many cases transferred land from communal to private ownership; thereby marginalizing the poor in as far as access to the natural resource base is concerned. Homewood (2004) asserts that traditional conservation has resulted in the outbreak of violent conflicts over natural resources use. These conflicts often centre on contested access to land and include clashes between wildlife conservation

interests and rural livelihoods, as well as conflicts where local people have been   ;
displaced by commercial cultivation. The formal resource use system, in the African
context, can be described as one example of how colonization has degraded the socio-
cultural connections with nature. Bell (1999: 1) concurs to this by stating that:

> *The trend towards formal system of resource use has progressed more rapidly*
> *in the northern, developed, countries than in the southern African region. The*   *i*
> *southern African region was, until about one hundred and twenty years ago,*
> *largely dominated by the informal resource use systems. It was the colonial*
> *experience, initiated at about that time, that has created the present*
> *juxtaposition of formal and informal sectors in many developing countries.*

However, in the past few years, especially from the 1970s, there has been an
acknowledgement that the traditional principles of conservation were in conflict with
the local realities of many communities in the developing world; as such the
resistance of communities has been sometimes a constraint in the achievement of the
objectives of conservation of natural resources (Berkes, 2004; Brown, 2002;
Jeanrenaud, 2002). This means that the principles of traditional conservation have at
times not been effective enough in transferring the goals of conservation into reality.
In this light, conservation has been brought under scrutiny, which resulted in the
build-up of new perceptions about the management of natural resources such as
forests.   '''•

2.6.3 The 'new' conservation

The failure of the early conservation initiatives to deliver the objectives that define the
principal goal of conservation did not mean an end of the conservation movement.
While conservation still maintained its main goal of preserving the natural resource
base; a new thinking occupied the conservation movement in the 1970s (Berkes,
2004; Jeanrenaud, 2002). This shift indeed fuelled a remarkable change in the manner
in which conservation had been formally conceptualised. In contrast to the
exclusionary, top-down approaches which separate nature from humanity, the new
conservation is defined in terms of its people-oriented approaches (Berkes, 2004;
Brown, 2002; Brown 2003). It is grounded on the notion that seeks to integrate
conservation objectives with those of the developmental needs of the local
communities (Shackleton *et al*, 2002). The visible trend that develops is that the issue   \

of natural resource management is no longer handled as a single concern, but rather as the one that primarily incorporates biodiversity and livelihoods concerns. This shift is perhaps best presented by Forsyth and Leach (1998 cited in Twyman, 2000: 324) who assert that:

> *There is now increasing recognition that effective resource management must be linked with issues of equitable access to natural resources, the promotion of sustainable livelihoods and the alleviation of poverty through participatory and empowering processes of development.*

Jeanrenaud (2002) postulates that since the end of the 1970s, the international conservation movement had adopted various conservation with development narratives, promoting the idea that conservation and development are mutually interdependent. It could perhaps be deduced that the integration of conservation and development explains that the paradigm shifts that have been witnessed in development thinking and practice in the 1970s and beyond cannot be alienated among the issues that influenced the new thinking in conservation literature and practice. In this, the devolution of management responsibilities and the transfer of land ownership from the state to local communities and the participatory approaches in particular have had a fundamental influence (Shackleton *et al,* 2002; Shitima, 2005, Twyman, 2000). The popularity of participation in the lexicon of development has brought a new way of thinking among contemporary development planners as well as policy makers. The participatory approaches to development continue to play a yardstick role in policies and programs that are related to poverty alleviation and equally so, it is gaining widespread application on the issues that concern the management of natural resources like forests (Arnold, 2001; Bigombe Logo, 2002; Grundy *et al,* 2005; Matakala and Kwesiga 2005; Shitima, 2005; Twyman, 2000). It is in this regard that the conservation practices and policies are increasingly incorporating the people-oriented approaches as a new ingredient in achieving conservation objectives (Jeanrenaud, 2002). Moreover, the devolution of management responsibilities has, according to Shackleton *et al* (2002), transferred control over natural resource management decision-making to local people. It has created the space to accommodate local interests and livelihood needs, and empowered resource users to benefit from and influence the outcomes of these new policies.

The emphasis on decentralization and devolution of decision-making powers in the management of natural resources has had a fundamental impact in promoting the culture of new conservation. This approach seeks to reconcile the previously conflicting views between conservation objectives and the development needs of local communities (Brown, 2002). It acknowledges and seeks to address the detrimental effects imposed by the previous practices to the livelihoods of rural communities and thus insists on promoting participation from below. Jeanrenaud (2002) contends that there are external and internal influences that prompt the evolution of the people-oriented conservation, these include:

- A growing concern for livelihoods, particularly among field practitioners;
- A growing emphasis on sustainable use;
- A recognition of indigenous knowledge and management systems; and
- The influence of participatory development and donor funding requirements.

These influences are in their context, an explanation as to why the contemporary debates on conservation policies and practices have become enmeshed in the wider discussions that relate to the environment, rural livelihoods and development (Bigombe Logo, 2002; IUCN, 2003; Jeanrenaud, 2002; Twyman, 2000). The multidimensional nature of these influences, perhaps, further reveals that the new conservation (people-oriented conservation) is rooted on research findings that have attributed an inseparable relationship between the environment and development, particularly in poverty-stricken areas (IUCN, 2003). Hence, the new conservation is, according to Brown (2002), enshrined in contemporary conservation policies and practices that consider people as the potential partners in the sustainable management of natural resources. It promotes the notion of simultaneous interest in the welfare of people and nature (Jeanrenaud, 2002; Wollenberg *et al,* 2004).

A plethora of approaches and practices that depict the new conservation agenda have emerged in many parts of the world in the past few decades, particularly in the 1980s (Hughes and Flintan, 2001; Jeanrenaud, 2002). Concepts such as Integrated Conservation and Development Projects (ICDPs), community-based conservation, community-based natural resource management, community-based coastal resource management, community forestry, primary environmental care and collaborative management all refer to the approaches and practices which seek to integrate rather

than separate nature conservation and development (Brown, 2003; Jeanrenaud 2002; Khanya-MRC, 2003). However, it is worth noting here that although these approaches share the same sentiment, that of integrating conservation with development, each of them has its own assumptions, history and contested meanings (Jeanrenaud, 2002) and thus their varying definitions largely depend upon the context and country involved (Carson, undated). For instance, in India and other parts of Asia, joint forest management has been a more popular term which depicts the collaboration of various stakeholders in forest management (Behera and Engel, 2004; Shitima, 2005). It seems that the varying nature of the above concepts in terms of their assumptions, history and meanings and context reflects a visible link with what has been mentioned above with regard to Parker's (1980 cited in Hackett, 1995) assertion that conservation is viewed differently according to one's social and economic philosophy. This in turn reinforces the fact that the focus of the conservation movement is not guided/ rooted in common objectives and outcomes. Although the new conservation is represented by multiple approaches as outlined above, the discussion that pertains to its practical application in this study will only concentrate on the Community-Based Natural Resource Management (CBNRM) approach.

2.6.4 What is Community-Based Natural Resource Management (CBNRM)?

The past few decades have until recently presented themselves as an era of community development fused with natural resource management and pressure is being exerted on policy implementers to involve local people, policy receivers, in decision-making and planning about the natural resources in their environments (Twyman, 2000). Such participatory and community-based approaches are often heralded as the panacea to natural resource management initiatives worldwide (Agarwal, 2001; Twyman, 2000). Shackleton *et al* (2002) contend that these reforms purportedly aim to increase resource user participation in natural resource management decisions and benefits by restructuring the power relations between state and communities through the transfer of management authority to local-level organizations.

Community-Based Natural Resource Management (CBNRM) serves as a practical response to this paradigm shift. It is grounded on the generally accepted facts that

resource management in the past has often been inequitable to traditional communities, that the state is unable to manage all the resources for which it is responsible, and that local solutions must be found for problems involving the environment and development (Rice 2001). In Adhikari (2001), Community-Based Natural Resource Management is defined as a practice that emphasizes natural resource management by, for, and with local communities.

2.6.5 Participatory forestry and community-based natural resource management

With its focus on the livelihoods of the rural poor in natural resource management, participatory community forestry shares similar view with the principles of CBNRM. While CBNRM has been popularized as a mechanism for the management of natural resources to safeguard livelihoods of local communities (Khanya-MRC, 2003), participatory community forestry is founded on the empowerment of the rural communities in the management of natural resources with a view to satisfying their wants and promoting local development (Bigombe Logo, 2002). In this light, participatory community forestry could perhaps be described as one of the strategies through which the practicality of the principles that underpin CBNRM can be examined. Given the fact that the new perspective of participatory forestry has replaced an old school of forest management, it can be deduced that this new approach has introduced a remarkable change and possibilities in many areas relating to natural resource management and to the broader framework of rural development. Bigombe Logo (2002) describes community forestry as a strategy in the sustainable and beneficial management of natural resources and the promotion of sustainable rural development. In this light, a number of factors that describe the context under which participatory forestry operates can be identified.

Given its integrated approach to forest management, participatory forestry presents itself as a strategy for sustainable and beneficial management of natural resources and the promotion of sustainable rural development (Bigombe Logo, 2002; Potters *et al,* 2002). This may be attributed to the fact that it supports local communities in the control, management and use of forests and trees; explores the social, economic and cultural links existing between the local communities and the forest; prioritizes a participatory and decentralized approach to forest management; and acknowledges

that the local population that thrives on and in the forest is better suited to manage it (Bigombe Logo, 2002). In this regard, participatory forestry replaces the traditional forestry operations which controlled and monitored natural resource management and limited the participation of the population in forest management (Potters *et al,* 2002). With regard to its potential role in ensuring sustainable natural resource management, Bigombe Logo (2002) asserts that the goal in participatory forestry is not to limit the exploitation of forest resources at all costs, but rather to exploit the resources and to conserve their ecological, social and cultural value.

Participatory forestry proves to be an alternative solution for the management of conflicts in natural resource management. According to Bigombe Logo (2002), conflicts in natural resource management are often likely to relate to:

- The problem of integrating customary norms and practices in modern policies and laws;
- The problem of the sharing of revenues derived from the exploitation of natural resources;
- The problem of allocating roles and responsibilities among stakeholders in the management of natural resources, and that of the weak capacities for action in some communities; and
- Faulty and conflicting relations among stakeholders in the field.

Bigombe Logo (2002) further notes that participatory forestry provides the scope to address the above challenges. Through its emphasis on the participation and empowerment of stakeholders, it opens a platform for effective consultation, negotiation and close partnership between the stakeholders of natural resource management. Furthermore, it pays particular attention to problems of minorities and other underprivileged classes, and takes into account cultural realities, valorises them and integrates them in official policies and strategies.

Participatory forestry also presents itself as a tool for decentralized natural resource management and for the promotion of local development (Agarwal, 2001; Bigombe Logo, 2002; Roberts and Gautam, 2003). In the past few years, decentralization has become one of the popular jargons in the lexicon of development even in natural resource management, where emphasis is based on sharing management

responsibilities with the local groups (Shackleton *et al*, 2002; Twyman, 2000; Wollenberg *et al*, 2004). Participatory forestry is one of the appropriate means for raising awareness, dynamizing, monitoring and achieving the process of decentralization of natural resource management. According to Bigombe Logo (2002), it aims at promoting the transfer of skills in natural resource management from state and local and regional authorities to the population at the grassroots, and at promoting access by the population to the benefits from the exploitation of natural resources. Bigombe Logo (2002) further notes that the traditional and modern features of participatory community forestry make it a tool for building up and promoting local development. Its activities contribute to improving the living conditions of rural populations, reducing rural poverty and increasing the communities' organizational and operational capacities.

2.7 Participatory forestry and poverty alleviation

It has already been outlined above that many efforts have been made since the 1970s to transform forestry in a manner that responds to the basic needs of the rural poor as indicated by Arnold (2001). The policy interventions and debates within the forest sector have since then concentrated on designing programs and institutions that would see forestry playing a remarkable role in rural development. This move has been followed, in the past few years, by the questioning of the role of forestry in the livelihood systems of the rural poor. Arnold (2001: 2) postulates that:

> *The focus on wood fuels in forestry programs in the 1970s reflected the early focus in rural development programs on meeting the 'basic needs' of the poor. As rural development evolved to encompass first food security' and then 'livelihood security', forestry broadened its focus accordingly to address the wider range of linkages with rural livelihoods.*

The above trend has been reflected in numerous studies that have been conducted by academics, researchers and international agencies such as the International Institute for Environment and Development (IIED), Centre for International Forestry Research (CIFOR), Food and Agriculture Organization of the United Nations (FAO), Overseas Development Institute (ODI) and The World Bank (WB) (e.g. CIFOR, 2005; FAO, 2003; Fomete and Vermaat, 2001 and IIED, 2003). These studies have concentrated on examining the progress made by countries in implementing forestry for rural development. Such research has generally looked at a number of issues in the forest

sector, ranging from food security and local economic development to biodiversity conservation and of late, sustainable rural livelihoods in the context of forestry (Arnold, 1998; Arnold, 2001; Bigombe Logo, 2002; Warner, 2002; Wollenberg, 2004). Moreover, a number of regional conferences have taken place. For instance, according to Potters *et al* (2002), the first international workshop on community forestry in Africa was held in the Gambia in 1999. This was followed by another workshop in 2002 that was intended to share experiences and examine the progress of participatory forestry and its potential in contributing to the livelihoods systems of the rural poor in Africa (Potters *et al,* 2002). Forestry has also been one of the dominating areas of concern at the World Summit for Sustainable Development (Bass *et al,* 2004).

More recently, there has been a commitment by many countries to transform development sectors and institutions such that they reflect a commitment to the adoption of the Millennium Development Goals (MDGs) by 2015 and forestry has been identified as having a significant role to play in this regard (Roberts and Roper, 2005; Warner, 2002). National forestry agencies are being asked to identify and expand their contribution to national poverty alleviation efforts. As such, new programs are underway which examine the contribution of forests and trees in poverty alleviation and to enhance the performance of the interventions that are already in operation, most of all participatory forestry is being emphasized as the correct approach that can effectively balance this progress (Warner, 2002).

There is widespread evidence that forests and trees have had a significant contribution to the livelihoods of the rural poor (Arnold, 2001; Arnold and Bird, 1999; Bass *et al,* 2004; Scherr *et al,* 2002; Warner, 2002). There is no doubt therefore that participatory forestry can contribute in the achievement of the MDGs, particularly in the eradication of extreme poverty and in ensuring environmental sustainability (Roberts and Roper, 2005). However forestry can only reach this position if the local people participate and are empowered in the process to make decisions and put them into practice (Bass *et al,* 2004). It is estimated that about 1.6 billion people in the world are heavily dependent on forest resources for their livelihoods (Bass *et al,* 2004; Warner, 2002) and the bulk of them are in the developing world (Arnold, 2001).

Furthermore, given the increasing economic inequity, there is a high probability that the reliance on forests products will soon increase (Bass *et al*, 2004).

Forests and trees contribute to poverty alleviation either through direct household use or as a source of income generation (FAO, 2003; Shackleton, 2004; Shackleton, 2005; Sunderlin *et al*, 2005). Although forest resources cannot completely take rural households out of the poverty trap, they can play a safety net role in difficult seasons as supplements (Arnold, 2001; Bass *et al*, 2004; Angelsen and Wunder, 2003; Scherr *et al*, 2002). For instance, when crop yields are poor and other sources of income are not available, the reliance on forest resources tends to increase (Sunderlin *et al*, 2005; Warner, 2002). In this manner forests can help rural households to either diversify their livelihood base or reduce their exposure to risks (Angelsen and Wunder, 2003; Arnold, 1998; Arnold, 2001).

Although wealthier households in most communities may be larger users of forest products (Kaimowitz, 2003), it is common that it is the poor households, with fewer assets such as agricultural land, livestock and labour that are the predominant collectors of forest products. For these households, although the actual amount of
** income earned from forest products may be small, it may provide a large portion of household income (Arnold, 2001; Warner, 2002). However, Arnold (2001) points out a major challenge associated with small-scale commercial forest activities which are often a source of income to a number of poor households: many of these low-value, labour-intensive activities have to be abandoned as labour costs rise. Others lose market share because they are 'inferior goods' that cease to be used as incomes rise, or are displaced by factory-made alternatives, by imports or substitutes. The establishment of the small out-grower timber schemes at community level is another venture in the forest industry that needs to be viewed as playing a notable role in rural livelihoods, particularly to those who are directly involved in the industry (Mayers *et al*, 2001; Lewis *et al*, 2005).

2.7.1 Sustainable rural livelihoods and forest resources

The role of forestry in poverty alleviation should be viewed within the context of sustainable rural livelihoods. Scoones (1998) asserts that the concept of sustainable

rural livelihoods is increasingly central to the debate about rural development, poverty reduction and environmental management. The sustainable rural livelihoods approach has emerged out of the evolving thinking about what rural poverty really entails (Allison and Horemans, 2006; Arnold, 2001; Farrington *et al,* 1999). The sustainable livelihoods approach places people at the centre of development initiatives (Warner, 2002) and does not compromise on the environment (Carney, 1998). It seeks to help the poor escape poverty and to strengthen the sustainability of their livelihoods (Carney, 1998).

This approach therefore reveals the reality of the complex nature of the rural livelihood systems. Poverty has traditionally been associated with the lack of insufficient food and income to maintain an adequate standard of living (Arnold, 2001; Warner, 2002). However, Farrington *et al* (1999) assert that when the poor themselves are asked what poverty means to them, income is only one of a range of aspects which they highlight. This conceptualization has therefore been described, in recent years, as insufficient to portray the reality behind rural poverty. According to Warner (2002), poverty is more than a lack of income or food. In order to gain a better understanding of the causes of poverty, it is also important to be aware that the poor are also more vulnerable, more exposed to risk and more powerless. A broadened definition of poverty is the one that recognizes the importance of access to assets. According to Arnold (2001), asset poverty is defined as insufficient assets (natural, physical, financial, human, and social) or lack of an appropriate mix of assets to be able to generate or sustain an adequate and sustainable level of livelihood.

This means a livelihood is much more than a job; it covers diverse things that people or households do. It also involves a wide range of issues (both internal and external) that have a direct and indirect impact on people's way of life. The most commonly used definition of sustainable rural livelihoods is the one that was originally developed by Chambers and Conway (1991: 6):

> *A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base.*

The adoption of this broader definition of poverty can be helpful in understanding the strategies that households pursue in order to sustain their livelihoods. In the context of this study, the definition enables one to understand the complex links that exist between rural people and forest resources. It is important to note, however, that rural livelihoods are not only confined to rural resources (Eade and Williams, 1995). There is evidence that rural households have a wide variety of strategies (farm and non-farm) that define their livelihoods. In most cases, rural households have a tendency to diversify their livelihood strategies so as to address most of their socio-economic needs (Ellis, 1998). According to Scoones (1998), a range of options that are open to rural people in as far as their livelihoods are concerned include agricultural intensification, livelihood diversification and migration. The sustainability of rural livelihoods can perhaps be understood here as referring to the creation of mechanisms or strategies to safeguard livelihood opportunities for the rural communities. In forestry, it may perhaps be deduced that the Sustainable Livelihoods Approach (SLA) looks at the opportunities and constraints that the rural people are presented with in as far as their access and use of forest resources are concerned thereby providing solutions.   "~;

2.7.2 The Sustainable Rural Livelihood Framework

A livelihood framework is a tool used to analyze and improve our understanding of rural livelihoods. It is expected that the framework will serve to:

- Define the scope of and provide the analytic basis for livelihood analysis;
- Help those concerned with supporting the SRL to understand and manage the complexity of the rural livelihoods;
- Become a shared point of reference for all concerned with supporting livelihoods, enabling the complementarity of contributions and the trade-offs between outcomes to be assessed; and
- Provide the basis for the development of a set of concrete intermediate objectives.

<div align="center">(Carney, 1998)</div>

The capital assets that form part of the livelihood strategies and all the related structures and processes involved in the analysis of the sustainability of rural livelihoods are described in the framework diagram below.

Figure 2.1 The Department for International Development's (DFID) framework for Sustainable Livelihoods Approach (SLA)
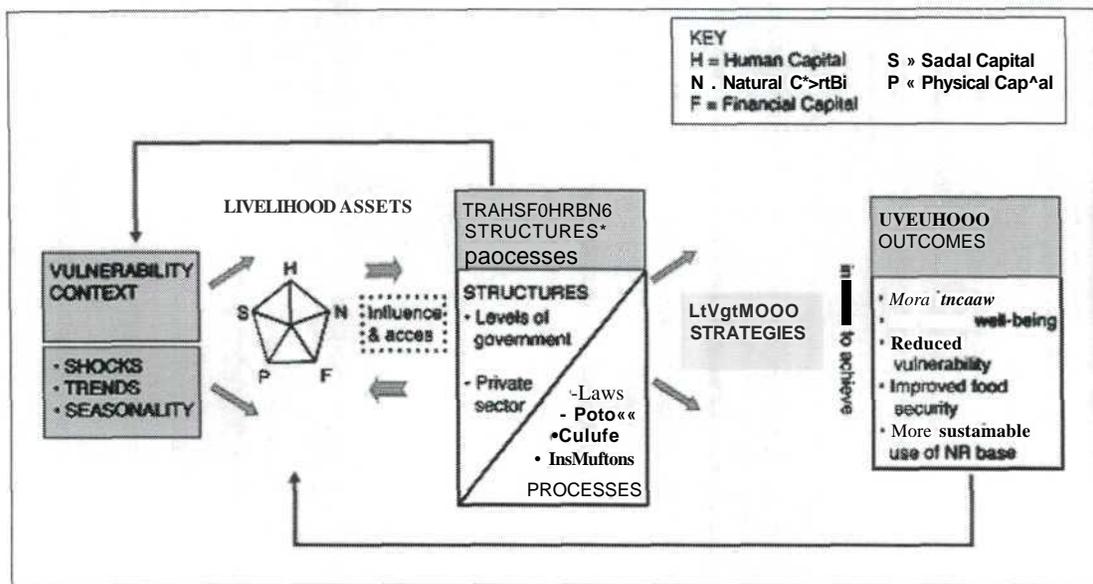
Source: Farrington e/ a/ (1999)

The capital assets upon which individuals and households draw for their livelihoods are categorized into five groups. These are natural capital, economic or financial capital, human capital, physical capital and social capital. Access to assets is a critical factor in strengthening poor people's livelihoods. According to Arnold and Bird (1999), tackling inequitable and insecure access to forest goods and services, and those assets that will encourage sustainable management, is the most important action needed to reduce poverty and improve forest condition. A brief description and importance of each asset is presented below.

Table 2.1 Improving access to Capital Assets

Asset	Importance
Human capital: The skills, knowledge, ability to labour and good health that enable people to pursue different livelihood strategies.	Provides people with the capability to effect change - to debate, negotiate and influence the way forests are managed. Allows poor people to access other forms of assets - including the natural capital represented by forest resources.
Social capital: The relationships of trust and reciprocity that support cooperative action, the membership of informal and formal groups, and the networks that increase people's ability to work together and access institutions and organizations.	Networks and relationships tend to be the mechanisms through which benefits are distributed and by which decisions on control and use of resources are made.
Natural capital: Natural resources stocks from which resource flows and services useful for livelihoods are derived.	Forest resource based activities such as those described above, as well as the environmental services forests provide. Natural capital also includes farming, fishing, mineral extraction, clean air etc. all of which provide food and services vital to livelihoods.
Physical capital: The basic infrastructure and producer goods needed to support livelihoods, for example, affordable transport, water supply and sanitation, shelter.	Inadequate access to physical capital can have profound deleterious effects on human health, education, income generation opportunities and productivity. For example, if excessive time is spent gathering wood for fuel, potential productivity is substantially reduced.
Financial capital: The financial resources available to the poor, including available stocks (savings, credit provision) and regular inflows of money (e.g. remittances).	Allows poor people to convert other types of assets to directly achieve a livelihood outcome (e.g. for purchasing food) and for political influence.

Source: Arnold and Bird (1999)

According to Warner (2002), a range of assets is needed to achieve positive livelihood outcomes, no single category of assets sufficiently provides all the many and varied livelihood outcomes that people seek. In contrast to the traditional, narrow thinking about poverty and basic needs of the poor, the capital assets present a multidimensional view about poverty (Allison and Horemans, 2006). This view tends to accommodate most of the aspects that are significant in an analysis of the livelihood systems of the poor and in sustaining any development intervention. A learning experience with the SLA is that it promotes the idea that it is important that any development intervention does not only look at its primary objective, but should also consider other areas and issues that might hinder or enhance the sustainability of the livelihood systems of the poor. Therefore according to Eade and Williams (1995), this means that the sustainability of any development intervention rests on the understanding of the livelihoods systems and strategies in which people are already engaged, the problems which they face, and the ways in which they are adapting to changing environmental and economic conditions.

Given the brief description of the sustainable livelihood framework above, one can perhaps deduce that there is a direct link that exists between the SLA and the manner in which contemporary forestry is conceptualized. Firstly, it has been highlighted above that contemporary forestry policies and practices embrace the idea of promoting rural livelihoods within the prospect of managing forest resources (for example, Angelsen and Wunder, 2003; Arnold, 1998; Arnold, 2001; Bass *et al,* 2004; Kaimowitz, 2003; Scherr *et al,* 2002; Shackleton and Shackleton, 2004; Warner, 2002). Secondly, the sustainable livelihood approach seeks to open opportunities for the poor to escape the poverty trap while monitoring the assets, processes and institutions that determine the sustainability of rural livelihoods. In this regard, the SLA appears to be a relevant tool that could effectively address the concerns for rural livelihoods and management priorities within the forest sector while opening a space to identify the opportunities and constraints that determine sustainability in the link between people and forests and their related activities. In communal areas therefore, the SLA could be applied in the interventions for community forestry to monitor the opportunities and constraints that could be influenced by the internal conditions wherein the various capital assets and their impact on the projects are examined. Furthermore the opportunities and constraints in forest livelihoods could also be

influenced by external factors such as government or private structures and perhaps a number of processes.

2.8 The contribution of forest resources on rural livelihoods

Forests provide rural communities with a diverse and valuable array of resources that have a significant contribution in their livelihoods. They contribute to food security; provide resource safety nets and sometimes enterprise opportunities where little else exist (Bass *et al*, 2004). The subsistence and commercial value of forestry products and services, and their contribution to livelihood security, income diversification and environmental protection can be summarized as direct-use value (for consumption or sale), indirect-use value (mostly environmental functions) and passive or non-use value (cultural, religious and extensive value) (Lawes *et al*, 2004; Cline-Cole, 1995; Arnold and Bird, 1999).

2.8.1 Direct-use value
This category of use incorporates both timber and non-timber forest products (Lawes *et al*, 2004).   ,   "   »

2.8.1.1 Non-timber forest products (NTFPs)
Rural communities, throughout the world extract a host of forest products that are a significant component in some parts of their livelihoods. Some forests harbour a diversity of natural and biological resources on which rural communities depend for their direct-use and for sale (Angelsen and Wunder, 2003; Sunderlin *et al*, 2005). According to Angelsen and Wunder (2003), although these products are more common in natural, biodiversity rich forests and agroforestry systems, specialized plantations can also produce important side benefits, such as mushrooms. Some of these products have important commercial market and generate substantial revenues (Lawes, 2004; Smit and Pitcher, 2003; Sunderlin *et al*, 2005). These products have been termed non-timber forest products (Shackleton *et al*, 2006). Non-timber forest products is a concept that is used interchangeably (FAO, 1999; Shackleton *et al*, 2006) with terms such as by-products of forests, minor forest products, non-wood goods and benefits, non-wood goods and services, other forest products, secondary forest products and special forest products (Wong, 2000). The use of these concepts

differs depending on the focus of work of the respective authors or organizations (FAO, 1999). Here the concept non-timber forests products is preferred because it incorporates the small-scale use of wood which is a dominant source of energy for rural households, useful as a source of fencing and building materials and further contributes to income generation in many parts of the African continent. In other words, fuelwood is one of the significant pro-poor non-timber forest products (Angelsen and Wunder, 2003; Lawes *et al,* 2004). According to their definition, the NTFPs exclude the use of wood for timber but it incorporates the small-scale non-commercial use of wood for poles, charcoal and fuelwood (Lawes *et al,* 2004; Shackleton, 2004). Perhaps a simple definition of NTFPs is that of Shackleton *et al* (2006: 3) who argue that:

> *NTFPs refer to any wild biological resource (animal or plant) harvested from forested lands by rural households for domestic consumption or small scale trade, with no, or limited capital investment.*

It is only recently that the non-timber forest products have gained the attention of governmental and non-governmental organizations and institutions, as well as the private sector. But much of the information has already been collected on their socio-economic potential in the rural context. While some studies have highlighted their importance in varying degrees of rural livelihoods, others like Lawes *et al* (2004) express a concern that the importance of these resources, particularly their role in income generation is often underestimated because most of these products form part of the hidden economy. This is probably because most of the activities take place in the informal sector (Cunningham, 1993). Shackleton and Shackleton (2004) point out that for many households, income generation from NTFPs is a supplementary activity, while for others it constitutes their primary source of cash and livelihoods. This implies that the use of these products varies within different households and communities. This correlates with the assertion that:

> *Forests resources can usually provide contributions, rather than whole livelihoods. But they can also complement and strengthen other key components of livelihoods and poverty reduction.*
> (Bass *et al,* 2004: 233)

The NTFPs can be categorized in different ways. For ecological purpose they can be classified as (1) parts of individual plants, such as leaves, bark and latex, or by-

products of animal activities, such as honey, or (2) parts of the population life cycle, such as seeds, flowers, eggs or entire plants or animals (Lawes *et al,* 2004). More details about the use of the resources that are described in the categories above are explained below.

2.8.1.2 Medicine

Forests provide a wide range of medicinal plants that rural communities utilize either at a household level or in generating additional income (Botha *et al,* 2004; Cunningham, 1993; Lawes, 2004). The significant increase in the harvesting and selling of medicinal plants may perhaps be viewed as one of the classic examples that portray the importance of natural resources or NTFPs in rural livelihoods (Boshoff, 2006; Shackleton, 2005). Cunningham (1993) asserts that, traditionally, the use of medicinal plant materials (barks, roots or whole plants) from forests among African rural communities has been a common practice. Even today, the vast majority of people in Africa consult traditional medical practitioners who use medicinal plants as one of their mechanisms for health care (Cunningham, 1993). Furthermore, given the current economic instability and inadequate service delivery in rural areas, rural communities are more likely to continue to use plants for healing or visit traditional healers.

Another interesting point to note is that the medicinal plant trade is described as a multi-million Rand 'hidden economy' which responds to the high demands in the urban markets (Lawes *et al,* 2004; Williams, 2004). The growing markets of traditional medicine indicate the significance of these products in urban areas and the rural subsistence economy, not only as a primary health care resource, but also as a source of revenue to people from impoverished backgrounds (Williams, 2004). While the use of medicinal plants has been associated with traditional medicinal practitioners (Cunningham, 1993), most rural households also know and use plant materials to heal common illnesses and generate an income, hence an escalating number of street traders have been witnessed for example; in South Africa (Botha *et al,* 2004; Mander, 2004; Williams, 2004). Lawes *et al* (2004) reveal that gatherers, some of whom are street traders, harvest medicinal plants and sell material to traditional healers, shop traders and a few wholesalers.

The intensive use of medicinal plants on one hand sends a message that although societies have long diverted towards the modernized, western health care system, traditional healing methods which rely on indigenous knowledge systems are still prevailing in many parts of the continent (Cunningham, 1993; Mander, 2004). On the other hand, the flourishing urban medicinal plant markets, especially through street trading indicate that the medicinal plant trade has a concomitant input in the informal sector economy in the urban areas (Williams, 2004). However, on the other side of the coin, the increasing demands on these resources tend to raise the question of sustainability (Twine, 2004). For instance, there has been an overriding concern that some plant species have become extinct in recent years (Geldenhuys, 2004; Williams, 2004). The fierce competition on the harvesting of these resources has resulted in excessive bark harvesting with slim opportunities to replenish. Moreover, the current demand for plant species exceeds supply (Lawes *et al,* 2004). These developments indeed raise a concern for biodiversity loss and the projected economic losses in the foreseeable future that will have an adverse effect on sustainability of rural livelihoods in as far as the use and selling of medicinal plants are concerned.

2.8.1.3 Gathered foods

A wide range of food products from forests are collected by rural communities (Falconer, 1992; Kaimowitz, 2003). Forests provide food resources in most seasons in the form of edible fruits, wild spinaches or vegetables, honey and edible fungi, Mushrooms, roots and tubers (Falconer, 1990; Kaimowitz, 2003; Lawes *et al,* 2004). Some of these forest foods are a good source of dietary supplements (especially for children) to the starch based staple diets of poor rural households in a sense that they provide, for instance nicotinic acid (especially from wild spinach), vitamin C, Calcium, Riboflavin and protein (Lawes *et al,* 2004; Shackleton, 2004; Cunningham and Shackleton, 2004). Falconer (1990) points out that the regular use of forest foods is more common when few cultivated varieties of food are available during seasonal shortages and droughts. This implies that forest foods can sometimes be viewed essential, particularly within the poorest sector of the rural community, as supplementary, seasonal or emergency food products that can enhance food security through direct household use or income generation (Engelsen *et al,* 2003). Although, according to Lawes *et al* (2004), there are fewer chances of commercial trade in most

of these products, Cunningham and Shackleton (2004) reveal that products such as wild fruits can be traded for a wide range of purposes. For instance, they may be fermented into alcoholic beverages for local and international trade (for example, Amarula), used as a source of oil for cosmetics and cooking, or as traditional medicines for their active ingredients.

Like other non-timber forest resources, the extent at which forest foods are consumed in rural households varies (Cunningham and Shackleton, 2004) between villages, between households within a single village and between different household members in a single household. With respect to the differences between villages, Cunningham and Shackleton (2004) postulate that this trend is driven by cultural norms, local species availability and abundance, and the macro-climatic and economic contexts. The differences between households is described more as an issue of wealth status, in a sense that Cunningham and Shackleton (2004) further note that poorer households are more likely to collect forest foods for direct use and income generation, compared to their wealthier counterparts who tend to have secured livelihood opportunities. The differences within single households are largely explained through the age and gender reasons. In terms of age group, children tend to collect and consume more fruits than the other age groups. The gender aspect reflects the significant interest in women to collect and use, compared to their male counterparts. According to Shrestha and Dhillion (2006), women often have greater knowledge about food plants. The greater knowledge among women may be a reflection of their greater involvement in household work. In this view, Shrestha and Dhillion (2006: 60) further note that:

> *In the rural areas, women are exclusively responsible for household matters and may be taught about useful plants from childhood especially in terms of how to collect and prepare plants. Women frequently gather wild foods on their way to fetch water, collect firewood, and when walking home from the fields. Men often have off-farm jobs.*

2.8.1.4 Fuelwood

Fuelwood appears to be a dominant source of energy in many parts of the developing world, especially in Africa (Kaimowitz, 2003; Karekezi and Kithyoma, 2002). In many households within the developing region, fuelwood is used on a daily basis (Shackleton *et al*, 2004). The extent of use in this region cannot be compared with that of the industrialized countries where fuelwood use has been replaced by more

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efficient and convenient sources of energy (Arnold *et al,* 2003). This trend generally implies that the bulk of households in the developing region, particularly in Africa, are less able to afford and access alternative fuels Karekezi and Kithyoma (2002). Moreover, an assumption applies here, that much of the population in this region is still rural based where forest resources are more likely to be easily accessible. Karekezi and Kithyoma (2002: 1073) concur to this by arguing that:

> *The predominance of firewood as a dominant source of cooking energy in Africa, despite its inefficiency and harmful impact on human health, could be attributed to its availability as a free' source of energy. In most cases, firewood is collected and not purchased.*

While a huge number of users depend on fuelwood for domestic energy use (cooking and heating) in southern Africa for instance, there is also growing evidence that in many poor households fuelwood generates additional income (Kaimowitz, 2003; Shackleton *et al,* 2004). Sometimes this activity even becomes their main source of cash income (Angelsen and Wunder, 2003; Arnold, 2001). Another notable trend that emerges is that fuelwood has found its place in urban areas (Kaimowitz, 2003). In urban Africa for instance, with rapid population growth and persistent low incomes among the urban dwellers, the use of woodfuels has increased and will probably continue to increase in the foreseeable future.

One of the most important points to note in as far as energy use is concerned, particularly in many parts of the African continent, is that fuelwood is sometimes supplemented with the use of crop residues and animal dung (Karekezi and Kithyoma, 2002). This pattern of use is explained by Mearns (1995: 103) who postulate that:

> *Within the household sector, levels of energy use and the mix of fuels vary widely from place to place, depending on climate and altitude, the nature of local farming systems, household size and income, the availability and cost of 'modern' substitutes such as kerosene, and end-use technologies, and cultural factors such as diet, cooking habits, and the use of fires as a social focus.*

Mearns' submission sets out to outline the dimensions involved and opportunities available in as far as energy use in a household is concerned. Broadly speaking, there is a wide range of issues that are involved on how a household derives its energy needs. It is easier therefore to deduce that households that are in close proximity to the forests, depending on income level would be most likely to use fuelwood, while those

that are not very close would depend on the household income level, the distance involved, and availability of labour to collect fuelwood or alternatively sources such as paraffin, butane gas and electricity may be utilized (Lawes *et al,* 2004).

2.8.1.5 Handicrafts

Forests provide materials for the manufacturing of a variety of handicrafts and household items, such as bracelets, grinding mortars and pestles, spoons, pipes and bowls (Lawes *et al,* 2004) and artifacts of cultural importance such as sticks, drums and head rests (Shackleton, 2005). Manufacturing has created opportunities through which rural households are generating an income. Shackleton (2005) asserts that in recent years the need for cash income, increasing unemployment and economic hardship, as well as improved opportunities associated with growing tourism have seen the traditional practice of handcraft manufacturing expand into an important income generating activity. In the South African provinces of Eastern Cape, KwaZulu-Natal, Limpopo and Mpumalanga, craft making is enjoying tremendous support from the growing tourism industry (Lawes *et al,* 2004; Shackleton, 2005). This is witnessed through the increasing production of carved animals such as hippos, warthogs, giraffes and birds, and other curious. In the Limpopo province, basket and mat weaving, as part of the homecrafts industry are the most profitable (Lawes *et al,* 2004).

2.8.1.6 Timber forest products

Timber is another commonly used forest product. It has been more popular compared to the other forest products such as NTFPs. In fact, forestry matters have historically been concerned with the extraction and use of timber products, mainly for commercial purposes (Sunderlin *et al,* 2005). As a result, timber is still one of the most imported commercial commodities in many countries of the world. However, while most of the NTFPs are easily accessible to the rural poor, the benefits from timber often seem to be captured by the rich and very little of the wealth generated goes to the poor (Angelsen and Wunder, 2003; Sunderlin, 2005). This distinction can perhaps be best explained through the outline of the characteristics that underpin both timber and NTFPs respectively. According to Angelsen and Wunder (2003), the basic characteristics of most NTFPs include:

- Low or medium returns to labour

- Low capital and skills requirements
- Open or semi-open resource access.

However, they further assert that the fundamental characteristic that alienates timber from the rural poor is that it requires capital, skills, secure land tenure, technology, production systems and time horizons. These are all aspects that do not favour poor people. The only identifiable benefits for the rural poor in the timber industry is often through transitory employment, small direct compensation payments from the timber firms and also, indirect benefits such as road building and some social infrastructure (Angelsen and Wunder, 2003). Besides the anti-poor timber characteristics that have been outlined above, new trends that promise to redirect the traditional trend in as far as the relationship between timber and the rural poor is concerned have been witnessed recently. A brief description of these trends is presented below.

Devolution Due to a redistribution of forest land, local communities now own or control about one fifth of forests in developing countries. This strengthens their options to appropriate timber values.

Decentralization The transfer of power to local government and additional local resource control increase the access of the poor to forests.

Better government Processes of democratization in many developing countries, campaigns against corruption, a freer press and the involvement of NGOs, all potentially increase the bargaining power of rural communities and the benefits they can appropriate

New technologies Emerging small-scale technologies can help small producers to become competitive.

Rising timber demand In many countries, demand for high volume, low grade construction timber is growing-which the poor in market accessible areas may have a comparative advantage to supply.

Source: Angelsen and Wunder (2003)

The impact of the above trends has been witnessed with the growing establishment of small-scale out-grower timber schemes which encourage partnerships between companies and communities (with the intent to produce a commercial forest crop). These schemes are contributing to rural livelihoods by offering a variety of commercial and non-commercial opportunities for adjacent communities (Lewis *et al,* 2005). Participatory forestry in Africa for instance, is not only confined to natural forests, but has gone further to encourage community involvement in the management of commercially important forests such as industrial plantations (Alden Wily, 2002). Privatization procedures underway in South Africa, for example, have explicitly extended privatization to include communities and not only companies (Mayers *et al,* 2001).

2.8.2 The indirect values of forest resources

In addition to income, and what money can buy, forests provide non-material goods that are also important to human-kind (Warner, 2002). Shackleton (2004) asserts that such goods are difficult to value precisely in economic terms. This refers to the environmental functions that forests provide. These are indeed non-tangible services whose value to the individual cannot be easily estimated, but are shared by the wider human community (Lawes *et al,* 2004; Shackleton, 2004). These services/ values include watershed protection, acting as a sink filter for air pollution emissions, carbon sequestration and the conservation of biodiversity which are highly rated by rural communities (Arnold and Bird, 1999; Lawes *et al,* 2004).

2.8.2.IThe Non-use value of forests

The non-use value of forests refer to the intangible benefits derived from the mere existence of forests, above and beyond any direct or indirect use value that people may enjoy. Non-use values include both existence value and bequest value (IIED, 2003; Kengen, 1997). Both of these sets of values are explained by the IIED (2003: 6-7) which asserts that:

The existence value is that value which people attach to the continued existence of certain species of wildlife found in particular forest areas such as bears or tigers. Such values may be most apparent among those who do not live near or use the products of forests directly themselves, and perhaps benefit only very slightly from indirect uses, but who nevertheless wish to see such forests preserved in their own right. Bequest values arise when people place a value on the conservation of particular resources for posterity (future generations). Bequest values may be high among local populations using or inhabiting a forest area, to the extent that they wish to see a way of life and culture that has 'co-evolved' with the forest passed on to their heirs. By the same token, those who live far from forests may wish to ensure that their descendants have an opportunity to visit and enjoy them.

This description is further discussed by Lawes *et al* (2004) who cite tourism potential and the cultural importance (sacred areas, inheritance value) of forests as close examples that explain the non-use value of forests. In some forests, activities such as hiking trails and ecotourism ventures portray the recreational value of forests to largely urban visitors. This explains the existence value described above. Forests are also of cultural importance (Shackleton, 2004) as burial sites for village chiefs and kings (Lawes *et al*, 2004). They are therefore protected as respected areas and for the future generations not to loose ties with their cultural backgrounds. This description portrays the bequest value.

2.9 Participatory forestry in Africa

Over the past few years, a wave of change in policies that underpin forest management practices has been witnessed in most African countries. According to Alden-Wily (2002), the most common changes that have characterized the new forest laws since the early 1990s are the following:

- Marked increase in national programming and individual forest planning requirements;   *"•"•'*   > ?v^

- More rigour and control over the way in which governments themselves administer national forest properties;

- Legal encouragement for private sector roles, particularly in the plantation sector;

- Change in the character of central forestry administrations, with wider civil society input in decision-making, sometimes with relocation of forestry departments into semi-autonomous institutions, and varying degrees of decentralization to local governments; and

- Policy commitment and new legal opportunity for forest-local populations to participate in forest management.

The most important and interesting trend in the policy shift is the growing acceptance of community involvement as a correct mechanism to effectively link forest livelihoods to the issues of sustainable management of forest resources. Potters *et al* (2002) assert that although participatory forestry is a recent domain in many countries of the continent, there is already an increasing emphasis on encouraging community involvement in forestry matters. Moreover, there is an observable mobilization of stakeholders and concrete action has been taken in the field with many projects already taking place. For instance, more than 100 projects and programs have already been in operation in 2002 (Alden-Wily, 2002). Alden-Wily (2001, 2002) argues that the growing interest in participatory forestry in Africa has been influenced by a number of issues. In these she mentions the continued loss of forest resources on the continent of up to one million ha each year and the pressure exerted by the global environmentalism launched with the Rio Declaration of 1992, the switch by most African states to the more devolved and inclusive ways (decentralization of governance responsibilities) of managing society and resources (Kajembe *et al,* 2005) as well as the land reform programs that have influenced some of the states to transfer forest lands to local communities (IUCN-SA and ART-SA, 2005; Ojwang, 2000).

2.10 Approaches to Participatory Forestry in Africa

2.10.1. Community involvement in the management of natural forests and industrial plantations. \   *,

In most African countries, participatory forestry interventions are largely characterized by a focus on the management of natural or indigenous forest resources. Such interventions often embrace the principles of Community Based Natural Resource Management CBNRM, particularly the integration of the prospect of local livelihoods within the conservation objectives. In recent years, however, community involvement has been witnessed also in the management of commercially important forests such as industrial plantations (Ojwang, 2000). This growing trend has been witnessed especially in South Africa with the development of the small out-grower timber schemes (Mayers *et al,* 2001; Lewis *et al,* 2005) and SMMEs (Ndabeni, 2001) which highlight the involvement of local communities in the privatization matters

within the forest sector. According to Alden-Wily (2002), countries such as Malawi, Uganda and Tanzania have also proposed various forms of local participation in commercial plantation management.

Given the expansion of opportunities for community involvement in forestry, participatory forestry initiatives in Africa appear as either product- or protection-centred. Alden-Wily (2002) argues that while some projects are conservation-based, participatory forestry initiatives have been influenced by fuelwood extraction in countries such as the Niger, Mali, Burkina Faso and Senegal. In Cameroon, timber harvesting has been the main focus while in the dry lands of the Sahelian regions, grazing management is often the focus of participatory forestry.

2.10.2. The conditions of forests handed over to communities

One of the factors that determine the success or failure of any participatory forestry intervention is the quality of the forests that are passed over to local communities. The concern for the quality of forests passed over to communities is expressed by Potters *et al* (2002: 72) who postulate that:

> *The quality of the forest resources managed under participatory forestry is an indication of the government's commitment to the sharing of responsibilities and benefits of forest management. If forests that are in good condition are available, but a country designates only degraded forest resources for management by local stakeholders, the government's commitment should be questioned critically. The government might simply be aiming to reduce the costs of management of these non-productive resources, and for local stakeholders the benefits from the forest resources might not show a notable increase.*

In the African continent, the experience of participatory forestry does not reflect a uniform trend in this regard. According to Alden-Wily (2002), while in countries such as Zambia, Cameroon and Burkina Faso local roles are restricted to unreserved or other "poorer" forest areas in Uganda, Guinea and Ethiopia participatory forestry started in national forest reserves and in most other countries, developments have began in both the reserved and unreserved sectors.

2.10.3. The rights of access and management of forest resources

The issue of rights of the community or user groups with regard to the use and management of forest resources is one of the significant issues in the analysis of the progress of participatory forestry. It is important to note that local people can commit themselves to maintaining the forest resource and can play an active role in forest management decisions only if their rights of access are clearly defined. Alden-Wily (2001: 5) concurs by saying that "the greater the authority devolved to forest-local communities, the greater their incentive to manage the forest sustainably and effectively". According to Potters *et al* (2002), in participatory forestry the rights under which communities are often likely to operate can either be formal or informal. According to Bell (1999), formal rights can be defined as those rights that are imposed to the communities and are often modified through formal institutions such as parliament. The informal rights on the other hand, are often unwritten, communal rights and are modified by the communal institutions.   "   .!

Under participatory forestry, most African countries provide formal management rights to the local stakeholders while in other countries, both formal and informal rights exist. Potters *et al* (2002) assert that for the purpose of understanding the state of the advancement of participatory forestry in any country, in as far as community rights are concerned a number of issues need to be taken into consideration. These include an understanding of how formal and informal rights are combined in practice, under which circumstances forest resources are managed under formal or informal rights, and what kind of the *de facto* security is provided to the holder by both types of rights. Potters *et al* (2002) further assert that formal rights do not necessarily imply secure rights. Their argument is that some informal indigenous *de facto* arrangements may provide a more secure right base than other formally documented and recognized rights. On the other hand, informal status makes rights fragile when they are challenged by changing resource use situations or new national policies. In most African countries, given the early adoption of participatory forestry principles, governments are often likely to base rights on a temporal agreement or contract. Alden-Wily (2001) asserts that in most African countries policies on participatory forestry often recognize local-forest communities as forest users rather than forest managers. According to Potters *et al* (2002), this situation, however, does not indicate a lack of commitment to participatory forestry, but it is mainly because governments

need to examine the potential of the new approach to see how it functions and what impacts it has, particularly on the forest resources.

2.11 Opportunities and challenges for Participatory Forestry

In the African continent wherein the large proportion of the total population is still defined as rural dwellers and the local communities are dependent on forest resources for some parts of their livelihoods (Arnold and Townson, 1998; Shackleton *et al*, 2007), it is perhaps pertinent that opportunities and challenges that characterize the progress of community forestry are examined so as to understand areas that need attention for future developments in this particular area. There is widespread evidence that forest policies and programs of many countries have been transformed. This transformation is mainly characterized by the expansion of forest management objectives which in many instances tend to integrate conservation and production as well as issues of rural livelihoods (Warner, 2002). Furthermore, there is much emphasis on the involvement of forest local communities in forestry activities (Alden-Wily, 2002; Potters *et al*, 2002; Warner, 2002). This trend is in fact one of the subjects of major debates in contemporary forestry issues on the African continent.

The outline of the opportunities and challenges that underpin participatory forestry is undertaken with a view that there is a need to assess the potential of forestry agencies and related institutions in responding to the demands of the new policy agenda in forestry. Several studies (Alden-Wily, 2001; Alden-Wily, 2002; Kajembe *et al*, 2005; Potters *et al*, 2002) have examined the progress of African forestry within the context of the new management demands that have emerged, especially that of forest-community or user group participation in forestry matters. The studies basically question the transition of forest agencies towards accommodating and enforcing the implementation of the new policy demands, more especially in linking forest management with the prospect of rural livelihoods. However, it remains that sustainable achievements in forestry will be largely influenced by clear land tenure reforms and the commitment of governments in assisting communities who might see the need to protect their natural forests and those with no power to intervene in commercial forestry operations.

Generally, the government can open opportunities for participatory forestry by creating suitable policies that would integrate forestry to other aspects of rural development and livelihoods. However, Potters *et al* (2002) assert that, a lack of clear policy framework and problems such as corruption and low salaries in the public sector, insufficient funds and human resources for implementation of PFM are likely to pose a serious challenge for the effective implementation of participatory forestry. Potters *et al* (2002) further note that constraints to PFM in the African continent are likely to be exacerbated by factors that are not directly related to forestry matters and these include political instability, unrest and war, illiteracy, poverty and the economic situation of the country.   ;

2.12 Conclusion

This chapter has traced the major changes that have shaped the role of forestry in development throughout the years. It has been interesting to note that the changes in the interpretation of forestry have been largely influenced by the paradigm shifts that have been witnessed taking place in the broader thinking about development. This shift can be described as a major breakthrough in forestry as it has introduced a series of new approaches that have influenced the restructuring of forestry policies and development of new programs which embrace an integrated approach to forestry development. The nature of this shift therefore reflects a need for the upgrading of skills of traditional foresters to a role that facilitates and promotes the frameworks within which the new forestry operates.

The link between people and forests has been clearly outlined and as such, an understanding of rural livelihoods within the context of forest resources and their sustainability has been presented as part of the new approach to forestry development. This chapter has also indicated that the sustainability of rural livelihoods in the context of forest resources is determined by a wide variety of issues that might have a direct and indirect influence on the resources. The Sustainable Livelihoods Approach (SLA) has, in this regard, presented an understanding that the issues of access and management of forest resources by rural communities are sometimes not only confined to such communities but can also be influenced (positively or negatively) by a wide range of external issues, processes and institutions.

The main argument of this chapter has been to highlight the need to use participatory strategies in community forestry. It is indeed interesting that such strategies are being widely supported, particularly in the African continent and have indicated positive results for both local economic development and biodiversity conservation in natural forests, although a number of issues that relate, for instance, to the control of forest by local communities and community-company relations still need to be addressed. It is, however, interesting to note that there is a growing emphasis on the involvement of local communities in commercial forestry activities in the African continent. The challenges facing sustainable management and rural livelihoods in the context of forestry in the African continent have also been uncovered. The outline of these issues has laid the basis for examining the progress in the South African forestry. Hence, the next chapter looks specifically on the South African experiences of the forest sector and the forces that have influenced a change in the post-apartheid era.

CHAPTER THREE

THE SOUTH AFRICAN EXPERIENCES OF THE FOREST SECTOR AND NEW DEVELOPMENTS IN THE SECTOR

3.1 Introduction

This chapter intends to explore the historical background of the South African forest sector. Particular attention is paid to the outline of the trajectories that have influenced the shifts in forestry thinking and practice over the years. This is followed by an overview of the new experiences that have been instigated by the democratic transition in South Africa. Here the prospects for promoting equitable links between forests and people are examined.

3.2 Transitions in South African forestry

Historically, the South African forest sector has been characterized by significant changes in the patterns of use and management of forest resources. Hargreaves (undated) indicates that shifts in South African forestry have been witnessed over the years in the institutions as well as in policies that govern the use and management of forest resources across the country. Significant changes were more witnessed as from the beginning of the 19th century wherein competition over the resource use between different parties had escalated (Hargreaves, undated; Mayers *et al*, 2001; Von Maltitz and Shackleton, 2004). The evidence of the prevalence of these changes dates back from traditional times, prior to colonization where indigenous African communities had their own practices, norms and institutions through which the decisions pertaining to access and use of forest resources were made (McCracken, 2004; Von Maltitz and Shackleton, 2004). These systems, however, have been greatly modified in the past few decades, especially during the colonial era through to the 1940s (Mayers *et al*, 2001). Recently, the shift in approaches to the South African forest sector has become more rapid and complex with the democratization of the state and demise of apartheid (Hargreaves, undated).

The sector is now characterized by new demands and multiple stakeholders. In this section, therefore, a profile of the South African forestry is discussed from the traditional era through to the present dispensation. It is anticipated that this profile will provide a foundation for one to understand the trends in the history of the South

African forest sector as well as the gains that have been made from the onset of the democratic transition. Particular attention is paid to the examination of the potential and willingness of the rural communities, particularly those in communal areas, to engage in community forestry activities.

3.2.1 HISTORICAL BACKGROUND

3.2.1.1 The Traditional Era

There has not been much research conducted on the history of the South African indigenous forests, particularly with regard to their use and management in the pre-colonial era (McCracken, 2004; Von Maltitz and Shackleton, 2004). Nevertheless, little evidence exists however on the extensive use of these resources in almost the same period. This implies that forests and trees like other natural resources have had a significant role in the existence of African indigenous communities. It is not surprising therefore that contemporary forest policies and programs tend to integrate the role of forest products and services in the broader framework of rural livelihoods (DWAF, 2005; Shackleton, 2004). They actually promote a trend that had long existed, but ignored by legacy of the past. According to Feely (2004), the archaeological studies of the Iron Age sites have shown the evidence of pre-historic use of indigenous forests and woodland resources in South Africa. This is based on the findings from the sites that have been studied, especially of physical remains of woody plants usually charcoal.

The recovery of charcoal in some of the areas indicates the use of wood in the pre-historical era (Colchester *et al,* 2003). For instance, while wood resources were often used as fuel for cooking grain meal and construction (Feely, 2004), its more extensive use was more evident with the demand for fire largely for the purpose of smelting iron and copper ore (Feely, 2004; McCracken, 2004; Von Maltitz and Shackleton, 2004). Furthermore, it is interesting to note that the use of NTFP (medicine, fruits and bark), as it is increasingly acknowledged in the current forest research and policies, had already existed (Feely, 2004; Von Maltitz and Shackleton, 2004).

The most important point that is worth mentioning is that indigenous African communities had traditional systems and norms to control the use and management of natural resources such as forests (Von Maltitz and Shackleton, 2004). Fortunately,

some of these practices are still common in contemporary South Africa (Lawes *et al,* 2004). For instance, the chiefs have traditionally played a leading role in the making and enforcement of decisions that relate to the issues of governance in their respective areas. This trend has had a consequent impact on how forest resources can be utilized within their villages. There are also cases where forest use was highly prohibited, because they were either viewed as sacred or burial sites for the local chiefs and kings, while some forests were abandoned due to the superstitions or fear of evil spirits believed to be associated with them (McCracken, 2004). Actually, the cultural importance of indigenous forests is witnessed still today in some parts of the country. The Limpopo, KwaZulu-Natal and the Eastern Cape provinces are a good example in this regard (Che and Lent, 2004; Eeley *et al,* 2004; Lawes *et al,* 2004). These norms indirectly protect the indigenous forests away from the risk of being exploited. In general, the key issues that determined either the use of forest resources or the restriction over their use are perhaps best summarized by Von Maltitz and Shackleton (2004: 111) who postulate that:

> *A combination of formal rules together with religious beliefs, practical reasons, indigenous knowledge, norms of behaviour and superstitions, would have all served, directly and indirectly to govern the use of natural resources and to provide some protection to the resource base.*

Although there is evidence of the long period of use of the indigenous forest resources in South Africa, there is indeed a limited scope of discussion around the history of the use and management of these resources, particularly in the pre-colonial era. The changes in the forest sector were, however, more witnessed around the 19th century with the colonial experience. According to Hargreaves (undated), Forestry in South Africa has moved through a number of phases since the arrival of the first European colonialists. Notably, since the beginning of this era, the shifts in the purpose of forestry as well as the institutions involved in their management were witnessed. A closer look on the historical experiences of the South African forest sector, as outlined in Mayers *et al* (2001) and Von Maltitz and Shackleton (2004) indicates that some of the characteristics that underpin the current forest sector, especially with reference to its two sub sectors (commercial and natural sectors) are as a result of the significant developments that have influenced the sector particularly as from the beginning of the 19th century. The discussion about the management of forest resources in the context

of the colonial era would give a clear picture as to how far traditional African institutions have changed and what impact western perceptions about conservation have on the traditional norms that had existed throughout the decades.

3.2.2.2 The Colonial Era

From the early European settlers, there has been a notable shift in the patterns of use and management of forest resources in South Africa. In fact, forestry has since that time moved through a number of phases (Hargreaves, undated). There has been a shift over the years in the purpose of forestry as well as in its key players. The colonial era is mainly characterized by significant changes in the manner in which forest resources have been governed.

By the 1800s, the use of indigenous forest resources in South Africa was quite extensive. There was a high demand for timber as building materials for colonial settlements, the construction of railway tracks and fuel for the trains, mine structures and support as well as the traditional need for firewood (Mayers *et al*, 2001). However, in the mid-1800s it was apparent that the escalating demand for the forest resources could easily lead to over-exploitation. In fact, the mid-1800s are characterized by the move to conserve and protect the forest resources from over-exploitation (Tewari, 2000). In this period, the first forest service was established along with the appointment of the first forest conservator (Von Maltitz and Shackleton, 2004). The promulgation of the first forest Act in 1888 further supported the initiatives to demarcate the forests and put restrictions on the further cutting of timber (Hargreaves, undated).

These plans could not, however, address the problem of the increasing demand for timber products. With such a constraint, the idea of establishing tree plantations to meet the growing timber demand began to develop (Hargreaves, undated; Tewari, 2000). According to Mayers *et al* (2001), tree plantations were viewed as the best solution to providing a permanent alternative to fast disappearing natural local forest resources and costly imported timber. In the late 1800s, the plans for the establishment of tree plantations were underway. In 1864, the small wattle-tree species were planted in the current province of KwaZulu-Natal (Hargreaves, undated). This was expanded in 1876 with the establishment of the first state-owned tree

plantations in response to the development and expansion of the South African mining and industrial sectors (Mayers *et al,* 2001). These stands marked the beginning of the plantation forestry in South Africa. From these years onwards, increasing areas were put aside for afforestation (Von Maltitz and Shackleton, 2004) and there was an improvement in the management of South Africa's indigenous forests. Most areas with indigenous trees were closed to cutting and a major breakthrough was witnessed when some of them were demarcated as the country's first legal conservation areas (Hargreaves, undated; Von Maltitz and Shackleton, 2004). It is estimated that the afforested area in South Africa by 1910, had risen to 120 000 hectares, mostly in what is now the Western Cape, and almost all of it under state control (Mayers *et al,* 2001). By this time, afforestation was still continuing in other parts of the country.

3.2.2.4 Increased Afforestation for Emerging Commercial Sectors (1914-1940)

The period 1914-1940 is marked by a shift from conservation to production and the emergence of the private sector. The most interesting part about South African forestry is that tree plantations were initially introduced in the country with a general aim of conserving indigenous forests from exploitation while responding to the high demand for timber. The interventions that followed thereafter (such as increased afforestation, demarcation or zoning of the forests as conservation areas) can be viewed as being successful in this mission. While it could be deduced that the 19th century was able to address the concerns for the conservation of natural forests and the growing demand for timber products, there is an outstanding question, however, concerning the role of indigenous people or natives in such transformations.

The shift from conservation to production was in this era fuelled by the outbreak of the First World War. During this period, South Africa was isolated from the traditional trade routes, especially with Europe. This sudden change had a tremendous impact on the lowering of imports of all kinds, including timber (Mayers *et al,* 2001). The country had to address much of its internal matters on its own capacity. Mayers *et al* (2001: 9) assert that: "initially in response to a policy of self-sufficiency, and encouraged by wartime interruptions to imports, the state embarked upon a major programme of afforestation". The move towards this step was viewed as advantageous as it came as a platform for the development of a huge and self-sustaining commercial forestry industry. Furthermore, the industry responded

positively in providing the benefits for employment creation for poor Whites in the depression years (Mayers *et al,* 2001; Tewari, 2000).

The case of isolation from the international import and export market was also witnessed with the onset of the Second World War. While increased afforestation for self-sufficiency was still maintained, a further investment opportunity was witnessed with the development of processing facilities. By the mid-1940s, state sawmills were being expanded (Mayers *et al,* 2001). This is the era in which the private sector started to infiltrate the forest industry, marking another crucial development in South African forestry (Hargreaves, undated).

3.2.2.5 The Apartheid Era (1940-1993)

According to von Maltitz and Shackleton (2004), the apartheid era reinforced the divide between the communal and private areas with the Bantustans being formalized into 'homelands' and 'independent states'. There is no doubt that this move was largely influenced by the continued rapid afforestation and increased private sector participation that was witnessed in the 1940s. During this time, except for the accelerated afforestation programs, the emergence of the pulp and paper industry in the 1950s added a further impetus to the efforts of expanding the commercial forestry sector. The emergence of this new sector depicted the widening of the traditional activities of the South African forest sector as it was previously focused on sawn timber and mining supports. The private enterprise was soon witnessed taking stock of this new fast growing industry with the establishment of SAPPI and Mondi as the major industry players. This resulted in more land being bought up and used by the commercial forestry industry (Mayers *et al,* 2001).

According to Mayers *et al* (2001), the area of plantation forest reached 693000 hectares by 1950, of which 73% was in private hands by 1955. In this regard, one can deduce therefore that the homelands were strategically created for the purpose of reserving suitable land for the expansion of the profitable forest sector and possibly the promotion of the large scale agricultural sector.

According to Mayers *et al* (2001), the extension of the plantation estate and processing facilities . was further given a boost by the implementation of the

recommendation of the 1956 Government Commission into Socio-Economic Development. Mayers *et al* (2001) further assert that this commission recommended the use of forestry for regional economic development in remote disadvantaged areas, essentially the areas that subsequently became South Africa's homelands. In the government's view, this initiative was intended to provide employment but more importantly to provide training to rural people, possibly to further the afforestation programme (Ham and Theron, 1999; Hargreaves, undated; Mayers *et al,* 2001).

In a short run, about 257,000 ha were identified for potential plantation by Black communities (Hargreaves, undated), and large scale plantings began in the Transkei, Ciskei, KwaZulu, Kangwane, Lebowa and Venda. In total around 150,000 hectares of forests of differing levels of quality and economic viability were established (Mayers *et al,* 2001). However, Hargreaves (undated) asserts that although the initiatives did provide some employment for rural people, the government's promise of managerial training for Black workers never materialized.

3.2.2.6 The management and conservation of indigenous forest resources

Another significant intervention was witnessed in the sixties and seventies. During this time, there was a move to re-introduce the prospect of environmental conservation in the forestry sector with particular reference to the afforestation programs (Hargreaves, undated). While the original interest in the forest sector was to protect the indigenous forest resources from over-exploitation, this time there was a slight shift towards the management of water resources within the afforested areas (Hargreaves, undated). This intervention prompted the amendment of the Forest Act to include the introduction of the Afforestation Permit System (APS). The APS was purely established to answer the long held concern regarding the impact of uncontrolled afforestation on water resources and water ways. It also prohibited afforestation in wetlands and close to water courses (Mayers *et al,* 2001). These conditions are still being championed in the environmental policy that underpins the operations within the contemporary forestry sector.   ....

The 1980s are marked by the continued narrowing of the state's role in the forestry industry. Hargreaves (undated) notes that during this period the Central Government passed the responsibility for consultation around forest development to the provinces,

and much of the conservation responsibility was devolved outside the Department of Water Affairs and Forestry. Mayers *et al* (2001) assert that the sole focus was on the production of forest plantations. Moreover, the private sector was making significant strides in the industry due to increasing demands including that from new overseas markets. In fact, the performance of the state in the industry was around this time decreasing compared to that of the private enterprise. By 1990 the vast majority of plantations and afforested land belonged to the flourishing private industry which in turn accorded it a better chance to perform in the international markets (Hargreaves, undated; Mayers *et al,* 2001). In 1992, the state adopted the move to privatize some parts of its operations through the establishment of the South African Forest Company Ltd (SAFCOL) to which the state remained the only shareholder (Von Maltitz and Shackleton, 2004).

3.3 The new South African forestry

In South Africa, with the advent of the democratic transition in 1994, new policies were drafted in various sectors and institutions that are considered to have an impact on the country's development (Hargreaves, undated; Wills, 2004). As part of the re-working of the government's policies across all sectors, forestry was marked as one of

the sectors that needed to undergo a process of restructuring (Hargreaves, undated). Mayers *et al* (2001) assert that after 1994 much of the debate surrounding the new forest policy development in South Africa has inevitably reflected domestic considerations. The move to restructure the South African forestry sector has been witnessed with the promulgation of new policies and programs which emphasize the adoption of an approach that promotes diversification within the sector (Mayers *et al,* 2001). In contrast to the traditional focus on capital intensive afforestation interventions, the new South African forestry sector, through its revised policy framework, embraces the need to harness its long neglected environmental and social dimensions (DWAF, 2005; Mayers *et al,* 2001; Shackleton, 2004; Von Maltitz and Shackleton, 2004; Willis, 2004). More interesting with this shift is a growing tendency to promote a link between people and forests (DWAF, 2005; Ham and Theron, 1999; Shackleton, 2004; Shackleton *et al,* 2007). This trend has been witnessed in both the management of natural forests and commercial forestry operations (Lewis *et al,* 2005; Mayers *et al,* 2001; Ndabeni, 2001; Tewari, 2000).

In this new dispensation, the role of forests in relation to rural livelihoods is widely recognized and thus forestry remains one of the focus areas in rural development (DWAF, 2005; Lewis *et al;* 2004; Lewis *et al,* 2005; Shackleton, 2005, Shackleton *et al,* 2007). According to the White Paper on Sustainable Forest Development, forestry is no longer seen as a science of managing forested land, but rather it is about the relationships between people and the resources provided by the forest. This trend reflects that the South African forestry policy has finally adopted the shifts that have been witnessed over the years at the international level concerning the changing role of forestry in development (Smit and Pitcher, 2003). As a result, the current forestry policy puts more emphasis on the promotion of community forestry, the inclusion of the interests of all forestry stakeholders and the needs of the previously disadvantaged rural communities (Hargreaves, undated; Mayers *et al,* 2001).

3.3.1 Forestry and rural communities

The emphasis on the involvement of rural communities in South African forestry indeed marks a significant shift from a long history of negligence in addressing the social impacts of forestry operations. The shift thus marks the commitment of the government in reversing the inequities of the past. The involvement of local communities in forestry has been witnessed in both the management of natural forests as well as in commercial forestry operations for local economic development.

3.3.2 Community forestry

The first experience with community forestry in South Africa was witnessed through the development of projects aimed at providing building materials and fuelwood to rural communities (Everson and Underwood, 2004; Ham and Theron, 1999). This move was fuelled mainly by the widespread assumptions that the harvesting of wood materials by rural communities resulted in increased levels of deforestation. This view was further accelerated by the oil price shocks of the early 1970s (Ham and Theron, 1999). This trend links up with the one that has been presented in the previous chapter concerning the widespread development and acceleration of wood plantation programs at the international level with the view of promoting the idea of community forestry. In South Africa, for instance, the response to the depletion of natural forests was met through the development of woodlots or non-industrial plantations programs in rural areas around the 1890s. However, according to Ham and

Theron (1999), in the mid-80s most signs of decreasing interest in the programs were witnessed. They further note that the main reason for the failure of the early community forestry programs in South Africa was that they were not participatory and were controlled and influenced by the external agencies, mostly the government, without an in-depth understanding of the socio-economic dynamics and development needs of the rural poor. As a result, Ham and Theron (1999) conclude that most of the early community forestry interventions failed to satisfy their intended goals and disappeared.

3.3.4 The new dispensation

In the new South African forest policy framework, community forestry has been revised. Now there is more emphasis on the incorporation of the issues and stakeholders that have a direct or indirect impact on forestry (DWAF, 1996; Hargreaves, undated; Smit and Pitcher, 2003). More importantly, the link between people and forests is increasingly recognized (DWAF, 1996). Hence, the contribution of forests resources in rural livelihoods has been widely investigated. According to the White Paper on Sustainable Forest Management (DWAF, 1996: 7), community forestry is now defined as: .

> *Forestry designed and applied to meet local social, household, and environmental needs and to favour local economic development. It is implemented by communities or with the participation of communities. It includes farm forestry, agroforestry, community or village planting, woodlots and woodland management by rural people, as well as tree planting in urban and periurban areas.*

The White Paper further notes that in contrast to the previous interpretation and understanding of the role of forestry as a science of managing forested land, the current forestry policy identifies community forestry as one of the integral components of rural development. The role of forestry in development is now understood as incorporating the issues that relate to rural livelihoods through either local economic development or direct household consumption of non-timber forest products. As a result there is now more emphasis on the involvement of rural communities both in the management of natural forests and the commercial sector (Cairns, 1995; Hargreaves, undated; Mayers *et al*, 2001).

3.3.4.1 Rural communities and the management of natural forests

After 1994, a swift shift in the policy and practice of forest management in South Africa has been witnessed in many parts of the country. The right of access and use of forest resources by local communities has become one of the primary focuses of the new South African policy. The shift, as it has already highlighted above, has been the one from traditional preservation of natural forests by excluding people, to the one which emphasizes the people-centred approach in forest management. Participatory forest management is one of the strategies with which the government fosters the involvement of local communities in forest management (Grundy *et al,* 2005). This move reflects the shift at the international level that had long dominated the thinking about the management of natural resources such as forests.

The shift towards the involvement of local communities in the management of natural forests in South Africa has also been influenced by the growing acknowledgement of the role that the non-timber forest products (NTFPs) play in the livelihoods of rural communities (DWAF, 2005; Shackleton, 2004; Shackleton, 2005; Shackleton *et al,* 2007). As a result, forest management is in some areas a shared responsibility between the government and other stakeholders, including local communities (Grundy *et al,* 2005).

Community involvement in forest management in South Africa has largely been influenced by the land reform policy (IUCN-SA and ART-SA, 2005; Von Maltitz and Shackleton, 2004). The current land policy has in some areas transferred, to the rural communities, the land with areas that are rich in natural forests. In such communal areas, although the community reserves a right to decide on the use of its resources, they are encouraged to use natural forests in a manner that would improve their livelihoods, protect biodiversity and promote local economic development, wherever possible. However, there are challenges that are currently facing the management of natural forests in South African communal areas and some of these are outlined by Von Maltitz and Shackleton (2004). These include:

(1) Institutional confusion and competition regarding who is/ who should be responsible for the management of forests (communities, local government, traditional leaders or new combinations of these) and the dubious legitimacy of the organizations that exist, (2) the general absence of an identifiable, collective entity that one might call a 'community' (communities are highly differentiated along social, economic and political lines with different households and individuals having widely varying interests and incentives for resource management (3) high levels of resource use by 'outsiders', (4) a lack of clarity regarding tenure rights in communal areas, (5) overlapping rights and elastic or variable boundaries, (6) the scale of support, facilitation and capacity building needed and, consequently, financial and human resources required, and (7) the high, and increasing, demand for resources and inability of the poor to substantially curtail use.

(Von Maltitz and Shackleton, 2004: 129).

Moreover, Everson and Underwood (2004) are of the view that although there is an indication that sustainable community forest management can be achieved in other areas, however, such opportunities look slim mainly because in most rural areas in South Africa fuelwood remains the main household source of fuel even in cases where electricity has been provided. The demand for fuelwood and other NTFPs such as medicinal plants in many rural areas could be seen as a serious threat in the management of natural forests in South Africa.

3.3.4.2 The small out-grower timber schemes and rural livelihoods

The small out-grower timber schemes are the other initiatives that have influenced the involvement of rural communities in South African forestry. Over the past few years various arrangements between forestry companies and rural communities or individuals have emerged with an objective to get into contractual agreements to grow trees to supply the pulp, paper and wattle bark industries (Everson and Underwood, 2004; Lewis *et al,* 2005). It is against this background that small out-grower timber schemes have emerged. The out-grower schemes could be defined as the formalized partnership arrangements involving contracts between two or more parties combining land, capital, and management and market opportunities, formed with the intent to produce a commercial forest crop (Lewis *et al,* 2005).

In the schemes the households or growers are usually provided with physical inputs, loans and extension for the establishment and maintenance of small woodlots by timber companies such as Mondi and SAPPI. In return, they expect the harvest from

all trees after a growing cycle of six years on the coast and seven years inland (Mayers *et al,* 2001). Generally, the growers' motivations for entering into the out-grower schemes are, according to Lewis *et al* (2005), driven by factors such as income generation, physical proximity to trees or land suitable for forestry, traditional or legal rights to land suitable for forestry, and economic and cultural dependence on forest goods and services.

According to Everson and Underwood (2004), some of the advantages associated with the schemes are that there is a reasonable profit from the output and loans are provided to overcome the lack of capital, extension is provided, markets are guaranteed and there has been increased organizational capacity in communities. The schemes have also improved the supply of firewood. In the light of such advantages, Everson and Underwood (2004) further outline a number of disadvantages associated with the schemes in rural areas. Their concern here is that:

> *The schemes result in the loss of land for agricultural production, decreased biodiversity and increased water use by forestry species. A potential further disadvantage is the privatization of the commons, as much, although not all, of these plantings are on what was former communal grazing land accessible to all community members.*
> (Everson and Underwood, 2004: 657)

In addition to the above submissions there is also an argument that the out-grower schemes cannot alone draw households and communities out of poverty because, according to Lewis *et al* (2005), land in communal areas is limited. They further submit that:

> *Despite the belief that forestry based Small, Medium and Micro enterprises (SMMEs) are an underdeveloped opportunity to stimulate job and income generation opportunities among rural poor communities, the existing enterprises remain primarily survivalist and the opportunities for sustainable enterprises remain largely undeveloped. The enterprises that have been established in poor rural areas are mainly micro-scale enterprises that provide little more than employment for the business owners themselves.*
> *(Lewis etal, 2005:20)*

Given the nature of the problems that have been outlined above, one can deduce that .' the small out-grower timber schemes are not likely to provide sustainable benefits to the rural poor. In other instances it seems that the schemes are not directly designed •

for social transformation but are driven by the demand for land by the big companies for the purpose of creating sustainable economic growth in the forestry industry.

The issue that has not yet been addressed in commercial forestry is perhaps that the environmental and social impacts associated with the forest plantations have not yet been given adequate attention. The negative impacts of the commercial forestry activities have been witnessed, for instance, in communal areas that are adjacent to the commercial forestry activities (Tewari, 2000). In some of these areas, the private forest owners fail to control the growth of the plantations within their boundaries. Some of the trees have serious impacts on the community's open space including the water streams (Mayers *et al,* 2001; Tewari, 2000).

3.4 Conclusion

This chapter has presented the background of the South African forest sector. This has been outlined in conjunction with the shifts that have taken place in the sector. It has been highlighted that the South African forestry in the new dispensation (post-apartheid era), has adopted forestry policies and practices, similar to those in many parts of the world, that shift focus away from a narrow thinking to wider approaches that seek to promote forestry along the lines of the broader meaning of development. As a result, the role of forest resources in rural livelihoods has recently become an area of concern in South African forestry policies and programs.

Having outlined the trajectories that characterized the historical development of the forestry sector above, it is indeed an achievement that South Africa has been able to adopt a shift towards a people-centred approach in forestry development. It is more ' interesting that such shifts are taking place in both indigenous and commercial forestry sectors. While traditional community forestry projects were based on woodlots plantations which in most cases never reflected the realities of rural communities, it is interesting that contemporary projects are becoming more participatory with the community being the major stakeholders. The growth of Participatory Forest Management (PFM) projects indicates the government's commitment in transforming forestry along international lines. Moreover, the fact that the role of non-timber forest products (NTFPs) on rural livelihoods is increasingly recognized as a critical policy issue should also be applauded.

It is also interesting to note that the land tenure reform has had a major influence on South African forestry. As a result, some communities are now left with a task of proving whether the sustainable management of natural resources such as forests is feasible in communal areas. The impacts of commercial plantations on rural livelihoods have also been outlined in this chapter. Although the sector has a positive output in the country's economy, the general argument that has been raised here is that it is not clear whether the industry effectively responds to the issues of sustainable economic, social and environmental concerns in rural areas. Generally, there is an indication that the government needs to put more efforts in assisting rural communities in commercial forestry matters in promoting strategies for sustainable management and livelihoods.

CHAPTER FOUR

RESEARCH METHODOLOGY AND THE BACKGROUND OF THE STUDY
AREA

4.1 Introduction

This chapter provides the background of the study area and the research methodology
used. In this light, the major events that have influenced changes in the Saint Bernard
community are presented here. The geographic location of Saint Bernard area in
relation to the province of KwaZulu-Natal is also indicated in this chapter. This is
further accompanied by an outline and discussion of all the methods and techniques
that have been employed to address the objectives and broad research questions of the
study.

4.2 Background of the Study Area

This study was conducted in the Saint Bernard community of the Nhlazuka village in
Richmond, KwaZulu-Natal province. The information about the setting and
background of this community is derived from observation and selected documents.
Saint Bernard is basically located in the area that was formerly known as the church
land under the Diocese of Marianhill (Trench, undated; Trench, 2003), hence the
name, Saint Bernard. Although most of the residents of Saint Bernard were initially
the bonnafide members of the mission church (Christians), some of the respondents
mentioned that the historical political violence in Richmond and the surrounding areas
forced people from different parts of Richmond and in many parts of the province to
resettle to Saint Bernard since it was regarded as a peaceful church area. According to
Trench (2003), by 1998 the residents of Saint Bernard opened negotiations with the
Diocese of Marianhill with the object of taking transfer of the land that they occupy
and use. Trench (2003) and Trench (undated) further note that the Diocese of the
Marianhill Land Reform Programme provided facilitation support in negotiations and
with the help of the Department of Land Affairs in 2002 the land was finally
transferred to the community with a subsequent establishment of the community
committee. The land committee has subsequently become the main statutory body that
influences decisions in the community (Trench *et al,* 2003). In this light, Saint
Bernard is now a communal area and the community, during the ownership

discussions, adopted a communal system of managing community resources and internal affairs.

4.2.1 Geographical location of Saint Bernard

Saint Bernard is one of the rural areas of the Nhlazuka village. According to Nxumalo *et al* (2001), the Nhlazuka village is ward five of the Richmond municipality. It consists of ten sub-wards which all resemble a rural nature. The Richmond Municipality is located in the uMgungundlovu district municipality in the Midlands area of KwaZulu-Natal (Map 4.1). The northern boundary of the municipality is located approximately 10 kilometers from the N3. Nxumalo *et al* (2001) further state that the municipal centre, Richmond Village, is located approximately 38 kilometers south west of Pietermaritzburg. The Mkomazi River represents the southern boundary of the Richmond municipality. Saint Bernard is approximately 15 kilometers from the Richmond town.

4.2.2 Population and Infrastructure

According to Trench (2003), there are approximately 120 households living on about 540 ha of land in Saint Bernard. Residents build houses and have fields within the boundaries of their sites. Some run small businesses like tuck shops. Outside the boundaries of household sites there are grazing lands, small plantations and an area of forest (Trench, undated). It is important to note that Saint Bernard is located much closer to the commercial plantations. These are private forests but the community often harvests poles and fuelwood illegally in these forests. There are springs and two rivers on the farm. These have, however, dried out as a result of exotic tree encroachment in the catchments areas. Due to the scarcity of water resources, the community has resorted to the use of tanks. There are four water tanks that have been placed by the municipality but it was noted that they are insufficient to address all the water needs of the community. According to Trench (undated) and Trench (2003), the infrastructure includes a district road and tracks, two schools, limited water supply infrastructure and some shops. There are also a community garden and a poultry project in the community

MAP 4.1: MAP OF KWAZULU-NATAL SHOWING THE LOCATION OF NHLAZUKA
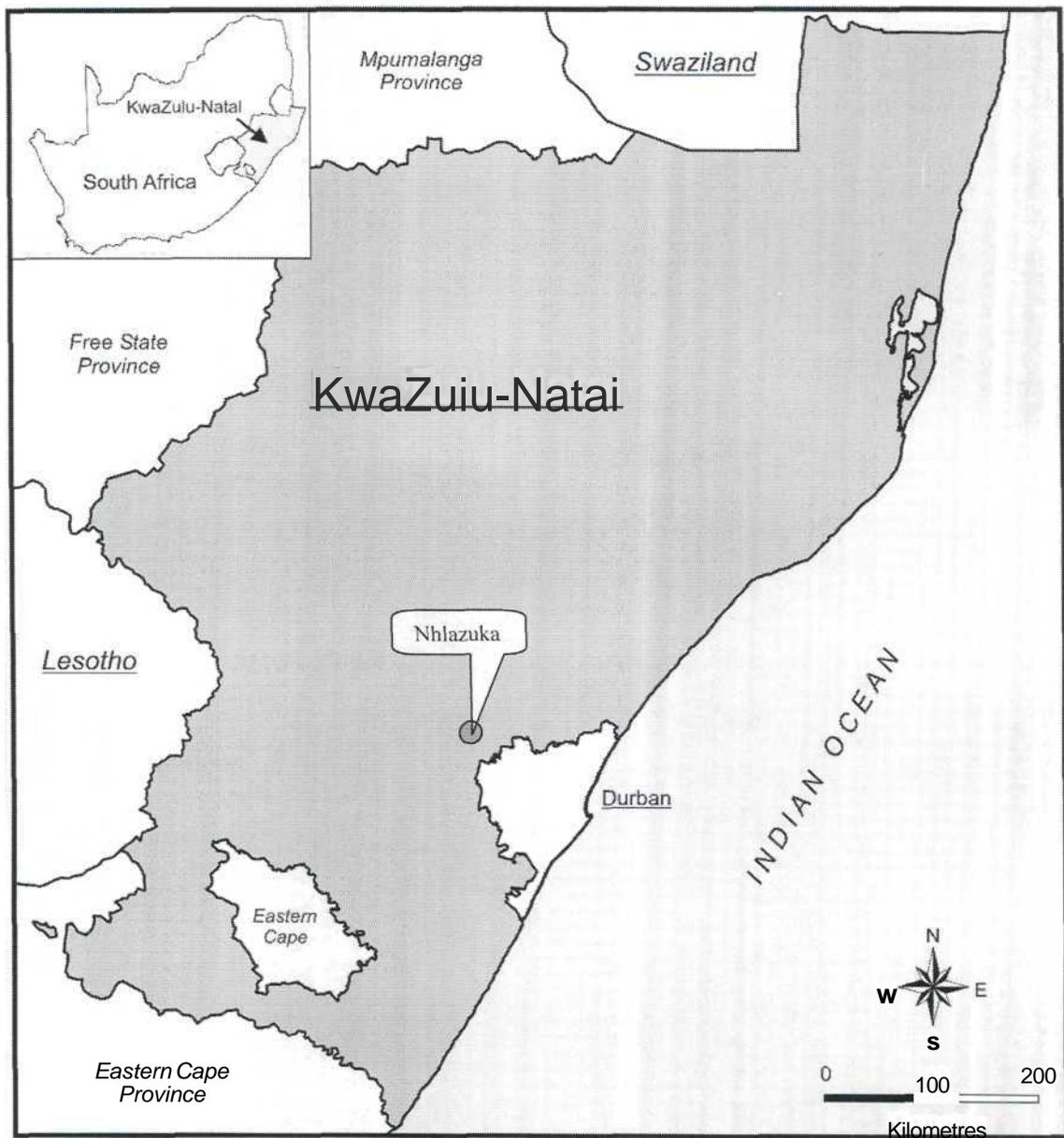
Source: Department of Geography and Environmental Sciences: University of KwaZulu-Natal (Howard College Campus): created on 26 January 2006 13:42

4.3 Research and Methodology

The problems facing humanity are increasingly becoming complex and diverse in nature. Their perpetuation has, in one way or another necessitated the application of research so as to identify and lay the basis within which such problems could be addressed. Kitchin and Tate (2000) define research as the process of enquiry and discovery. For Neuman (2003), research is a way of going about finding answers to questions. A contextualized definition, however, is that of Mouton and Marais (1990 cited in de Vos, 2002) in their description of social science research. They define social science research as a collaborative human activity in which social reality is studied objectively with the aim of gaining a valid understanding of it. Neuman (2003) expands this with the assertion that social research involves learning something new about the social world. To do this, a researcher needs to think logically and follow rules. A researcher combines theories or ideas with facts in a systematic way and uses his or her imagination and creativity. He or she learns to organize and plan carefully and to select the appropriate techniques to address a question. In this light, research can be viewed as a systematic and important tool that plays a significant role in enhancing our knowledge and understanding of the social and natural worlds within which life exists. Geographic research, for example, is in fact one science that plays its part in explaining the complex link that exists between the social and the natural worlds (Kitchin and Tate, 2000).

The most important aspect that accords value to a research is that it is a systematic process that embraces the use of methodologies in its application. A methodology in social science research means the way in which we proceed to solve problems (de Vos, 1998). This entails the methods and techniques that are employed to guide a research process. The choice of methodology is of utmost importance in research, as it is thought to determine the outcome of the research to a large extent (Magasela, 2001). This chapter presents and describes the techniques and method used in the collection of data for this study. This research was based on the collection and analysis of data relating to the conservation and management of forest resources and their impact on the livelihoods of the Saint Bernard community in the Nhlazuka village, KwaZulu-Natal. Different research techniques were used in this study. These include both qualitative and quantitative research methods. The ranking exercise, mental mapping and venn/chappati diagram were used as components of the

qualitative participatory techniques, while quantitative data were obtained through a questionnaire survey. The collected data has been supplemented with a range of information through the review of literature relating to the context of the study. Both the focus group discussions and the questionnaires were structured according to the broader objectives of this study. The study has focused on the following research questions.

What is the socio-economic profile of the study area?

This question basically seeks to trace the socio-economic characteristics of the community. Although rural areas are often described as being poor, it is important to note, however, that these areas are not homogenous settings but rather are characterized by different socio economic characteristics which are influenced by a number of factors such as geographical location and people's backgrounds. It is pertinent to trace the socio-economic profile of the community so as to understand the opportunities and constraints that various households in the community are presented with. Basically, the socio-economic profile of the community helps one to understand and provide an analysis of the community's conditions in as far as their development is concerned. Questions about the services that are available to the community, households sources of income and the problems facing the community in as far as development is concerned provided a picture about the state of development in Saint Bernard.

What are the main uses and needs of the forest resources in the community?

This question seeks to understand the extent to which forest resources are used in the Saint Bernard community. Forest resources provide a wide variety of benefits to rural communities. The role of forest resources to rural livelihoods is mainly explained through the direct use, indirect use, and non-use values that define their multiple roles. Here the patterns of use of forest resources have been traced. This has in turn enabled the study to define the extent to which the forest resources contribute to the livelihoods of the Saint Bernard community.

What are the challenges and constraints facing the community in accessing forest resources?

In this section, the questions that relate to the issue of land ownership are discussed. These are followed by the questions which seek to develop an understanding of the issues of general access by the community to the forest plantations, specifically the identification of major obstacles. The constraints and challenges that concern access to the indigenous forest in the community have also been examined. The issue of access by rural communities to forests that are adjacent to their location is the subject of major concern in the contemporary forestry policies and practices.

What are the conservation or restriction measures that are currently being employed?

This section looks at the strategies that are employed by the community in the conservation and management of forest resources and the impact of this on the livelihoods of the community. It is important to find out how the community addresses the issues that relate to the conservation of forest resources since the land ownership has been transferred to the control of the community.

To what extent does the community participate in decision-making relating to forestry?

Community participation is becoming one of the focus areas in contemporary forestry thinking and practice. There is a move to involve forest fringe communities in decisions about forestry issues that might affect them in one way or another. This section examines the extent to which the local community influences decisions that are made concerning forestry in and adjacent to the Saint Bernard community.

What are the impacts of commercial plantations on local livelihoods?

Generally, except for the gathering of wood and other NTFPs, the forest-fringe communities do not benefit much from the activities of commercial forestry. The minor benefits are usually witnessed through the seasonal job opportunities that are made available during both the planting and felling seasons. The small timber out-grower schemes are also being described as opening opportunities for the rural poor in forestry. There is, however, widespread concern that forest plantations, if not well monitored, are often likely to degrade the natural environment. Their impact has been

witnessed more on the depletion of water resources in streams that are closer to the trees. This section seeks to examine both the positive and negative impacts of the forest plantations on the livelihoods of the Saint Bernard community.

4.4 QUANTITATIVE AND QUALITATIVE TECHNIQUES

Both qualitative and quantitative methods of social science research have been employed to generate data relating to the research objectives and the questions identified. According to De Vos *et al* (1998), the direction of the research process and the research methodology are determined by the choice of the researcher between a quantitative or qualitative, or combined quantitative-qualitative approach. In this light, it is pertinent to note that the choice between different research methods is largely determined by the kind of data involved or the nature of the research problem that is being investigated.

De Vos *et al* (1998) further note that in social research, all data, all factual information, all human knowledge must ultimately reach the researcher either as words or numbers. This assertion reflects the main aspects that define the focus of both the quantitative and qualitative methods. The most interesting feature about the quantitative and qualitative methods is that they are both used by social researchers to systematically collect, analyze empirical data and examine the patterns in them to understand and explain social life but they differ with their approach to data handling and processing. Soft data in the form of words, sentences, photos, symbols and so forth, dictate different research strategies and data collection techniques than hard data, in the form of numbers (Neuman, 2003). The combination of both the qualitative and quantitative methods in one research study is increasingly becoming a popular trend in the language and practice of social research. Although there is much debate in social research about whether qualitative and quantitative approaches should, or even can, be combined (Ritchie, 2003), most authors agree that in real life social science

researchers do use both quantitative and qualitative methodology, sometimes consciously, sometimes unconsciously (De Vos *et al,* 1998). The protagonists of this approach such as Mouton and Marais (1990, cited in De Vos *et al,* 1998: 358) assert that:

The phenomena which are investigated in the social sciences are so enmeshed that a single approach can most certainly not succeed in encompassing human beings in their full complexity. It would therefore be quite futile to behave as though one approach should be canonized and another excommunicated. By adopting a point of view of convergence and complementarity we may eventually be in a position to understand more about human nature and social reality.

Ritchie (2003) supports this view and asserts that the potential of combining both the qualitative and statistical enquiry (qualitative) is more considerable in social policy research wherein many of the questions that need to be addressed require measurement of some kind but also greater understanding of the nature or origins of an issue. Each of the two research approaches provides a distinctive kind of evidence and used together they can offer a powerful resource to inform and illuminate policy and practice. In this study the two methodologies have been employed so as to create an extensive scope within which all aspects related to the objectives and questions of the study can be amply accommodated as far as possible.

4.5 Data sources •

Multiple sources of data have been used in this study. These are grouped according to primary and secondary data sources. Kitchin and Tate (2000) define primary data as the data that are generated by the researcher him/herself, whereas secondary data are defined as data that have been generated by somebody else. A wide range of secondary data and information sources that are related to this research exist. Sources such as government reports, books, journals, and other publications from organizations with a focus on forestry and rural development issues have been extensively used, particularly in the literature review section. The use of these sources has presented an understanding of the traditional approaches in forestry. The processes and issues that have influenced a new thinking in the forest sector, particularly its link to the rural development agenda and the concept of sustainable rural livelihoods as well as emphasis on contemporary participatory approaches have also been covered. Such is the case in the South African context, while the historical background of the forest sector has been uncovered right from the colonial era; attention has also been paid to the demands of the new policies that embrace the democratic transition. The primary data for this study was attained through the use of

questionnaires and qualitative participatory techniques. The latter includes focus group discussions, ranking exercise, mental mapping and venn diagram.

4.6 Sampling

Sampling represents one of the most crucial stages that form part of a research process (Strydom and de Vos, 1998). It allows the researcher to identify the subjects of the study under investigation and thus, the procedure under which such subjects are to be selected is outlined (Burnham *et al,* 2004; Mclntyre, 2005; Simeon, 2004). Sampling is that research section which, in one way or another, has a huge impact on the reliability of the overall research outcomes. It is therefore pertinent that in this section, the researcher builds a clear vision and understanding of the sampling techniques that were used in the study.

Ideally, if one wants to collect accurate information about a group of persons or objects, the best strategy is to examine every single member or element of the group (Bailey, 1994). However, it is often impossible to study the entire population, especially in instances where it spreads over a large geographical area (Bailey, 1994; Bless and Higson-Smith, 2000). The alternative available is to collect information from only some people in the group in such a way that their responses and characteristics reflect those of the group from which they are drawn. Bless and Higson-Smith (2000) asserts that it is possible to reach accurate conclusions by examining only a portion of the total population. Usually high costs, time and difficulty involved are cited as the main constraints that direct a study towards looking at a sub-set of the total population under investigation (Bailey, 1994; Burnham *et al,* 2004, De Vos, 1998; Gorard, 2003; Kent, 2001; Neuman, 2003). Choosing such a sub-set is called sampling. Basically, in social science research, a carefully planned sampling process creates a condition in which accurate generalizations about the whole population are made on the basis of findings from a chosen sample (Gorard, 2003; Mclntyre, 2005). -   ,

A sample therefore is the subset of the whole population which is actually investigated by a researcher and whose characteristics are generalized to the entire population (Bless and Higson-Smith, 2000). While everyone can choose a sample out

of the specified or target population, it is however, important for researchers to ensure the reliability and representativeness of the generalizations that are subsequently made to the whole population based on the analysis of the chosen sample (Bless and Higson-Smith, 2000; de Vos, 1998). It is, therefore, crucial for the reliability of the research results that strict measures are undertaken when choosing a sample. Kitchin and Tate (2000) argue that as a rule of law, a sample needs to be free of bias and as representative of the larger population as possible. The reliability of the research output, however, is dependent on the methods that a researcher selects when drawing a sample. Sampling methods can be classified into those that yield probability samples and those that yield non-probability samples. In the former type of sample the probability of selection of each respondent is known. In the latter type, the probability of selection is not known (Bailey, 1994). This study used techniques that are under the probability sampling method. Such a selection is driven by the reliability nature associated with the techniques under this method.

4.6.1 Probability or random sampling

According to Burnham *et al* (2004), random sampling is a mechanical and rigid procedure which eliminates bias in choosing the members of the population who will be selected for the sample. Bless and Higson-Smith (2000) concur to this by asserting that probability sampling occurs when the probability of including each element of the population can be determined. It is thus possible to estimate the extent to which the findings based on the sample are likely to differ from what would have been found by studying the whole population. In other words, the researcher can estimate the accuracy of the generalization from sample to population. The most commonly used types of probability sampling are simple random sampling, stratified random sampling, cluster sampling and systematic sampling (Bless and Higson-Smith, 2000).

4.6.2 Simple random sampling

In this study a simple random sampling has been applied to select a total of fifty (50) households in the Saint Bernard community. McIntyre (2005) defines simple random sampling as a procedure that allows every element in the population the same chance of being included in the sample. According to Lin (1976), in simple random sampling

each case has an equal chance of appearing in the sample, as does every combination of cases. That is, every case not only has an equal chance of being selected to be in the sample, but also has an equal chance of being selected after one or more other cases have been selected. It has been mentioned earlier that both the quantitative and qualitative methods of social research have been employed to generate the data for this research. Therefore, the sampling procedure used in the selection of the samples for the questionnaire survey has been different from that of selecting a sample for the focus group discussions.

According to Magasela (2001), the adequacy of the random sample depends on the adequacy of the sampling frame. The sampling frame is defined as the list of all units from which the sample is to be drawn (Bless and Higson-Smith, 2000). Magasela (2001) further argues that all that is required to conduct a random sample, after an adequate sampling frame is constructed, is to select persons without showing bias for any personal characteristics. In this research, a complete list of all the households in the Saint Bernard community was furnished by the community committee. This list was accurate and contained recent information about the number of households in the community since it was recently used in the discussions about the transfer of land ownership to the community. In this light, the list was subsequently used as a sampling frame from which the samples for this research were drawn. All the households in the list were assigned numbers which were then used to identify the houses that were selected as part of the sample. The procedure used in the selection of samples from the sampling frame was that in the table of random numbers, the first three numbers that range between 1 and 50 were vertically selected in each column of the table of random numbers. Out of all the numbers that were assigned to individual households, a total of 50 households were selected as a sample for this research.

In the selection of the samples for the PRA exercises, the study area was first divided into different zones using an aerial map of the Saint Bernard area. Lines were drawn on the map to divide the study area into six pie-like zones. In each of the demarcated zones, the researcher allocated numbers to the households, and in the process, the numbers of the households in each of the zones were randomly chosen to get a specific number of participants. The procedure used in the selection of samples for focus group discussions was that the list of all households in Saint Bernard was also

used. Each household in the list was assigned a number. The numbers were vertically selected from the table of random numbers by choosing the first three numbers within a range of 1 to 12. Two participants from each of the six demarcated zones were selected and thus a total of twelve participants constituted a sample for the PRA sessions in this research.

4.7 Qualitative method

Qualitative research methodologies deal with data that are principally verbal. **Kent** (2001) defines qualitative data as isolated words or statements made by respondents and captured by the researcher in response to a series of open-ended questions in a survey. In this approach, techniques such as in-depth interviews, participant observation, and group discussions are used to gain information (de Vos, 1998; **Kent, 2001;** Royse, 2004). Based on the use of the above techniques, it is clear that in social research there are some kinds of information that cannot be adequately recorded using statistical enquiry. In many cases language provides a far more sensitive and meaningful way of recording human experience. In these cases, words and sentences are used to qualify and record information about the world (Bless and Higson-Smith, 2000). Davis *et al* (2003) argue that in qualitative research emphasis is placed on individuals' perceptions, attitudes, beliefs, feelings and behaviours as well as the meanings and interpretations that they attach to certain situations. According to Mclntyre (2005), qualitative researchers study things in their natural setting, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them. The fact that words are the medium of data collection reinforces de Vos' (1998) assertion that in qualitative approaches procedures are not as strictly formalized and the scope is more likely to be undefined. Linked to this, Neuman (2003) asserts that qualitative researchers often rely on interpretive or critical social science and are often likely to follow a non-linear research path.

Reid and smith (1981 cited in Fouche and de Vos, 1998) provide a brief description of what a qualitative approach to social science research entails:

- The researcher attempts to gain a first-hand, holistic understanding of phenomena of interest by means of a flexible strategy of problem formulation and data collection;
- This becomes shaped as the investigation proceeds;

- Methods such as participant observation and unstructured interviewing are used to acquire an in-depth knowledge used to guide further study; and

- Qualitative methodology thus rests on the assumption that valid understanding can be gained through accumulated knowledge acquired first hand by a single researcher.

In this study the qualitative participatory approach has been employed in the collection of qualitative data. The focus group discussion was used as the primary technique through which the participatory exercises were facilitated. The focus group members discussed community issues through the use of the ranking exercise, venn diagram and mental mapping participatory research techniques.

4.7.1 Participatory research methods

Participation has become one of the popular jargons in contemporary development theory and practice. There is a general consensus among those involved in development that development cannot be sustainable and long-lasting unless people's participation is made central to the development process (Binns *et al,* 1997; Kumar, 2002). According to Kanji (2003), the concept of participatory development evolved with popular involvement seen as an important means of making development interventions more effective and equitable by building on local knowledge to meet basic human needs. Eade and Williams (1995) assert that it is the people whose lives and well-being are at stake in any development intervention. It is their rights, therefore, to judge the impact of efforts made on their behalf, and to decide whether the benefits are worthwhile.

Early interventions on community development had failed to address their main objective, that of addressing poverty and inequality. According to de Vos *et al* (1998), such interventions were until the 1960s characterized by an elitist process that dispersed resources and services in accordance with the wishes of the most powerful. De Vos (1998) further notes that the needs and ideas of communities were largely ignored by researchers and policy makers and consequently many communities underwent disruptive changes as a result of decisions made by people in positions of authority. Participation in development can therefore be viewed as a process of empowering local people. The focus is on the transfer of power and change in the

power structure. The participatory approach is based on the premise that if development is meant to improve the quality of life of people, people themselves must be involved in all angles of decision-making from the planning to the implementation of development initiatives. There is a consensus that people should be empowered to make informed decisions in defining their development priorities according to their own perceptions and expectations (Eade and Williams, 1995). It is in this regard that Kumar (2002) defines participation as a process of empowering the people so that they gain more control over their own resources and lives. Eade and Williams (1995) argue that empowerment and participation should be viewed as different sides of the same coin.

According to Bernard (2000), research is the production of knowledge about a given subject matter, and people who produce and control such knowledge increase their power to deal with the particular issues involved. Research is increasingly used as a tool to bring about social change and thus it is important in supporting the decisions that relate to the development of rural communities. The concept of participation has influenced a paradigm shift in development thinking. It has thus influenced a shift in conventional approaches to development research. Bernard (1996) defines participatory research as a process in which a group documents and analyses their collective experience of a social problem, placing it in a wider context of social, economic and political cause and effect, and integrating knowledge from outside the limits of their immediate experience. Today, community involvement in planning the type of services they need is a contentious issue. De Vos *et al* (1998) assert that researchers no longer have the right to exercise a monopoly over explaining the social world, but to empower research participants to understand and solve their own situation and problems, become aware of their own potential and regain their own sense of dignity to take collective action for their self development.

According to Bless and Higson-Smith (2000), participatory research encourages the active participation of the people whom the research is intended to assist. In this way it empowers the people to be involved in all aspects of a project, including the planning and implementation of the research and any solutions that emerge from the research. Everybody involved in the project works together as a team. Teamwork enables the research participants to get more enlightened about the nature of their

problems and needs. Dovie (2003) indicates that participatory research often provides local residents with the opportunity to learn how to design, administer and interpret identifiable community specific problems with their local logistics. Participatory research provides techniques through which the community that is involved in a research can, for instance, rank their needs according to their own priorities.

4.7.2 Rapid Rural Appraisal

The reliable and up-to-date information is crucial for the purpose of creating sustainable and long-lasting development interventions. Brace (1995) asserts that in the 1960s and 1970s much of the development related information was frequently developed out of the use of the questionnaire surveys. Vast amounts of quantitative data were collected and analyzed using a range of statistical techniques. However, by the 1980s the major limitations of this approach were becoming apparent. It was increasingly recognized that poor communities do not always conceptualize their lives within the strict limits of a quantitative questionnaire. Chambers (1983: 199) concurs by stating that:

> *Questionnaire surveys and statistical analysis limit investigation to what can be asked in interview and what can be counted. The realities of rural deprivation are often missed.*

In addition to this were concerns that questionnaire surveys were cumbersome and tiring, the findings came quite late and there were problems with the accuracy of data (Kumar, 2002). Kumar (2002) asserts that quantitative questionnaires come out as an already made data collection tool. It can thus be deduced that a quantitative questionnaire remains an insufficient instrument for development research because people find it hard to openly share their experiences and priorities in as far as their development is concerned. People are usually confined to the pre- constructed variables which often distort the reality of their situation.

A response to the above-mentioned shortcomings was a search for a means to develop approaches that could be administered easily and that would promote true people's participation in research about themselves and this led to the emergence of Rapid Rural Appraisal (RRA). RRA initially gained prominence in the late 1970s (Eade and

Williams, 1995). It was the first response by development practitioners and researchers to address the shortcomings of the traditional research techniques in development interventions (Binns *et al,* 1997; Dovie, 2003) and has been applied in various fields such as in natural resource management, agriculture and livestock rearing, credit programs, and health and nutrition (Eade and Williams, 1995; Kumar, 2002). A summary of factors that were responsible for the emergence of the RRA is provided by Kumar (2002: 34) who classify these into the negative and positive set of factors.

> *The negative set of factors included rural development tourism and biases, failure and frustration with the questionnaires and surveys, and an inability to involve local people, particularly the poor and the non-literate, in the process of development. On the positive side, RRA sounded quite promising in its ability to provide scope for the poor, marginalized, and non-literate to get involved in the process of their development. RRA could also attract development professionals because of its cost effectiveness.*

RRA is basically a field-based approach that is based on the premise that the people who are supposed to benefit from development projects possess a great deal of relevant knowledge. It sees field research as a semi-structured process of learning from these people (Eade and Williams, 1995). It should be noted, however, that while RRA emphasizes people's participation in research about themselves, it is the researchers who control all the information-gathering activities (Dovie, 2003). The researchers are often responsible for conducting semi-structured interviews, and drawing of maps of the area, transect lines and seasonal calendars (Brace, 1995). During the mid 1980s the increased emphasis on participatory development necessitated the link between the term "participatory" and RRA. This marked the emergence of what is now termed Participatory Rural Appraisal (PRA).

4.7.3 Participatory Rural Appraisal

Participatory Rural Appraisal (PRA) is the most frequently used participatory technique in contemporary development research (Binns *et al,* 1997). It evolved from Rapid Rural Appraisal (Dovie, 2003). Kumar (2002) defines PRA as referring to a growing body of methods to enable local people to share, enhance, and analyze their knowledge of life and the conditions to plan, act, monitor and evaluate. PRA provides the community that is involved in research full control over the research process and

thus brings hope for sustainable and long-lasting community development interventions (Binns *et al*, 1997). The most interesting part of this technique is that it promotes the use of local knowledge and easily accessible local materials such as stones and sticks in decision-making (Brace, 1995). The use of these materials and symbols perhaps makes it conducive for the non-literate and semi-literate sections of the community to participate meaningfully in planning for their development. Although originally developed for use in rural areas, PRA has been employed successfully in a variety of settings such as in education, health, agriculture, slums, urban areas, etc. (Kumar, 2002). The broader purpose here is to enable development practitioners, government officials, and local people to work together to plan for sustainable programs.

While in RRA the researchers take a lead in carrying out a range of information-gathering activities, mostly for purposes defined by them, in PRA it is the people themselves who are involved in the generation and analysis of information, with outsiders facilitating rather than controlling. This means that the significant difference between the PRA and RRA and other traditional methods is the level of involvement of the local community at the information gathering stage. Instead of the external researchers drawing diagrams and collecting information, community members are now asked to draw maps of their village, seasonal calendars, transects and matrices thereby defining their own needs and priorities and establishing their own monitoring indicators (Brace, 1995; Eade and Williams, 1995). PRA is therefore an approach for shared learning between local people and outsiders. Given the primary role that is played by the community in the gathering and analysis of data through the facilitative role of the outsiders, PRA can be described as a tool for people's empowerment. People are empowered to make their own decisions and future plans (Dovie, 2003). This means that PRA is an essential tool that could be applied successfully in the planning for sustainable livelihoods of the communities. Perhaps it should be noted, however, that although PRA emphasizes the participation of the poor and marginalized, this does not happen naturally unless special efforts are made to locate and encourage the marginalized sections of the society to participate meaningfully. Dovie (2003) asserts that a poorly performed PRA exercise could lead to the loss of a great deal of information. This could possibly imply that the success in the application

of the PRA techniques is largely dependent on the skills and experience of the facilitators involved.

Participatory techniques involve various participatory exercises. The ranking exercise, venn diagram and mental mapping were conducted in this research through focus **group** discussions and exercises.

4.7.3.1 The Ranking Exercise

The ranking exercise was also conducted in this study through the focus group. The intention has been to outline the major problems facing the community and to rank them according to their order of importance. Here the problems were ranked using the pairwise ranking and scoring exercise. Khanyile (2002) states that pairwise ranking and scoring are tools for identifying issues of concern, their causes and prioritizing these problems. According to Kumar (2002), one of the advantages linked to pairwise ranking tools is that they can be used by the facilitators to ensure that the problems of the less powerful groups are at least discussed and acted upon. It is important to note that they may not be a concern common to the entire community; rather they may be priorities and solutions that differ according to gender, class, ethnicity, location and age within different contexts (Khanyile, 2002). By presenting an opportunity to make preferences and priorities, these tools allow people to clearly understand their situation and identify those issues that need to be prioritized and thus outline the feasible strategies to deal with them. According to Chambers (1992), the ranking and scoring exercises are useful for people's own analysis and sharing of knowledge.

4.7.3.2 Venn/ Chappati diagrams

According to Sillitoe *et al* (2005), a venn diagram is a method of identifying and representing both formal and informal institutions within a community and its external environment and the nature of the relationships between these and the community. Kumar (2002) asserts that the venn diagram method represents people's perceptions about local institutions, individuals and programs. According to Chambers (1992), a venn diagram could be used in communities for how groups see themselves and others. The method provides valuable insights into analyses of power structures and

decision-making processes (Khanyile, 2002). The need to strengthen the community's institutions can also be ascertained. The relative importance of services and programs is also studied using the venn diagram. The venn diagram is therefore useful in helping communities and participants to understand the role and significance of the institutions that exist in the community. It puts them in a good position to examine the potential of the institutions involved to influence change in the community. According to Sillitoe *et al* (2005), the main purpose of a venn diagram is to identify and visualize the relative importance of institutions both within and beyond a community which impact upon the livelihoods of target individuals and groups. The grouping of the institutions, organizations, individuals and stakeholders according to their order of significance to the community also means that their strengths and weaknesses are identified. The venn diagram uses paper circles (chappatis) of various sizes to represent institutions, individuals and stakeholders and their relative importance to the livelihoods of the community (Kumar, 2002; Sillitoe, 2005). The practical application of a venn diagram is clearly explained in Sillitoe *et al* (2005: 131) who assert that:

> *One large circular piece of paper (chappati) is placed in the middle of the floor/ table to represent the community. Participants are then asked to identify the formal and informal institutions, groups and individuals, both within and outside the community which they consider as having an impact on their livelihoods. These can range from public and private extension services, and regional political and economic bodies (for example, the local market) to the local magistrate, church membership school, household residence group, immediate kinship and so on. The participants are then asked to thoroughly discuss and reach a consensus about the relative importance of the institutions and their influence upon the community. They can indicate the importance of an institution by the size of the circle or chappati chosen.*

Kumar (2002) asserts that the bigger the circle, the more important is the institution or individual. The distance between circles represents, for example, the degree of influence or contact between institutions and individuals. He further asserts that the overlapping circles indicate interactions and the extent of overlap can indicate the level of interaction. In this research, the venn diagram exercise was conducted through the focus group. Here the institutions, organizations and individuals that have an influence in the development of Saint Bernard were identified and grouped according to their order of importance and closeness to the community.

4.7.3.3 Mental mapping

Kitchin and Tate (2000) assert that the traditional role of the map has been to represent spatial information usually in relation to the surface of the earth. Maps are powerful graphical tools that classify, represent and communicate spatial relations. Furthermore, maps are essential in geography and participatory research. According to Binns *et al* (1997), there are many possibilities for individuals or groups to draw maps or make models, using local materials (sticks, stones, seeds and so on) to show the layout of the village and its farmlands, and the extent and variability of resources, such as water, fuelwood and soil quality. Specific constraints/ problems may be indicated on the map or model.

The emergence of PRA as a new paradigm for participatory research has enabled maps to be used differently as social and resource maps (Kumar, 2002). A social map is essential in developing a broad understanding of various facets of social reality including social stratification, demographics, settlement patterns and social infrastructure. A resource map focuses on natural resources in the locality and depicts land, hills, rivers, fields and vegetation (Kumar, 2002). Khanyile (2002) argues that resource mapping helps outsiders and the communities to understand how different segments see the communities' resources and how they differ from outsider's perceptions. Sillitoe *et al* (2005) argue that while mapping helps familiarize researchers with the location of and relationships between available resources in the community or region, it also serves as a way into more extended discussions with target groups concerning opportunities and constraints to their livelihoods as they see them. The fact that these maps are drawn by ordinary people makes them special. According to Kumar (2002), the local people are considered to have an in-depth knowledge of the surroundings where they have survived for a long time. Hence, the map drawn by local people is considered to be accurate and detailed. It is important, however, to keep it in mind that the map reflects people's perceptions rather than precise measurements to scale. Thus, a resource map reflects how people view their own locality in terms of natural resources.

Mental mapping is essential in a sense that it enables the community involved and the facilitators to view the arrangement and distribution of household structures in the

community and the location of the resources that are important to the community and puts them in a position to make decisions and future plans in close view of their area. Mental mapping was done during the focus group discussions. The participants were requested to draw on the chart the map of the Saint Bernard community depicting the arrangement of the area according to their understanding. The map was then discussed for the purpose of getting the participant's views on its contents. The map was then transferred onto a piece of paper.

4.8 Quantitative method

Mouton and Marais (1990, cited in De Vos, 1998) argue that the quantitative approach to social science research is that approach that is more highly formalized as well as more explicitly controlled, with a range that is more exactly defined and which, in terms of the methods used, is relatively close to the physical sciences. According to their submission, the quantitative approach is a directed approach to research which is characterized by careful and detailed planning prior to its initial application. Neuman (2003) concurs with a postulation that all quantitative researchers use a technocratic perspective, apply "reconstructed logic" and follow a linear research path. For instance, they emphasize issues of design, measurement and sampling prior to data collection and analysis.

The quantitative method relies upon measurement and uses various scales. It basically deals with data that are principally numerical. In their description of the quantitative methods Bless and Higson-Smith (2000: 38) assert that:

> *Numbers form a coding system by which different cases and different variables may be compared. In the analysis of the quantitative data, systematic changes in scores are interpreted or given meaning in terms of the actual world that they represent. Numbers have an advantage of being exact. "Three" means exactly the same thing to every human being who knows the concept, and will mean exactly the same thing to different social, cultural and linguistic contexts.*

Basically, quantitative research seeks to quantify, or reflect with numbers, observations about human behaviour. It emphasizes the testing of hypothesis based on a sample of observations and a statistical analysis of the data (Jackson, 1995). A detailed and summarized description of the quantitative approach to social science .-

research is presented by Reid and Smith (1981 cited in Fouche and De Vos, 1998). The following characteristics are outlined:

- The researcher's role is that of the objective observer
- Studies are focused on relatively specific questions or hypotheses
- These remain constant throughout the investigation
- Data collection procedures and types of measurements are constructed in advance of the study and applied in a standardized manner
- Data collectors are to avoid adding their own impressions or interpretations
- Measurement is focused on specific variables that are quantified through rating scales, frequency counts and other means
- Analysis proceeds by obtaining the statistical breakdown of the distribution of variables
- Statistical methods are used to determine associations (or differences) between variables

The quantitative approach to this study has been employed through a questionnaire survey. A questionnaire survey is the most frequently used method of data collection (Burton, 2000; Fouche, 1998 in De Vos 1998; Khanyile, 2002). Quantitative data has been obtained through the use of a semi-structured questionnaire from 50 randomly selected households. The questionnaire included both close-ended (structured) and open-ended (unstructured) questions. The questions were formulated based on the broader questions of the study whereas the study objectives served as a framework to guide the flow of questions throughout the questionnaire.

The open-ended or unstructured questions were used for the purpose of including those responses that could not be expressed through the structured questions and also to substantiate the choice of a variable(s) from the preceding closed questions, wherever deemed necessary. According to Burton (2000), open-ended questions provide a response format that gives respondents the freedom to provide any answer which they care to make. Closed questions, in contradistinction, offer the respondent the opportunity of selecting one or more response choices from a number provided to him/ her. The closed question is advantageous when a substantial amount of information about a subject exists and the response options are relatively well known (Fouche, 1998). The closed questions here were carefully pre-coded to fast track the

intake of variable values into the Statistical Package for the Social Sciences (SPSS). The coding of answers from the open-ended questions were also standardized and inputted into the SPSS program. It is now clear that although closed questions are the most preferable in the quantitative study, open-ended questions are equally important since there is always information which is difficult to generate by closed questions (Fouche, 1998).

4.8.1 The Contents of the Questionnaire

Since the main aim of this study was to look at the conservation and management of forest resources and their impact on the livelihoods of the Saint Bernard community, the questions were designed to reflect the focus of this research. The questionnaire is divided into five sections which reflect the objectives of the study, as it has already been mentioned earlier. More emphasis has been placed on the inclusion of questions to trace and create an understanding of the socio-economic profile of the study area. These are followed by the sections which were designed to establish the main uses and needs of the forest resources in the community, the challenges and constraints facing the community in accessing forest resources, the conservation measures that are currently employed in the area, community participation in decision-making relating to forestry, and the impacts of commercial plantations on local livelihoods. These sections were structured to facilitate the household interviewing process.

4.9 Fieldwork

Fieldwork is one of the demanding stages in the research process which often requires energy and the commitment of the researcher, mainly because it consists of a number of stages. Depending on the nature of the study area, some of the stages are sometimes difficult to accomplish, more especially when the study is undertaken in a rural setting where the researcher is required to follow certain protocols that need to be fulfilled before access to the community is finalized and to avoid unnecessary delays in the fieldwork process. Likewise, certain procedures had to be followed in the Saint Bernard community so as to eliminate constraints in the fieldwork process. The fieldwork that was conducted in the Saint Bernard rural community involved the application of both quantitative and qualitative research techniques, as indicated earlier.

4.9.1 The Procedure in the Field

Gaining entry to the community may not be easy. Some communities require a permit for any sort of soliciting activity, and even interviewing cannot be conducted without permissions from the community leaders (Bailey, 1994). This trend was witnessed in the Saint Bernard community where certain protocols had to be fulfilled before the commencement of the primary data collection. Here the first stage was an introductory visit by the researcher to the community. A meeting was organized between the researcher and the community leaders (community committee and Induna of the area). The aim of the study and the link of the Saint Bernard community to the purpose of the research were presented to the community leaders. During the presentation of the study, it was found that some of the issues that relate to forestry are of serious concern to the community leaders and the community at large. In this light, access to the community was granted with a suggestion from the community leaders that the results of the research should be presented to the community. A pilot research was then conducted with three community members. In the pilot study each individual was asked to answer the questions that were already drafted in the questionnaire. The respondents were further asked to comment if they felt there are questions that needed to be removed or added on the questionnaire.

4.9.2 The data collection: Questionnaire Survey

The second visit to the Saint Bernard community was to implement the questionnaire survey. Because the community members were informed about this research in the church and in the community meeting, most people were willing to participate in the survey. Interviews were conducted in 50 households that were chosen using a simple random sampling technique. The questionnaire was written in English. The interviews in the households were, however, conducted in isiZulu so as to create a flow in the discussions since in rural areas such as Saint Bernard only a few people can read, speak and write in English.

4.9.3 Data collection: Participatory Workshops

The third visit to the community was for the facilitation of focus group discussions for the qualitative participatory exercises. PRA exercises were conducted in the ;
community using a range of PRA tools. These sessions were conducted in the church,

where community meetings are usually conducted. In order to get detailed information about the issues of major concern in the community, the participants were requested to rank community problems. This was done for the purpose of understanding more about the problems facing the community of Saint Bernard. The ranking exercise enabled the participants and the researcher to identify problems that needed to be prioritized in the community as the problems were ranked according to their importance.

Following the ranking exercise, the participants were asked to draw a mental map displaying certain physical features such as the forests, rivers, fields, community centres and the residential areas in the Saint Bernard community. This provided a picture of the surrounding environment and the distribution of community resources that are essential to their livelihoods. The last session of the discussions was the venn diagram exercise. The venn diagram shows the relationship between the community and its institutions, and the organizations that work with the community. The importance of these institutions and organizations to the development of the community was also examined.

4.10 Limitations

Undertaking fieldwork in social science research often presents new experiences and challenges than is anticipated while still in the planning stage. This means that the use of the methodologies identified for data collection in the field cannot always be expected to flow without any difficulty. As a result some limitations were experienced by the researcher in the field. The first major difficulty was experienced when the researcher was trying to get entry to the community. It took some time before the meeting between the researcher and community leaders was conducted. When the researcher finally presented the purpose of the research and revealed that it is a study based on pure rather than applied research purpose, the leaders mentioned that they would only allow the research to continue if it is to inject some funds to the community. However, access was finally granted on the condition that the research results will be presented to the community since forestry issues are of major concern to the community. The negotiations for gaining entry into the community caused

inconvenience in a sense that the researcher was forced to postpone some of the dates that were initially allocated for the planning stage of the fieldwork.

When data was collected, time delays were incurred as the researcher was, in most households, asked to give a detailed explanation for the purpose of the research before the questionnaire could be administered. Time delays were also incurred when in some cases the researcher was expected to answer questions (especially on water and housing issues) that are irrelevant to this research. Although the questionnaire for this research was carefully constructed with questions that were easy to understand, there were cases where the respondents complained that the questionnaire was too long and took much of their time. This could have caused the respondents not to honestly answer some of the questions asked during the interview, perhaps because it was exhausting. Given the illiteracy level of some of the respondents, some of the questions had to be explained in detail before the respondents could attempt to provide a response. This, in some cases, resulted in time for data collection being extended.

Another problem that was encountered was that the initial days that were scheduled for the PRA sessions were postponed on two occasions mainly because some of the respondents that were selected to participate were not available on the scheduled dates. The researcher was therefore forced to reschedule the meeting dates. This resulted in time delays as the researcher had to go to the study area more than it was initially planned. It is also important to note that during the interviews, although it was initially mentioned that this study was conducted for a pure research purpose, the respondents had expectations that the researcher will assist in addressing some of the development challenges facing the community.

4.11 Conclusion

This chapter provided the background of the study area. Given the fact that Saint Bernard community is located in the land that was previously under the church ownership and described as a peaceful area, it can be deduced that the community will, under its ownership of the area, be able to maintain stability and cooperation in the development of Saint Bernard. The information about the infrastructure of Saint

Bernard resembled characteristics that are common to other rural areas in South Africa in as far as service delivery and development backlog are concerned. The nature of the infrastructure in Saint Bernard demands the commitment of the community committee in ensuring effective service delivery and creating networks for sustainable community development.

The chapter also presented a detailed outline of the techniques and methods used in the collection of data for this study. The argument for the use of both quantitative and qualitative methodologies of social science research has also been presented in this chapter. The application of both quantitative and qualitative methods enabled the researcher to generate adequate and relevant data relating to the main aim and objectives of this study. The application of multiple approaches in data collection enabled an understanding of the socio-economic status of the Saint Bernard community while linking it with the impact of forest resources on the diverse livelihood systems of the community. It is interesting that the study has created a clear link between forestry and other issues in the community and how such issues impact on access, use and management of forest resources. It can be deduced that this study depicted a clear argument for the use and importance of triangulation in studies of this nature.

CHAPTER FIVE

DATA DESCRIPTION AND DISCUSSION

5.1 Introduction

This chapter presents and describes the results of this research. As indicated earlier both quantitative and qualitative methods of social research were applied in the collection of data relating to the objectives of this study. Here a detailed description of the questionnaire survey results is first presented. The survey results are shown in percentages presented in tables and figures. This is followed by the presentation and analysis of the data collected through the application of the qualitative participatory techniques. In this category, the diagrams depicting a mental map, venn diagram and the ranking exercise are presented. These are accompanied by the discussion of the main issues that were raised during focus group discussions relating to each of these exercises.

The focus group members were first asked to draw a map of the Saint Bernard community depicting communal facilities and family buildings. The map also portrays the distribution of communal resources that contribute to their livelihoods including forests. The members were also asked to list the community problems and rank them in their order of importance during the ranking exercise. Through the use of a venn diagram, the focus group members were asked to indicate the relationship between the community and the institutions that are in one way or another linked to the community.

5.2 Data Analysis

5.2.1 Respondents' backgrounds

This section presents and describes the information acquired through the questionnaire survey. The main issues that are covered here seek to trace and discuss the background of the respondents with an aim of providing a broad understanding of the social status of the study area. This section incorporates a wide range of issues such as the gender, marital status, levels of education, and age of the respondents interviewed. Also included here is the number of years the respondents have lived in the area, the type of areas from which they have moved, the reason(s) for moving into

the Saint Bernard community, the type of an area they would prefer to relocate to and the type of area where they would prefer to work.

Figure 5.1: Gender of the respondents (in %) (n=50)
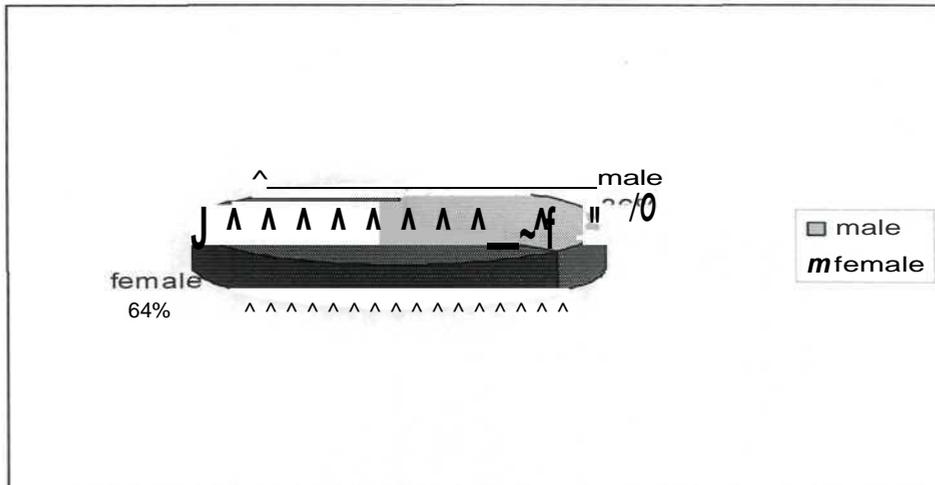
The above figure illustrates the gender of all respondents. Female respondents constitute a large portion of the total number of respondents with 64% whereas the male respondents make up a total of 36%. These figures are expected since the literature reveals in rural areas in South Africa, women are most likely to be found at home because of the household chores they usually undertake, compared to their male counterparts who often concentrate on external activities and work as migrant labourers (Oberhauser, 1998). Furthermore, as illustrated in this and other studies, in many households, women are the ones who generally collect fuelwood and other forest products (Ham and Theron, 1998; Williams, 2004). Thus, their responses in relation to the contribution of forestry to local livelihoods are important and relevant.

Figure 5.2: Marital status of the respondents (in %) (n=50)
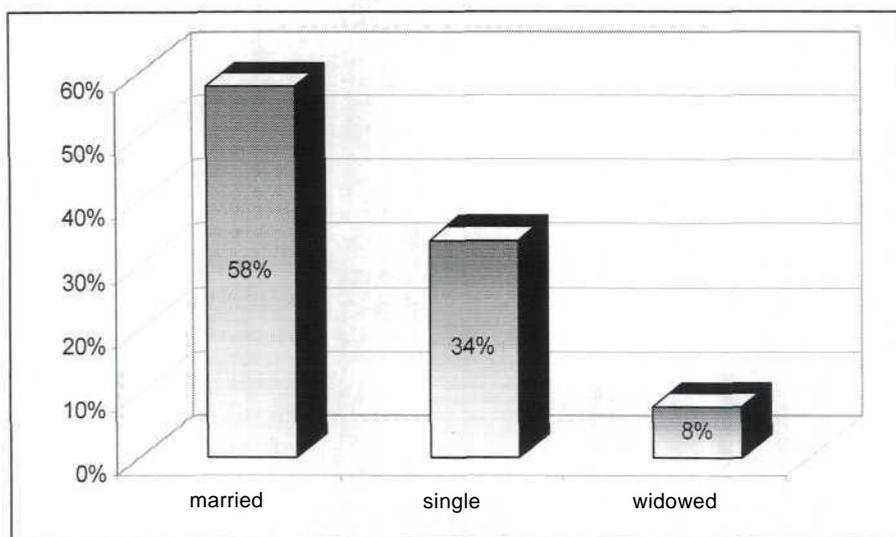
Figure 5.2 above portrays the marital status of the respondents. Fifty-eight percent of the respondents interviewed are married, 34% are single and 8% are widows. These figures show that the study comprises of the views of people with different backgrounds. Such a combination is important, particularly in this research because it reflects that different opinions about the community matters, especially those that relate to forestry, have been presented.

Table 5.1: Levels of education of the respondents (in %)

Education levels	Total(n=50)
Primary	22
Secondary	48
No schooling	30

Table 5.1 reflects that 48% of the respondents have a secondary school background, 30% have no schooling while 22% is representative of those with a primary school level. The majority of the respondents (70%) have been introduced into the schooling system. This is perhaps because the area was once under the control of the missionaries, therefore people had access to local schools. During discussions it emerged that respondents who did not attend school were those who had relocated into Saint Bernard in recent years.

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Table 5.2: Crosstabulation for age and gender of the respondents

Age of respondents	Gender (n-values)		Total(n=50)
	Male	Female	(in %)
18-24	3	1	8
25-44	8	5	26
45-59	4	16	40
60 and above	3	10	26

The above table depicts the crosstabulation of age and gender of the respondents. The crosstabulation clearly indicates the number of respondents in each age category according to their gender. This is important because age categories alone do not provide a clear indication as to how many males or females are involved in each category of age. The majority of the respondents (40%) were between the ages of 45 to 59 years with females constituting the majority (16) and males making up 4. People of these age groups are most likely to be active and exert influence when decisions about community development are made, particularly in a rural setting. They therefore represent an important group in studies that seek to understand the socio-political dynamics of the community, especially females who have a clear understanding of their household livelihoods. The fact that females constituted the majority reinforces the argument that rural women are often likely to remain in their households compared to their male counterparts.   The age groups of 25-44 years with 8 males and 5 females and those of 60 years and above with the majority of females (10) and males constituting only 3 represented an equal number of people in each category with each of them represented by 26% respectively. The people who are in the category of 60 years and above also have a significant role in influencing community decisions. From the latter figures it could be deduced that there is still little representation of the youth in decision-making in Saint Bernard.

Table 5.3: Number of years respondents have lived in Saint Bernard (in %)

Number of years	Total (n=50)
1-5 years	6
6-10 years	24
11-15 years	40
>20 years	30

The above table depicts that 40% of the respondents have lived in Saint Bernard community for 11 to 15 years. This is against the 30% who have lived in the area for more than 20 years. Thus, the majority of the respondents (70%) have lived in the area for more than 10 years. This indicates that they have a sufficient understanding of the social, economic, political and environmental dynamics of the community. In contrast to the above figures, 24% of the respondents lived in the area for 6 to 10 years while 6% lived in the area for a period between 1 to 5 years. It is important to note that most of the people have relocated to Saint Bernard. This is largely due to the political violence that has affected the province of KwaZulu-Natal, especially in the Richmond and surrounding areas in this case. Under the new leadership, Saint Bernard is likely to retain the same number of people because the newly adopted constitution for land use prohibits the relocation of more people from outside Saint Bernard.

Table 5.4: Type of areas from which the respondents have moved (in %)

Area type	Total (n=50)
Always lived in community	14
Rural	76
Township	2
Small town	8

As most community members have moved from other areas and relocated to Saint Bernard, the above table reflects the type of areas from which the respondents have moved. With the exception of 14% of respondents who always lived in Saint Bernard, the rest (86%) relocated from other communities. Seventy-six percent of the respondents moved from rural areas. These include areas within the Nhlazuka area, the rural areas in Richmond and some areas near Mid-Illovo. Eight percent of the respondents are from small towns (these are mainly Richmond and Mid-Illovo) and only 2% are from townships. During the focus group discussions respondents indicated that most people have relocated to Saint Bernard during the period of political unrests, particularly from the Richmond and neighbouring areas. It was also mentioned that some of the relocations were influenced by the availability of forests in the Saint Bernard area. Trench (undated) argues that some of the relocations to Saint Bernard were influenced by the fact that people wanted to use building poles from the plantations or to make money out of communal resources like wood and forests. Table 5.5, however, illustrates the reasons provided by the respondents for moving into the area.

Table 5.5: Reasons for relocating to Saint Bernard (in %)

Reasons	Total(n=50)
Born in the area	14
Job prospects/business opportunity	4
Closeness to family or relative	18
Lifestyle/quality of life	48
Moved in with parents as a child	6
Marriage	10

The majority of the respondents (48%) mentioned the lifestyle/quality of life that was associated with the Saint Bernard community as the main reason that influenced their decision to relocate into the area. Most of the respondents indicated that during the era of political unrests in the Richmond and surrounding areas, the Saint Bernard area was regarded as a peaceful one, hence most of them decided to relocate into the area. The above table also reflects that 18% of the respondents stated the need to be closer to their families or relatives, whereas 14% were born in the area, 10% moved as a result of marriage and 6% moved into the community at an early age with parents. Only 4% of the respondents in this study mentioned job prospects as having played a more influential role in their choice of the area. It should be noted, however, that the Saint Bernard area does not offer many job opportunities, except for the neighbouring forest companies. Some respondents mentioned the close proximity of Saint Bernard to small towns such as Richmond and Mid-Illovo. The close proximity of the area to these towns makes it easier for most people in the area to travel from home to their areas of work on a daily basis. :   :

Table 5.6: Type of an area the respondents would prefer to relocate to (in %)

Area type	Total(n=50)
Not willing to resettle	24
A township	38
A low income housing near a small town	8
A low income housing near a big city	2
Don't mind as long as there's a job nearby	28

When asked about where they would like to live, 38% of the respondents preferred a township, 28% mentioned that they do not mind as long as there is a job nearby, 24% were not willing to resettle anywhere whereas 8% mentioned a low income housing area near a small town and 2% preferred low income housing in a big city. Some of

the respondents who mentioned that they are not willing to resettle somewhere else argued that their levels of income are very low, at least in Saint Bernard they often access poles and fuelwood for free without having to buy electricity like in townships. Generally, most of the responses are driven by a concern for a lack of service delivery in the area. Community members mentioned that the Saint Bernard area faces a huge development backlog; housing, water and electricity are some of the main issues of concern that were raised. It is not surprising therefore that a majority of the respondents prefer other areas besides Saint Bernard. When asked about their preference for a township, most respondents reported that townships have better service delivery; they always remain a priority when municipalities plan for service delivery and there is no hope that the rural areas in the Nhlazuka area will ever access a hustle-free service delivery given its isolation from the major areas that are easily recognized. Some of the respondents who supported townships were of the view that transport from these areas to places of work is easily accessible since townships have a direct transport link to the nearest towns. It is important to also note that the people who are not willing to resettle anywhere else are generally the elders and pensioners who acknowledge the poor nature of service delivery but have strong place attachment linked to social and cultural ties.

Table 5.7: Type of an area where respondents would prefer to work (in %)

Area type	Total(n=50)
A job in a small town	18
A job in big town/city	50
Farm on small farm that you own	20
Run own small business	12

Fifty percent of the respondents expressed an interest in finding a job in **a** city. Most of the respondents mentioned Durban. Twenty percent of the respondents prefer farming on their own small farms. When asked about the issue of land scarcity in the community, most of the people share a common view that some trees have to be removed to create opportunities for agricultural activities in the area. It was also noted that 12% of those interviewed preferred to run their own small businesses like tuck-shops, selling food products or open early learning centres while 18% prefer to get a job in small neighbouring towns like Richmond or Mid-Illovo mainly because of the proximity of these towns to the Saint Bernard area. This shows the scarcity of

employment opportunities and limited livelihood strategies within the Saint Bernard area. During the focus group discussions, most participants mentioned that they are still waiting for the outcomes of the negotiations between the committee and forest owners on the issue of having some sections of forest plantations transferred to the community. It appeared that some people are willing to join the efforts of developing a community-run forestry business

5.2.2 Socio-economic profile of the community

This section looks at the socio-economic characteristics of the Saint Bernard community. An understanding of the socio-economic status of the study area is one of the fundamental objectives of this study. The socio economic characteristics provide an understanding of how people make a living in the community. Various strategies and opportunities (including services), from which community livelihoods are generated, are presented in this section. It can be deduced therefore that an outline of the socio-economic characteristics provide an overview of the development challenges and priorities of the community. A number of issues are presented and discussed in this section. These include the principal sources of households' incomes, services needed by the households and community, sources of fuel that are used and preferred alongside the difficulties involved in obtaining/ purchasing/ collecting these sources of fuel.

Table 5.8: Households' sources of income (in %): Multiple responses

Principal sources of income	Total(n=50
Household farming	30
Own business	14
Agricultural wage labour	14
Informal activities	6
Non-agricultural wage labour	64
Pensions, welfare grants, etc	50
Professional	2

Table 5.8 above illustrates that the perception that rural households rely only on agricultural activities for their survival is often misplaced and problematic. Although agriculture remains a common practice in most rural areas, rural households often adopt multiple income generating strategies (Ellis, 1998). The above table demonstrates that half of the respondents indicated that pension payouts and welfare

grants are principal sources of their households' income. This implies that most of the people in this category include the elders and possibly those who receive child support grants. This underscores the argument, as highlighted in Fox and Nel (1997) and Mubangizi (2003) that pension payouts constitute a significant proportion among the livelihood strategies of most rural households. Sixty-four percent of the respondents earn an income from non-agricultural wage labour. It is important to note that non-agricultural wage labour includes migrant labour. This category represents people who work in the small towns of Mid-Illovo and Richmond. The respondents who run their own businesses and those who survive out of agricultural wage labour are 14% on each side respectively. The category of those involved in own businesses is represented by people who run tuck-shops and those who sell poles and fuelwood in the community. Those respondents who survive mainly out of agricultural wage labour mentioned that they are working in White-owned farms in Richmond and neighbouring areas.

Household farming was also important for 30% of the households. Most of the respondents under this category mentioned that they survive through harvesting of vegetables in the community garden and their own yards, the community poultry project and some own fields of sugar cane plantations. Only one respondent pointed that she makes a living through a professional job. It is understandable that the people who earn an income through professionally-related types of work constitute a smaller percentage here. Some studies (Padarath *et al*, 2003) have shown that people with tertiary qualifications often migrate from rural to urban areas where job opportunities and other amenities such as good housing, leisure activities and other social infrastructures are easily accessible. A general trend is that teachers and other community workers, such as social workers are the only professionals often found in rural areas. Such was the case in Saint Bernard. The person who survives through professional work was a teacher who works in the local school. It is also important to note that many houses have multiple sources of income. This is typical of rural areas were households attempt to diversify income strategies to minimize risk.

Table 5.9: Services/ facilities needed by households and the community (in %): Multiple responses

Services	Total(n=50)
Water taps	96
Electricity	86
Clinic	56
Telephones	48
Housing	82
Land for cultivation	74
Sanitation	42
Tarred road	32

The types and number of services needed by the community reflect the level of demand of services in the community. This further demonstrates the type of services that are available and those that are not available. It is not uncommon that properly installed water facilities are not often provided in most rural communities. In most cases, most rural households still rely on river streams for water resources. According to Perret (2002), approximately 14 million of rural and suburban Black South Africans do not have access to running water in their homes. Rural women have to walk long distances to collect domestic water from rivers or water points. Table 5.9 above demonstrates that most of the respondents (96%) mentioned the need for water taps, either in their individual yards or as communal taps. Currently, all the streams that were previously supplying water resources to the community have turned dry due to timber encroachment in the streams. The municipality has, as a result, installed water tanks which need to be refilled at least twice in a week. The respondents have, however, reported that sometime a week passes with tanks not being refilled. Proper sanitation was also noted as important for some respondents (42%).

Electricity in most households (86%) was viewed as important. Some respondents in this category mentioned that even if they cannot always afford to buy electricity, it is important that it is remains installed in each household in the community so that households, during the periods when they have money, can access electricity. Housing was regarded as important by most respondents (82%). Related to this was a concern that in the neighbouring areas preparations for low cost housing are already under way while in Saint Bernard there has never been a community meeting in which housing was discussed. Telephones were also mentioned as a necessity in other households

(48%) while a concern for a tarred main road linking Inhlazuka to Richmond and other neighbouring areas was raised by some respondents (32%).

Land for cultivation was also a concern to most respondents. Seventy-four percent of the respondents indicated that land for cultivation is scarce in Saint Bernard. This is because much of the space in the area is encroached by timber species and the areas available are either dry or sloppy. Even the community garden occupies a small space. It was also noted that 56% of the respondents would like to see a clinic being built in Saint Bernard. The people in this category have indicated that the Saint Bernard community faces poor health service delivery. There was a concern that the mobile clinic that comes once in a month is not sufficient to effectively address the health needs of the community. Some of the respondents mentioned that they have engaged the Department of Health in talks about the matter. The main reason for the backlog in service delivery is mainly linked to the fact that the municipality was not intervening in the development matters of this community since it was under the mission. It is only recently that the municipality begins to intervene.

Table 5.10: Primary sources of fuel (in %) (n=50)

Source	Cooking (%)	Lighting (%)	Heating (%)
Wood	64	-	100
Paraffin	8	8	-
Gas	2	-	-
Wood and paraffin	26	-	-
Candles	-	80	-
Paraffin and candles	-	12	

The households' sources of fuel can sometimes be diversified. This, however, depends on household income. This is because the use of sources of fuel such as paraffin and electricity are based on the purchasing power of the household. Literature indicates that rural communities often rely on easily accessible sources of fuel such as wood. According to Kwetsima Consultants (2005), fuelwood is the main source of energy for poor households in rural areas mainly because it is easily available and cheap to purchase. This is reflected in table 5.10 above. The table demonstrates that 64% of the respondents use wood as a primary source of fuel for cooking. It is further noted that all the respondents have indicated that they use fuelwood for heating. Additionally, 26% of the respondents mentioned the use of wood and paraffin

combined, mainly for cooking. The latter group represents those people who do not find it difficult to buy paraffin. Some respondents in this category mentioned that they use paraffin during the day and wood at night or when they have visitors. Eighty percent of the households use candles for lighting, 12% use both paraffin and candles interchangeably. The use of fuelwood by most households indicates that although some sources of fuel might be available, the close proximity of forests to the community influences most households to heavily rely of fuelwood as a free source of fuel available to the community. This pattern of use can, if not monitored, have a negative impact on the relations between the community and private foresters or the community will, in the long run, invade the natural forest in the community.

Figure 5.3: Preferred sources of fuel (in %) (n=50)
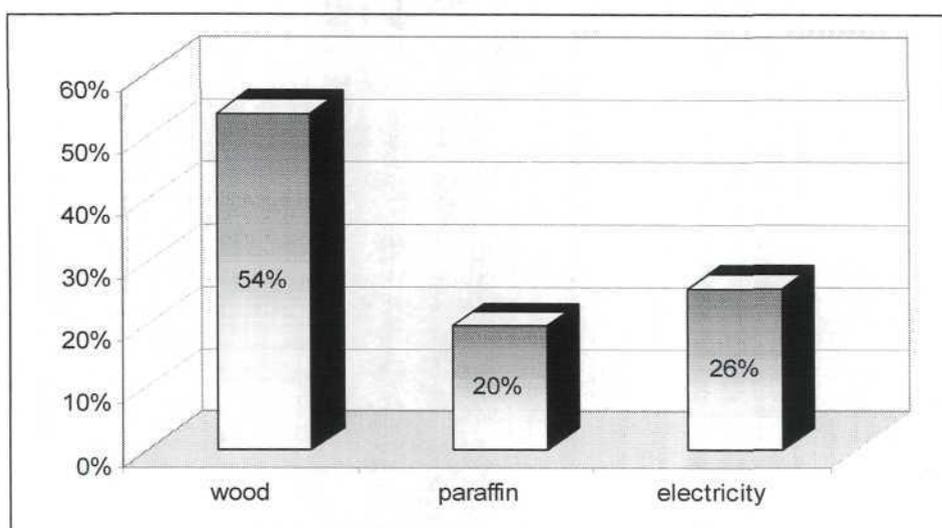
The above figure illustrates that 54% of the respondents prefer to use wood as a convenient source of fuel. This is either because wood resources are easily accessible in Saint Bernard or people cannot afford to buy other sources of fuel. Although there is no electricity in Saint Bernard, 26% of the respondents said they prefer electricity because of its convenience and reliability. Only 20% of the respondents interviewed indicated the preference of the use of paraffin in their households. The argument here was that the use of wood is not always convenient as the smoke from the in-house fire can affect the health of many people in the household, especially the children. Nevertheless, wood remains the most used and preferred source of fuel in Saint Bernard.

Figure 5.4: Difficulties in obtaining, purchasing or collecting sources of fuel (in %) (n=50)
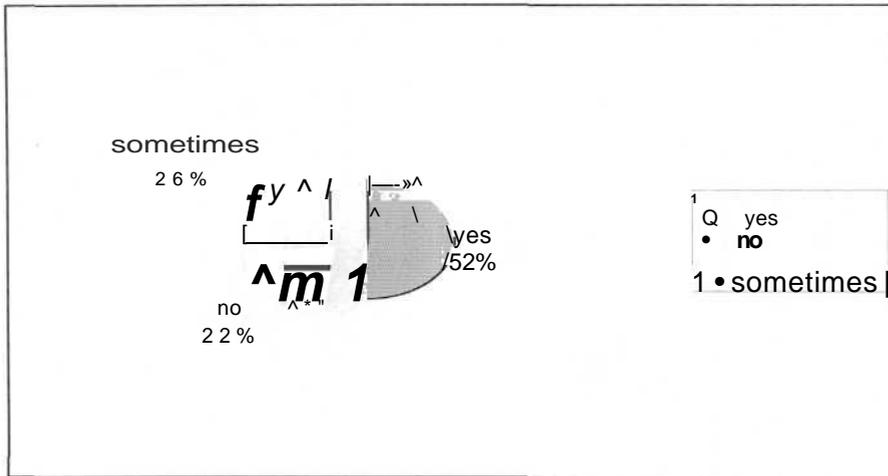
Although most respondents use fuelwood, 52% revealed that it is not easy to access fuelwood in Saint Bernard. Some of the concerns raised here are that dry trees are difficult to find, as a result, people are often forced to cut live wood from the private plantations which is not suitable for making a fire. Cutting of love wood also raises questions about long-term sustainability. The difficulty of finding dry woods also emanates from the fact that most people steal fuelwood from the plantations, often at night and this makes it difficult to identify suitable trees. Linked to this is that some people find it difficult to purchase fuelwood from those who sell it in the community. The issue of affordability also applies to the other sources of fuel such as paraffin and gas. Therefore, access to sources of fuel is largely dependent on households' income and the availability of dry trees in the forests; hence 26% of the respondents mentioned that they find difficulty in accessing fuelwood and other sources of fuel occasionally/ sometimes. Twenty-two percent of respondents mentioned that they do not find it difficult to access fuelwood. This is a group of respondents who purchase fuelwood from the truck owners.

5.2.3 The main uses and needs of forest resources

The focus of this section is based on creating an understanding of the extent to which forest resources are used in the Saint Bernard community. The Forest resources provide a wide variety of both direct and indirect benefits to rural communities. The main intention is to trace and identify the contribution that forest resources make in

the livelihoods of rural households with specific reference to Saint Bernard. The households' patterns of use of forest resources are also traced in this section.

Table 5.11: Use of forest resources and the types that are most often used (in %): Multiple responses

Uses	Total(n=50)
Fuelwood	100
Poles	100
Medicinal resources	18

All the respondents interviewed directly use forest resources in their households. The use of wood for fuel purpose (especially for cooking and heating) has been mentioned in all the households. Linked to this is the use of poles in all households for building house structures and fencing. Only a few households harvest and use medicinal resources (18%). The use of wood as a source of fuel and heating tends to be a priority mainly because the area lies in the forested environment and perhaps because most households can hardly afford other sources of fuel like the use of gas and paraffin. The unavailability of electricity and other sources of fuel in the Saint Bernard area can partly be another cause. The use of medicinal resources involves the treatment of minor illnesses in the households while a few individuals harvest these resources for both household use and selling purposes in the markets. Isipingo has been mentioned as the nearest town wherein some of the medicinal resources are being sold. It has been mentioned that the medicinal resources are however not in abundance in this area and the indigenous forest in the area is increasingly infested by the alien plant species.   -   '

Table 5.12: Number of years the households have used forest products (in %)

Years	Total(n=50)
1-5 years	6
6-10 years	20
11-15 years	44
>20 years	30

The use of forest resources by the respondents generally corresponds with the years in which they started to occupy the Saint Bernard area. Forty-four percent of the respondents have been using forest resources for 11 to 15 years, 30% for more than 20 years, 20% for 6 to 10 years and 6% between 1 to 5 years. Except for the intensive use

of wood as a source of fuel, poles are also used continuously by the households in the area to replace old building structures and to maintain fences and kraals.

Table 5.13: Nature of access to forest resources (in %) (n=50)

	Fuelwood	Poles	Medicinal plants
Collected by household members	92	44	18
Hire someone to collect	8	42	2
Buy from local people	-	14	-
Not applicable	-	-	80

There are different ways in which the respondents access forest resources in the Saint Bernard community. The above table reflects that in 92% of the households interviewed, fuelwood is collected by household members and 8% hire someone to collect fuelwood. In 44% of the households interviewed, poles are collected by household members, 42% hire someone to collect and only 14% of the households buy from the local people. In 18% of the households, medicinal resources are normally collected by household members whereas only 2% hire someone to collect and 80% have chosen a 'not applicable' response mainly because they do not use medicinal products from the forests. Wood resources for both fuel and building are harvested in the commercial plantations. It was revealed that in most cases it is difficult for household members to collect building materials because such materials usually have to be collected in bulk and care needs to be emphasized when choosing the types of wood/poles that are to be utilized for building purposes. It is for this reason that most households have to either hire someone to collect and deliver building materials or buy from the local people. In cases where household members have to harvest building materials themselves, it is often because they cannot afford to hire someone or to buy these materials. They resort to stealing. This usually takes place during the night.   '••••?

The respondents mentioned that a certain stipend is usually paid to the forest guards to access the forests in exchange of a ticket to harvest forest resources to a certain extent. The amount for the collection by individuals differs from that which is collected by vans and trucks. Some of the households mentioned that they find it difficult to pay for these tickets; hence they often resort to stealing wood resources. Furthermore, there are small pockets of trees that are found in open areas within the community.

However, these are usually live pine trees that have grown in these areas as result of the transportation of the seedlings from the commercial forests. These tree resources are under the control of the elected committee which is the legal structure for decision-making in the community. It was mentioned that the committee does not allow community members to cut down these trees as they might enable the community to involve itself in small forestry business in the near future. Community members are only allowed to cut dry trees in these areas. These are extremely scarce and do no satisfy community demands. There is little agreement, however, between the committee and some community members about the use of the trees. A few respondents raised concerns that the trees have taken up space which could have been used for agricultural purposes and also these trees have degraded most of the water resources in the community.

Table 5.14: The number of days/weeks in which households harvest forest resources (in %)

Number of days	Total(n=50)
Everyday	62
Once a week	28
After every two weeks	2
Third week of every month	2
Fourth week of a month	6

The above table presents the number of days when forest resources are collected by households. Sixty two percent of households interviewed collect forest resources on a daily basis, 28% once in a week and 6% usually collect the resources in the fourth week of every month. It is only 2% of the households that collect the forest resources after every two weeks and 2% again after the third week of the month. Fuelwood resources are the ones that are collected on a daily basis mainly for cooking and heating purposes. However, the numbers of days of collection of forest resources, fuelwood in particular, differ according to the number of people available in the household to collect the resources. The people who collect the resources after a long period of time are mainly those who can afford to purchase them.

Table 5.15: The nature of households' use of forest resources (in %)

Uses	Total(n=50)
Harvest for household consumption	94
Harvest for both household and commercial purposes	6

As it has already been mentioned in table 5.11, the households in the Saint Bernard community use forest resources both for household consumption and commercial purposes. The above table reflects the number of households per each category of use. It is depicted in the table above that 94% of the respondents harvest forest resources for household consumption and only 6% harvest both for household consumption and commercial purposes. The commercial category is linked to the harvesting and selling of medicinal resources by only a few community members.

Table 5.16: People responsible for collecting forest resources in the households (in %)

People responsible	Total (n=50)
Mother	10
Children	46
Mother, father and children	4
Mother and children	34
Not applicable	6

The above table reflects members of the households who are most responsible for the collection of the forest resources that have been mentioned above. In 46% of the households, the collection of forest resources is the children's responsibility. In 34% of the households, this responsibility is shared amongst the children and their mothers. In 10% of the households only mothers are responsible. In 4% of the households the collection of forest resources is shared amongst the mother, father and the children. It is only in 6% of the households interviewed that the above categories of choice do not exist mainly because, instead of collecting the resources themselves, they prefer to purchase fuelwood from the trucks. It was mentioned that in the households where the male or head of households are involved it is often either when they have to steal fuelwood resources at night or in the collection of poles for building purposes. Nevertheless, it was mentioned by some of the respondents that the collection of forest resources by people, particularly fuelwood, often depends on who is available at a particular time in individual households. It is interesting that the responsibility of fuelwood collection is in some households shared amongst all household members,

both the children and the elders, male and female. This in turn shows the demand and importance of the forest resources in the Saint Bernard community.

Table 5.17: Number of people who harvest forest resources in the household (in %)

Number of people	Total(n=50)
1-2	36
3-4	42
5	16
Not applicable	6

In 42% of the households interviewed, 3 to 4 people are responsible for the collection of forest resources while in 36%, between 1 and 2 people are responsible. It is also depicted in the above table that in 16% of the households interviewed, the collection of forest resources is shared amongst 5 people and 6% interviewed responded "not applicable" because they often prefer to buy forest resources. The above table therefore reflects that in most households in Saint Bernard community, most family members per household are involved in the collection of forest resources. This indicates a high demand for forest resources particularly fuelwood which is often used on a daily basis in most households.

5.3 Challenges and constraints in accessing forest resources

This section attempts to present and discuss the main challenges and constraints faced by the community of Saint Bernard in accessing forest resources. This is undertaken with the view that it is imperative in this study to identify the major constraints facing local communities where forests have a role to play in some parts of their livelihoods. In this section, questions relating to the issue of land ownership are discussed. These are followed by the questions which seek to create an understanding of the issues of general access by the community in forest resources in plantations with the subsequent identification of major obstacles relating to accessing forests.

Table 5.18: Knowledge about a title deed relating to land ownership (in %)

Responses	Total(n=50)
Yes	30
No	20
Do not know	40
Not applicable	10

The respondents mentioned different responses when asked if the community holds the title deed of the land they occupy. It is surprising that 40% of the respondents do not know whether the community possesses a legal document which defines their ownership of the land. Contrary to this, 30% of the respondents agreed that a legal document exists. The above table also shows that 20% of the respondents indicated that the community does not posses a title deed to the area. Ten percent of the respondents did not respond. These respondents did not want to comment about this issue because they generally felt that it is complicated and thus not clear. Furthermore, they indicated that information regarding this was fully communicated to them and the community at large.

One of the major issues in understanding the constraints facing rural communities in as far as access and use of forest resources are concerned, is the issue of land ownership. Trench (2003) asserts that the Saint Bernard community occupies the land that was once under the control of the Roman missionaries. It was only in 1998 that the leadership of the church decided to transfer the ownership of this land to the community in the area. From this period the community started to get involved in the series of talks with the church leadership and the Department of Land Affairs (DLA) on the issues of the transfer of ownership (Trench, 2003; Trench, undated). According to the members of the representative committee, the Association for Rural Advancement (AFRA), a non-governmental organization dealing with land matters, has been helping the community throughout the process of land acquisition. This involves conducting elections for the representative committee known as Communal Property Association (CPA), and the drafting of proposals and a constitution. According to the committee, transparency was emphasized in this process because all the activities were conducted in the church where community meetings are often conducted. Furthermore, according to one of the committee members, the community possesses a title deed to the area but this has been transferred to the municipality that is in charge of the area. This was done for the purpose of fast tracking service delivery in the area. However, it is important to underscore that some of the respondents indicated that they were not aware of these developments. This group of people is perhaps those community members who hardly attend community meetings. On the other hand, however, the issue of a title deed is a crucial one for many community

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members not to know about it. In this light, one can deduce therefore that the committee has probably failed to impart the information to a significant proportion of the community. A lack of information on the issue of land ownership could easily lead to less knowledge about the issue of forest ownership. This may influence the community to loose trust on the elected committee and refrain from supporting any development intervention that the committee might propose in the future. With respect to forest resources again, it is probable that the community members might forcefully remove all the trees in the section that is described as belonging to the community.

Table 5.19: Respondents' views on who owns the title deed of the forested land (in %)

Views	Total(n=50)
Tribal authority	18
Private company	44
Communal property	26
Do not know	12

As a result of the confusion about the issue of the title deed of the Saint Bernard community, it is probable that community members do not share the same knowledge about the ownership of the forested land with large hectares of commercial tree plantations in the area, and this is reflected in the above table. Forty-four percent of the respondents believed that all the forested land in the area is under the ownership of the private companies, such as SAPPI and other individual owners, whereas 26% thought that the land is communally owned. The above table also points out that 12% of the respondents do no know who owns the forested land while 18% described it as belonging to the tribal authority (Inkosi). The reason for these varying views is that it is generally known to the community that the ownership of the forests and the land in which they are planted has long belonged to the private owners. However, the view that the forest land belongs to the community emanates from the point that some people are not aware of the title deed and its contents which might possibly be granting the ownership of the portions of the forest land to the community. Another issue that is pertinent is that concerns have been made by some respondents that the private foresters have planted commercial trees on the land that belongs to the community. These varying perceptions are the reasons for the different views that are

expressed above. Although the committee members acknowledged the varying perceptions about the illegal occupation of land by private foresters, they have emphasized that much of the land with forest plantations is under the control of the private owners, whereas the area with indigenous trees belongs to the community. Moreover, it has been mentioned that the community's land that has been illegally occupied by the private foresters had small pockets of indigenous trees. Nevertheless, the committee members revealed that they are currently engaged in negotiations with the commercial forest authorities to have some of the sections in the plantations transferred to the community. These sections, they said, might be used to stimulate community business through the selling of trees or might be open for the general use by the community members. When asked, however, as to whether they have a proof that some sections of the plantations belong to the community, the community committee mentioned that a written proof does not exist for now but the have people who can point the boundary of the area.

Table 5.20: Respondents views on whether they are allowed to access forest plantations (in %) ,

Responses	Total(n=50)
Allowed	22
Not allowed	60
Do not know	2
Not applicable	16

The above table shows the respondents' views on whether they are allowed to access forest plantations in the Saint Bernard area. This question has raised a number of issues that are of major concern to the community. Sixty percent of the respondents said they are not allowed to access forest plantations, and twenty two percent mentioned that access is allowed in these forests. While 16% of the respondents have treated this question as "not applicable" to them, 2% do not know whether they are allowed or not. It should be noted, however, that the respondents who mentioned that they are not allowed to access the plantations admitted that access is granted only if one purchases a ticket. Likewise, those who said they are allowed mentioned the issuing of tickets. In other words, this means that access to the plantations is not easy unless one produces a ticket at a particular time. Purchasing tickets for access to the forests is often difficult for most community members who mentioned that tickets

often cost R6 for each round of collection per individual; hence some people resort to stealing wood resources as has already been mentioned. The community members who decide to enter forest plantations for reasons other than the collection of wood (for example, harvesting of medicinal resources) are expected to report to the forest guards.

The percentages that are reflected in the categories of "not applicable" and "do not know" above generally represent some of the respondents who have raised concerns that the issue of access to the plantations is not clear to some community members because there are instances where people would not be allowed at all to access the forests. It has been noted that the main reason behind the restriction of access to the plantations is that the forest authorities are concerned that the locals often cut live trees. The respondents have, however, denied these allegations with the submission that live trees are not suitable for fuel purposes therefore in most cases they collect dry parts of trees, especially dry braches and materials that have fallen off the trees.

Table 5.21: Whether respondents had problems accessing forests in the past (in %)

Responses	Total(n=50)
Yes	90
No	8
Not applicable	2

When asked if they had problems in accessing forest plantations in the past, the vast majority of the respondents (90%) mentioned that even when the area was still under the missionaries, they were not allowed to freely harvest wood and other resources from the forest plantations. However, the church had set aside some sections within the forest for fuelwood harvesting by the community. Adding to this, 8% of the respondents mentioned that they had not experienced problems in accessing forest plantations in the past. This group comprises of people who did not find it difficult to pay for access to the private forests. One respondent indicated 'not applicable'. This respondent had relocated to Saint Bernard in recent years.

Table 5.22: Major problems the households are experiencing with regard to access to the plantations currently (in %): Multiple responses

Responses	Total(n=50)
Payment for access	94
Fines for illegal entry	46
Wild animals (pigs)	64
Confiscation of cattle	22

The above table depicts the major problems that are facing the respondents with respect to access to the forest plantations. It has already been indicated above that access to forest resources tends to remain an obstacle to most of the community members. It is clear, however, that there are no other easily accessible alternatives, especially for fuel purposes in the Saint Bernard community than the use of woody materials. It is also clear that most households in the area have little income which makes it difficult to replace the types of wood materials that are currently used for both fuel and construction. Nevertheless, the respondents mentioned a number of problems relating to the access to forest plantations. The majority of the respondents (94%) complained about the payment for access and 64% raised the issue of dangerous wild animals. It was reported that one of the forest owners in the area has released wild pigs to the forests with the aim of dealing with trespassers and the cattle grazing inside the forests. Besides the cases of cattle loss that were reported by the respondents, it is alleged that these animals pose a safety risk to the community of Saint Bernard as they have been witnessed killing domesticated livestock around the community and they have become a threat to the lives of people in the area. The responses further indicate that 46% of the respondents have complained about the fines they are forced to pay when found in the forest plantations illegally, while some (22%) raised a concern pertaining to the confiscation of cattle if found grazing inside the plantations. The respondents mentioned that an amount of R1 000,00 is normally paid to forest guards for the release of each cow confiscated. The issue of grazing appears to be the most pressing concern to most of the respondents. This is linked to the issue raised that there is little space available in the community for cattle to graze since much of the land has been occupied by the plantations adjacent to the community.

Figure 5.5: Knowledge of written rules that guide access to and utilization of plantations (in %) (n=50)
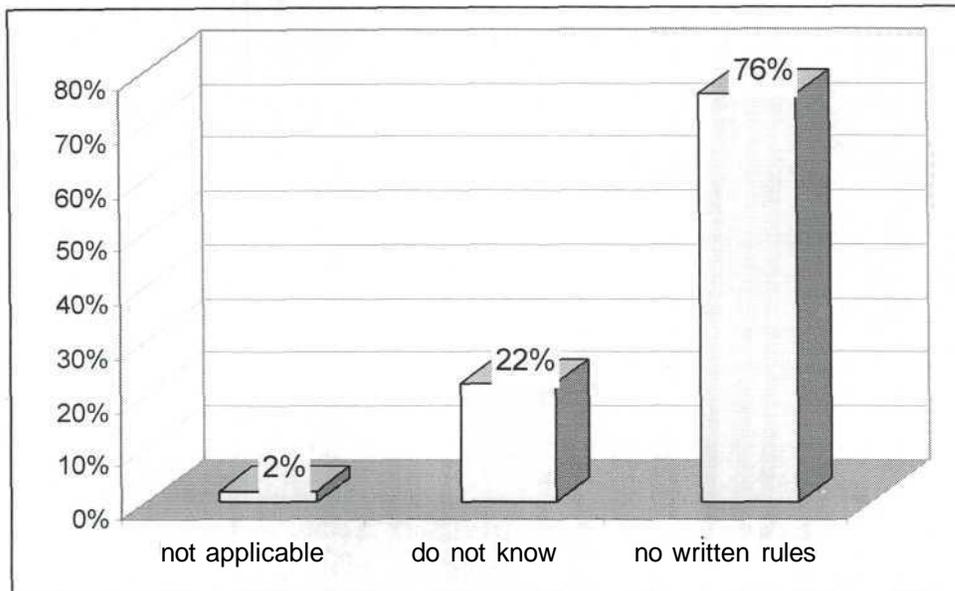
The above figure shows the responses on whether respondents know of any written rules that guide access to the forest plantations. Seventy six percent of the respondents mentioned that there are no written rules that guide access, 22% do not know if any of these rules exist and only 2% did not respond. The percentages under the "do not know" and "not applicable" categories mainly involve people who are aware of the restrictive rules but are not sure whether these are written down. Most of the people became acquainted with the rules that guide access to the plantations through word of mouth from other community members. It was also confirmed by the members of the committee that the rules are not written down; they are normally imparted by the forest owners to the committee through word of mouth. These are then reported to the community during community meetings.

Figure 5.6: Knowledge about the existence of rules regarding the cutting of trees and collection of firewood in plantations (in %) (n=50)
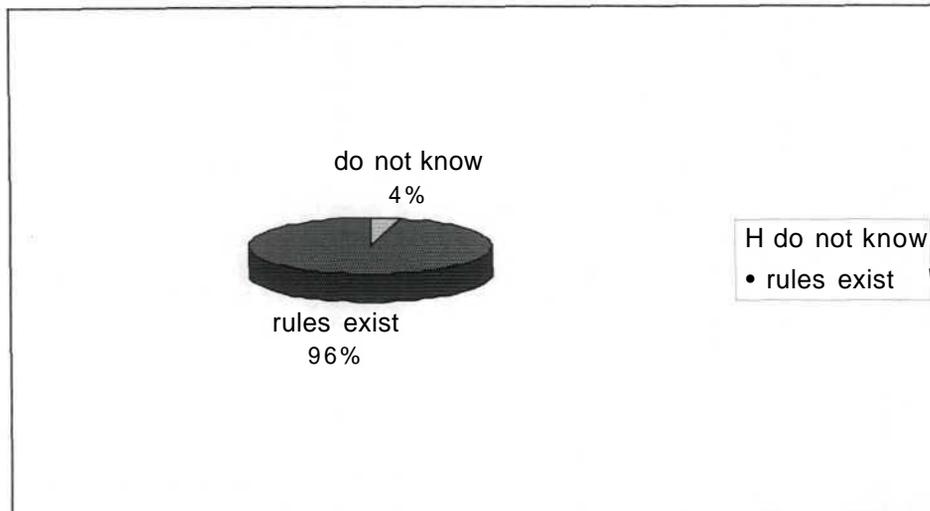
The above figure reflects the respondents' knowledge about rules regarding the cutting of trees and collection of firewood in the forest plantations. Ninety six percent of the respondents interviewed are aware of the existing rules regarding the cutting and collection of woods. Four percent of the respondents do not know if any such rules exist. Most respondents mentioned that they are generally informed that only dry wood or trees can be cut and only the materials that have fallen from the trees can be collected.

Table 5.23: Whether satisfied with the conditions of access to forests (in %)

Responses	Total(n=50)
Not satisfied	84
Do not know	10
Not applicable	6

When asked if they were satisfied with the manner in which the issues of access to the forest plantations are handled, 84% of the respondents said that they are not satisfied, 10% do no know and 6% did not respond. The respondents who were not satisfied supported their view by mentioning the issues that have already been uncovered above, particularly that of grazing. The respondents under the category of "do not know" and "not applicable" are mainly those people who did not want to comment but most of them believe that the problems could be resolved if the committee was dedicated to address these concerns with the forest owners.

Figure 5.7: Rating of the level of access to the plantations by the community generally (in %) (n=50)

50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%

14%   46%

fair   sometimes bad   bad
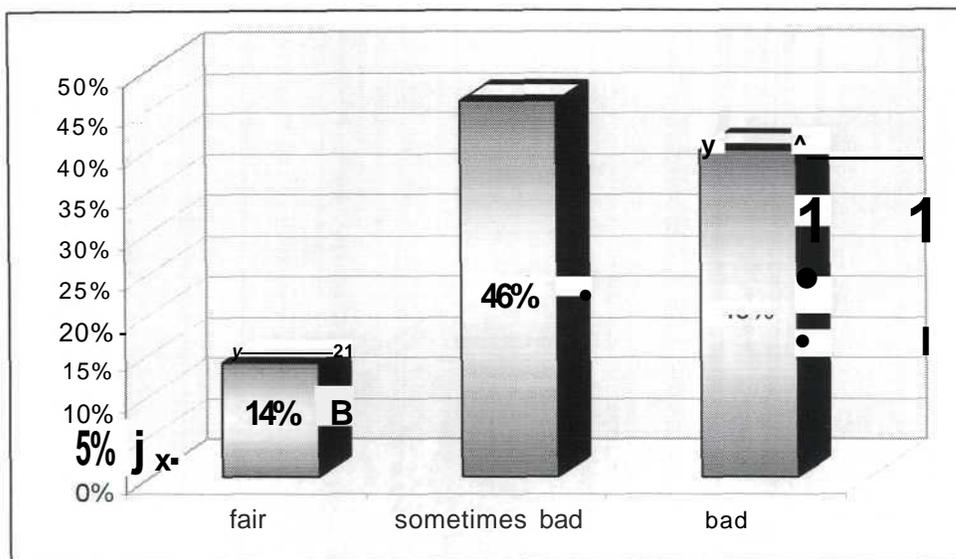
The above figure shows that the majority of the respondents (46%) viewed the level of access to the forest by the community generally as sometimes bad while 40% view it as bad and 14% as fair. The rating reflects the concerns raised in the previous tables. It is therefore understandable that most respondents (86%) rated the level of access to the forests as bad and sometimes bad. This reveals that the community is facing a major challenge in as far as the issue of access to forest plantations is concerned. The most important issue that was raised was that the forests are taking large tracts of land which makes it difficult for most of the community members to create their own livelihood opportunities through crop cultivation for instance. Additionally, the forest owners are failing to compromise by granting the community free access to the forests since it is clear that forest resources have a role to play in relation to the livelihoods of the locals. Except for the granting of free access, some of the focus group participants were of the view that negotiations with the forests owners to share some of the land with the community are necessary. Nevertheless, most respondents were of the view that the challenges facing their community can be easily addressed if the government could intervene on behalf of the community.

5.4 Forest conservation and management measures employed

In this section the issue of conservation and management of forest resources at the community level is the main focus. It is important in this study to look at the strategies that are employed by the community in relation to the conservation and management of the indigenous forest and the small pockets of pine trees within the Saint Bernard area and the impact of these on the livelihoods of the community. This is also driven by the interest on finding out how the community will address issues that relate to the management of forest resources and other natural resources since the ownership of the area has been placed under their jurisdiction. In this section, the questions that seek to understand perceptions relating to the conservation and management of forest resources are discussed. These are accompanied by a discussion that examines the constraints and opportunities that are a result of the conservation and management practices of forest and tree resources in the community.

Table 5.24: The importance of conserving and managing forest resources (in %)

Responses	Total(n=50)
Important	50
Not important	20
Do not know	4
Not applicable	26

The above table shows the respondents' perceptions about the conservation of forest resources and it is indicated that the respondents expressed different opinions. It is important to note that the conservation and management of forest resources in this case involves the indigenous forest adjacent to the Nhlazuka Mountain, and the exotic trees that are scattered around the Saint Bernard community. Fifty percent of the respondents believe that the conservation of these resources is important, 26% treated this question as not applicable, 20% consider conservation and management of these resources as not important and 4% who did not know how to answer this question.

Among the respondents who believe that the conservation of forest resources is important are people who mentioned that they had been made aware from younger age that trees, especially indigenous ones, need to be protected since they play a major role in satisfying a wide range of community demands such as fuelwood, construction or healing. This group also involved the group identified as using medicinal plants.

Most of these people, do find some of the medicinal plants in the forest plantations and they are harvested in the small indigenous forest adjacent to the Nhlazuka Mountain. Most of the respondents who indicated that conservation is important are also of the view that the exotic/ pine trees that are scattered around the community should be further protected as it is currently emphasized by some community members that these trees might be economically beneficial to the community in the future.

Those who consider conservation as not important are those respondents who raised concerns that in the Saint Bernard area the conservation of tree resources is not really necessary since there is a huge demand of wood products in this area and people will continue to use wood given the low incomes that most households receive. This group also involves those who are of the view that the exotic/pine trees that are scattered around the community are not necessary since they have already degraded water streams in the community, and thus it is increasingly becoming difficult for households and cattle to access water resources in the Saint Bernard community. Some of the respondents among those who chose the "not applicable" response mentioned that the issue of protecting trees, especially the exotic/pine trees in the community has raised major differences among some community members and the committee which might impede progress in the community.

It should be noted, however, that the indigenous trees in this area are used by a few members of the community, mainly for harvesting medicinal plants. This is either because the entry to the area where these resources are located is difficult for some since it is adjacent to the mountain or it is because the community committee (since it is the main decision-making body in the community) emphasizes that the indigenous trees in the area should only be used for minor purposes such as the harvesting of medicinal plants but not fuelwood and other purposes that would demand much of these resources. The superstitions that there is a big snake in the Nhlazuka Mountain which does not need to be disturbed could also be one of the factors restricting access to the indigenous forest. As a result community members often resort to the use of wood resources from the adjacent forest plantations either through stealing or purchasing.

Table 5.25: Perceptions about the conservation and management of forest resources (in %)

Perceptions	Total(n=50)
It protects biodiversity	50
Ensures sustainable livelihoods to local community	38
Denies access to important resources	20
Not applicable	30

It is interesting that the respondents showed a good understanding of what the conservation and management of forests entail for the well-being of the natural environment and adjacent rural communities, such as that of Saint Bernard. While half of the respondents believed that forest conservation and management protects biodiversity, a significant proportion (38%) also mentioned that conservation and management of forest resources is important for both protecting biodiversity and supporting sustainable livelihoods. This indicates that projects that seek to promote the sustainable resource management such as forest resources are likely to be accepted by a significant proportion of the community members in Saint Bernard. Thirty percent of the respondents did not indicate their perception and chose a "not applicable" response. Moreover, 20% of the respondents perceived forest conservation as denying the community access to the important resources. Some of the respondents in the latter group made specific reference to the exotic/ pine trees that are degrading water resources in the community while eliminating opportunities for agricultural development, but yet are still being protected. These respondents are also of the view that the indigenous trees should be used since access to the plantations is sometimes difficult and they do not see any value that could be attached to these trees given the current situation in Saint Bernard.

Table 5.26: Perceptions pertaining to who monitors the cutting of trees and collection of firewood (in %)

Responses	Total(n=50)
Do not know	8
Special forest guards	54
Community members	38

As indicated earlier, the community is not allowed to harvest any resource except for minor products such as medicinal plants. It is therefore necessary to look at how the

community is monitored in terms of harvesting of essential products in the indigenous forest and this also involves the monitoring of the small pockets of exotic trees that are being protected by some community members and the committee. The same applies to the forest plantations which belong to the private owners. It is necessary to ascertain as to which monitoring measures are being employed by the forests owners. Fifty four percent of the respondents mentioned that there are special forest guards who monitor the plantation forests from the morning until the afternoon hours, but not at night. Hence, people often have an opportunity to steal during the night. On the other hand, 38% of the respondents mentioned that community members have a responsibility to monitor one another on how they harvest forest resources. Only 8% percent of the respondents said that they do not know who is responsible for monitoring the cutting of trees and collection of firewood both in the plantations and within the community. These respondents are people who do not collect forest resources but rather buy from trucks or vans and hardly attend any community meetings.

Figure 5.8: Whether respondents had problems in getting access to natural forests in the past (in %) (n=50)
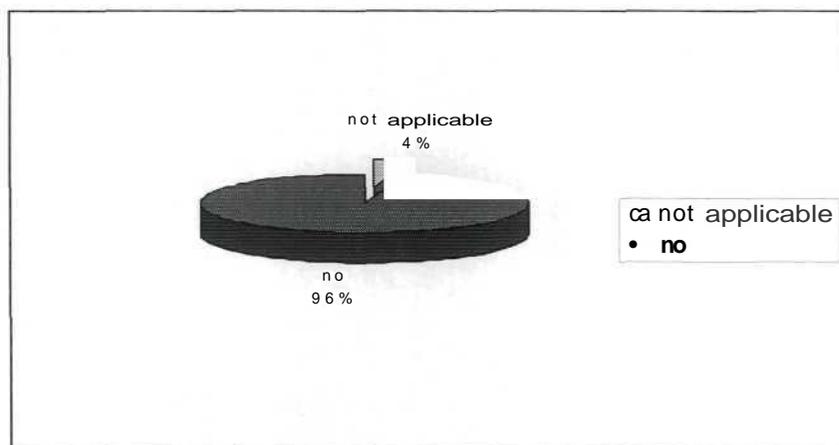
The vast majority of respondents (96%) mentioned that they were not restricted from accessing the natural forest in the community in the past. Access to the natural forest was, however, granted on the basis that the people should only cut dry wood. This management procedure still applies today. The other group of respondents (4%) did not respond. This group of respondents represents those people who have relocated to Saint Bernard recently.

Table 5.27: Whether respondents cut live wood (in %)

Responses	Total(n=50)
Yes	16
No _^	58
Sometimes	26

When asked if they cut live wood, 58% of the respondents stated no. This group represents those respondents who mentioned that live wood is often not suitable for cooking and heating purposes since these types of wood do not easily catch fire. Twenty six percent of the respondents agreed that they sometimes cut live wood, especially if dry wood is scarce while 8% openly confessed that they often cut live wood. The latter group also mentioned that they do cut live wood when dry wood is scarce in the area but also when they steal wood at night since they cannot select trees. All of the respondents agreed, however, that except for fuelwood purposes, they all cut live wood for construction purposes.

Figure 5.9: Whether respondents experience scarcity of wood to provide for their needs (in %) (n=50)
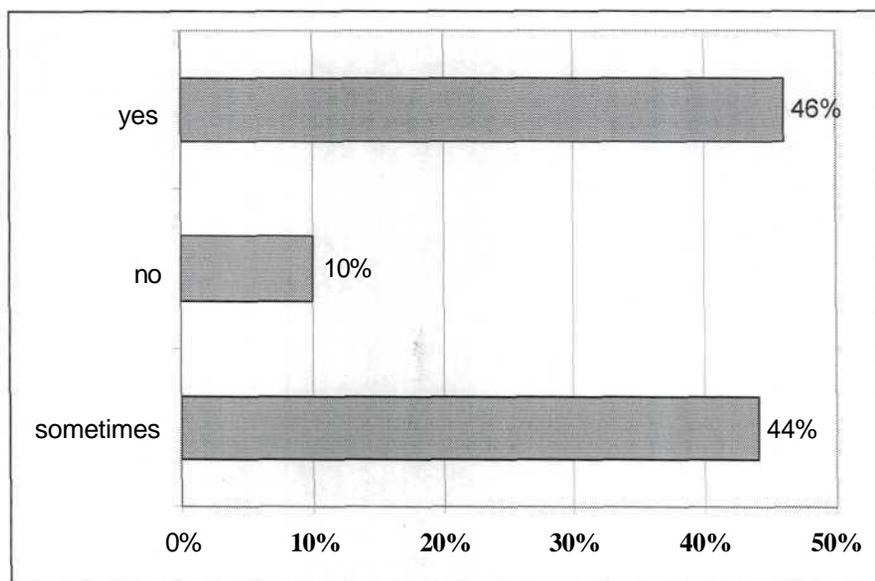
The above figure indicates that 46% of the respondents do not have a problem of wood scarcity in the Saint Bernard area and 44% have mentioned that they sometimes experience the problem. Only 5% of the respondents have agreed that they often experience wood scarcity in the Saint Bernard area, especially during the seasons

when access to the plantations is difficult. Most of the respondents who mentioned that they do not have a problem with wood scarcity are those who hardly collect these resources themselves but often prefer to buy from the selling trucks. Some people mentioned that the scarcity of wood products is influenced by the number of people available in the household to collect and the distance involved.

5.5 Community participation in forestry

The importance of forest resources to the Saint Bernard community has been clearly illustrated. The constraints and challenges that are facing the community in as far as forestry is concerned have also been presented. This section looks at the participation of the community members in forestry matters in the Saint Bernard community. The participation of forest fringe communities is increasingly becoming an important component in contemporary forestry practices (Arnold, 2001, Potters, 2002, Matakala and Kwesiga, 2005). Participation is generally used in development literature and practice as referring to the involvement of local communities in decisions that affect themselves. In forestry, participation is believed to enhance the contribution of forest resources to some parts of the livelihoods of the local communities (Warner, 2002) and also to eliminate forestry related constraints that are facing these communities (Bigombe Logo, 2002). It is clear that since the ownership of the Saint Bernard area has been transferred to the local communities, the land and other natural resources in the area are now classified as communal properties. In this regard, it is clear that the decisions that relate to the access and use of these resources rest with the community. The main issues that constrain the community of Saint Bernard in as far as forestry is concerned relate to the forest plantations that are adjacent to the community as well as the exotic trees that have accidentally grown within the community. This section seeks to examine the level of participation by community members in forestry related matters. This is undertaken with a purpose of examining the potential of the Saint Bernard community in dealing with forestry matters that have an impact in one way or another on their local livelihoods.

Table 5.28: Perceptions pertaining to who makes decisions with regard to forest planning in Saint Bernard (in %)

Responses	Total (n=50)
Forest authorities	34
Elected committee	46
Elected committee and community members	20

The above table reflects those who are involved in decisions with regard to forest planning in the Saint Bernard community. Forty six percent of the respondents interviewed mentioned that the elected committee in the community is in charge of making decisions that relate to land use, including forest planning. It is interesting that twenty percent of the respondents pointed out that both the elected committee and the general community are usually involved in forest planning in the Saint Bernard area. The difference here emanates from the fact that the majority of the respondents have a concern that forestry related problems in the community are accumulating because the committee does not often contact the community when important issues need to be addressed. They mentioned the issue of access to adjacent forests, the wild animals in the area and the exotic trees that have grown within the area that is controlled by the community. The other group differs in a sense that they mentioned that the community usually takes part when decisions relating to forestry are taken in community meetings. Because Saint Bernard lies adjacent to private forest plantations where community members collect most of their wood resources, 34% of the respondents mentioned that the forest authorities are in charge of forestry planning in the area. This involves the issues of access to the forests by the community.

Figure 5.10: Whether respondents have participated in any decision-making process relating to forest planning (in %) (n=50)
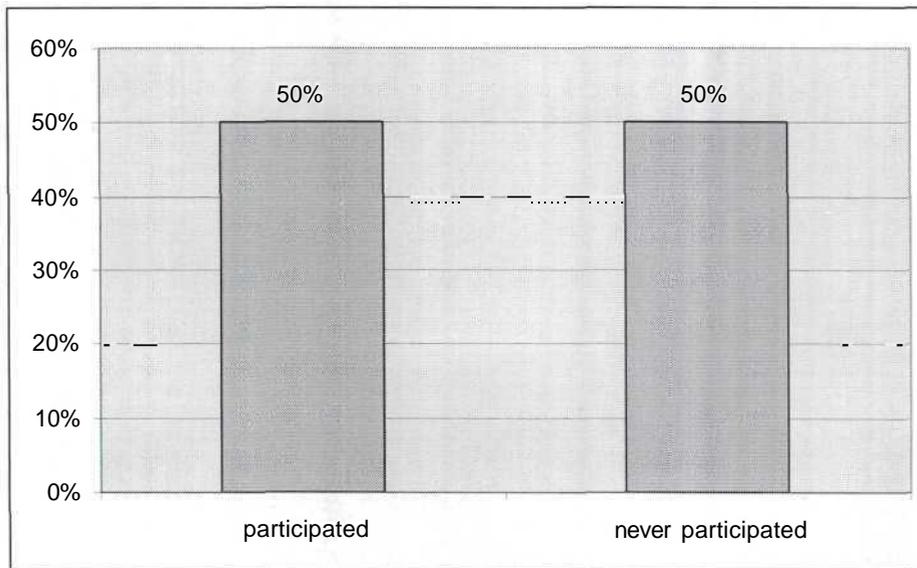
The above figure shows that half of the respondents indicated that they have participated in the decision-making process relating to forest planning while the other half stated that they never participated. The people who participated are among the group which attends community meetings because the issues that relate to forestry are usually raised in community meetings where a wide range of community issues are discussed. Some of these respondents mentioned that several forestry problems have been discussed in the community meetings but the only problem is the reluctance of the private forest owners to cooperate with the community. The other group of respondents mainly represents the people who hardly attend community meetings. This gap between those who participate and those who do not explains the reason why there are conflicting views within the community about the conservation and management of the indigenous and exotic trees that are scattered within the community boundaries and the neighbouring plantations.

Table 5.29: Response on how respondents participated (in %)

Responses	Total(n=50)
Attending community meetings	40
Discussion of forest management plans	10
Not applicable	50

The manner in which the community participates in decision-making regarding forest planning is presented in the above table. Since half of respondents mentioned in figure 5.10 that they have never participated in any forest planning gatherings, it is expected that half of respondents in table 5.29 above treated the question as "not applicable" to them. Forty percent of the respondents mentioned that they participate indirectly when forest related issues are raised in community meetings, whereas 10% has been involved directly in the discussions about the forest management plans in the area. It is important to note that the latter group also involves the responses from the committee members. The committee members mentioned that forestry was among the major issues that were discussed during the meetings on the transfer of land ownership.

Table 5.30: Whether participation in forest planning was constructive (in %)

Responses	Total (n=50)
Rewarding	14
Not rewarding	24
Do not know	12
Not applicable	50

The above table reveals the perceptions of those who participated in forest planning on whether their views were constructive. Half of the respondents have treated the question as "not applicable". This group involves those who did not attend any meeting. Fourteen percent of the respondents found that their participation was constructive mainly because the committee presented the concerns to the forest authorities and were part of the group that decided that the indigenous trees ought to be protected from exploitation. Twelve percent of the respondents mentioned that they do no know whether their input was constructive because there has been no improvement on the issues that were identified and discussed. Some people in this group mentioned that they supported the idea of protecting the exotic trees in the community, but now they have realized that these trees are an obstacle to the livelihoods of the community, particularly since they have impacted negatively on

water resources and limit opportunities for small scale agriculture in the community. Twenty-four percent of the respondents felt that their contribution was not considered at all. This group involves people who are of the view that they cannot claim that their participation was constructive while most of the problems have not been addressed as yet.

Table 5.31: Whether respondents have access to related forestry information (in %)

Responses	Total (n=50)
Access	62
No access	8
Uncertain	20
Not applicable	10

When asked if they have access to information that is related to forestry, 62% of the respondents indicated that they have access to information, while 20% of the respondents are uncertain whether they have access to forestry related information in the Saint Bernard community, 8% are of the view that they do not have access at all and 10% did not respond. The group of those who are uncertain consists of those who raised a concern that although they do have access to the information, they are not sure whether such information is complete or correct. The group which mentioned that they do not have access to information involves respondents who admitted that it is because they hardly attend community meetings. This group involves the elders/ pensioners in the community.

Table 5.32: Rating of working relationship between forest authorities and community (in %)

Rating	Total (n=50)
Good	2
Fair	10
Sometimes bad	26
Bad	56
Do not know	6

When asked to rate the working relationship between the private forest authorities and the community of Saint Bernard, 56% of the respondents believed that it is bad, 26% mentioned that it is sometimes bad, 10% indicated that the relationship is fair, 6% stated that they did not know and only 2% were of the view that the relationship is good. Given the challenges and constraints that were mentioned in the previous

sections, it is expected that the majority of the respondents believe that the working relationship between the forest authorities and the community is bad.

Table 5.33: Whether an elected committee representing community when forestry decisions are made exists (in %)

Responses	Total (n=50)
Yes	88
Do not know	6
Not applicable	6

The above table depicts the views of the respondents on whether there is an elected committee that represents the community when forestry decisions are made. The vast majority of the respondents interviewed (88%) indicated that the committee does exist. The respondents further stated that there is only one committee that handles all the issues that pertain to the development of the Saint Bernard community. Other groups of respondents shared 6% each with one group mentioning that they do not know whether the committee exists while the other did not respond. These groups of respondents include the people who said that they were not clear whether there is a separate committee that handles forestry matters besides the development committee.

Table 5.34: Rating of respondent's satisfaction with the functions of the committee (in %)

Rating	Total (n=50)
Satisfied	36
Not satisfied	8
Not sure	40
Not applicable	16

Forty percent of the respondents mentioned that they were not sure whether they are satisfied with the functions of the committee. This group involved those respondents who reported that they are not sure whether the committee represents the views of the community well enough in the negotiations with the forest authorities and in other areas that relate to the development of the community. Thirty six percent of the respondents expressed satisfaction with the functions of the committee. Sixteen percent of the respondents did not respond with some of the respondents mentioning that because the committee has failed to address the development challenges facing

the community (such as the need for housing and water), it is therefore difficult to believe that they are addressing forestry matters fruitfully. Only 8% of the respondents mentioned that they are not satisfied with the functions of the committee when it comes to forestry planning in the area. Some in this group mainly believe that there is not even a single issue that has been addressed in as far as forestry is concerned.

Table 5.35: Whether forestry planning should involve members of the general »' public (in %)

Responses	Total (n=50)
Yes	88
Do not know	10
Not applicable	2

The above table depicts the respondent's views on whether forestry planning process should involve the general members of the public. The vast majority of the respondents (88%) are of the view that there is a need to encourage more involvement of the community members in the discussions about forestry matters in the Saint Bernard community. Some respondents in this group believe that the committee that is currently handling forestry matters does not have much power to deal with the challenges on their own. This is witnessed in the slow progress in the manner in which the committee addresses issues of major concern in as far as forestry is concerned. It has also been mentioned that since the resources in the community are now the property of the community, it is imperative that community members participate when issues of major concern such as that of forestry have to be addressed. The main view of this group is that the committee should often carry the mandate of the community. The above table further shows that 10% of the respondents mentioned that they do not know whether the general public should be involved in discussions about the forestry matters. This group mainly represents the views of those who argued that there are instances where the community participates and gives directions to the issues, but they have not seen any difference yet. Only one interviewee did not answer the question.

Table 5.36: Whether community opinions are well accepted in forestry planning (in %)

Responses	Total(n=50)
Accepted	28
Not accepted	2
Sometimes	22
Do not know	44
Not applicable	4

When asked whether community opinions are well accepted in forestry planning, 44% mentioned that they do not know, 28% said they are well accepted and 22% mentioned that they are accepted sometimes. Four percent of the respondents did not respond while only 2% has argued that community opinions are not well accepted in forestry planning in the Saint Bernard community. The main issue that has been raised by the respondents who mentioned that they do not know whether the community opinions are well accepted in forestry planning was that of the exotic trees that are being protected in the community. These people are of the view that while people have raised the concerns about the constraints caused by the trees, some people, including the committee, insist that these trees must be protected. It was mentioned that the committee plans to meet its own goals at the expense of the community, hence the majority of the respondents are not sure whether the opinions of the community are well represented in forestry planning.

Figure 5.11: Participation of women in forestry matters (%) (n=50)
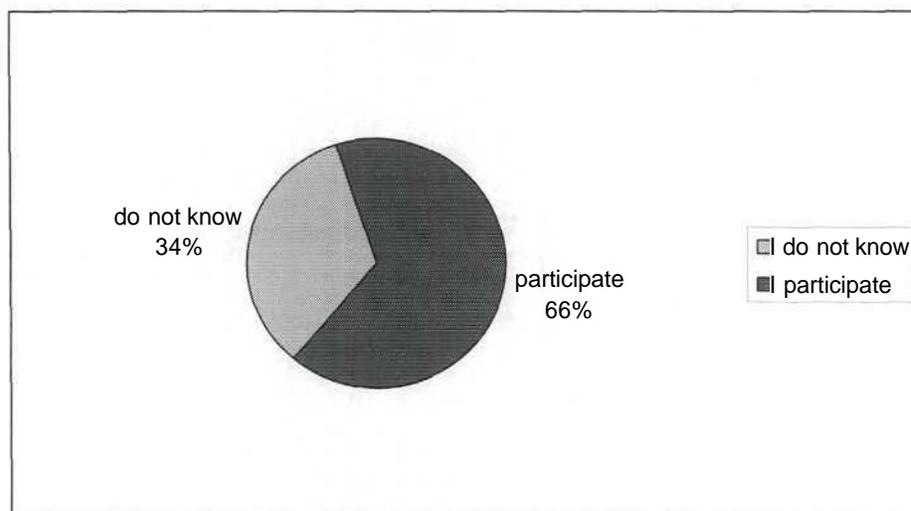
Rural women often play a significant role in maintaining their households (Oberhauser, 1998), and as such they are the main collectors of forest products either for subsistence or income generation purposes (Ham and Theron, 1998; Poteete, 2004; Williams, 2004). In this light, contemporary forestry policies emphasize the participation of rural women when forestry related decisions are taken (Odebode, 2005). Traditionally, the role of women in the process of development has been ignored (Booth and Protais, 1999). Women are still reported as being marginalized in decisions that concern their livelihoods and development policy (ECA, 2005). It is interesting to note that 66% of the respondents mentioned that women participate unreservedly in community matters in Saint Bernard. Women participation in forestry has been witnessed through their active involvement in influencing decisions about the status of forestry in the community. Thirty-four percent of the respondents mentioned that they do not know if women participate in forestry matters. This group includes those respondents who mentioned that they hardly attend community meetings.

Table 5.37: Whether there are obstacles hindering community participation in forestry planning (in %)

Responses	Total(n=50)
Obstacles	12
No obstacles	42
Sometimes	8
Do not know	36
Not applicable	2

The respondents presented different views on whether there are obstacles that have an impact on the involvement of the community in forestry planning. This is reflected in the above table. Forty two percent of the respondents mentioned that there are no obstacles whereas 36% mentioned that they do not know whether any obstacles hindering the involvement of the community in forestry planning exist. Some of the respondents in the former group mentioned that the committee usually reports any developments that are taking place in the community concerning forestry and the community often has a major influence when decisions are made in the community meetings.

The group that did not respond (2%) or indicated they did not know (36%) involves the respondents who hardly attend the community meetings; it can be deduced therefore that they are not well acquainted with the issues that relate to forestry in the community. The above table further shows that while 12% of the respondents said that there are obstacles to community involvement, 8% believed that obstacles do occur occasionally or sometimes. Some of the concerns that were raised by the group which said that there are obstacles in community involvement were that few people attend community meetings wherein the issues that relate to forestry in the community are often discussed. Another issue was that the community is raising concerns of distrust towards the committee because there are many issues that relate to forestry that have not been addressed yet. The issue that was highlighted here was that the committee has failed to address the concerns of other community members, especially by promoting the protection of the exotic species that are scattered around the community and not disclosing the title deed to most community members.

5.6 The impact of commercial plantations on local livelihoods

This section seeks to examine both the positive and negative impacts of the forest plantations on the livelihoods of the Saint Bernard community. Usually, except for the gathering of wood for subsistence use, commercial forestry does not deliver much for the rural communities (Engelsen *et al,* 2003; Sunderlin *et al,* 2005; Warner, 2002). Some of the reasons for this trend have been explained in chapter two. The minor benefits are usually witnessed through the seasonal job opportunities that are made available either during the planting or felling seasons. The small timber out-grower schemes are also opening opportunities for the rural poor in forestry. There is, however, a widespread concern that forest plantations, if not well monitored, are often likely to degrade the natural environment. Their impact has been witnessed more on the depletion of water resources in streams that are closer to the trees (Tewari, 2000). A wide range of issues are discussed in this section. These include, among others, the number of people in the household working in the plantations, whether there are joint business ventures between the community and the forest owners and the environmental problems associated with the forest plantations.

Table 5.38: Number of people working in the plantations per household (in %)

Number of people	Total(n=50)
None	72
1-2	24
3-4	4

Given the close proximity of the commercial forest plantations, it is probable that employment opportunities for the people in Saint Bernard exist. However, this does not mean that the community members always have guaranteed employment opportunities in the plantations. This is reflected in the above table. Seventy two percent of the respondents interviewed mentioned that there is no one in their families that is currently working in forest plantations adjacent to the community. Twenty four percent of respondents mentioned that an average of one to two members of their households are employed as casual workers in the plantations while 4% have three to four household members working in the forest plantations on a seasonal basis in Saint Bernard. The data reveals that a significant proportion of the households (28%) have at least a member of the household working in the plantations. However, this does not meet the employment demands of the majority of the households. It is in fact, as Engelsen *et al* (2003) indicate, the character of the commercial forestry industry that adjacent rural communities often have few permanent job opportunities, with limited options available for seasonal jobs. The main issues that were raised during the focus group discussions were that those who are working usually complain about the unsafe working conditions, the absence of medical cover, low wages and that sometimes they do not get paid.   .   ,

Figure 5.12: Knowledge of business partnerships between forest authorities and community (in %) (n=50)
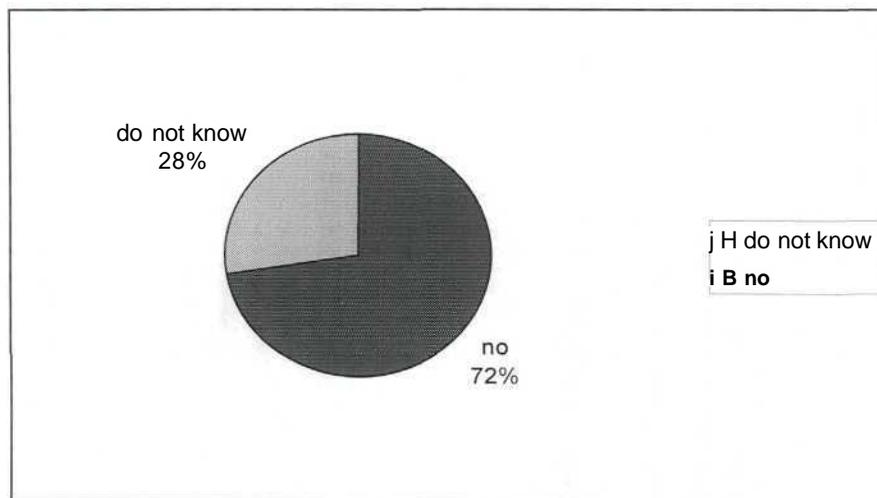
Contemporary literature on forestry (Lewis *et al,* 2004; Ojwang, 2000; Mayers *et al,* 2001) indicates that in most areas, especially those that are under a communal tenure system of ownership or have been claimed under the land reform program, it is often likely that business ventures in the form of small timber out-grower schemes between the forest fringe communities and the private companies exist. In Saint Bernard, however, this is not a case. While 72% of the respondents interviewed mentioned that there are no business ventures that exist between the community and private forest companies, 28% of the respondents mentioned that they do not know anything concerning community forest businesses. The unavailability of the business ventures between the community and private forest owners might perhaps be linked to fact that the land transferred to the community does not include that of the plantations, although there are allegations that some of the land within the plantations belong to the community. Perhaps this is the reason that has influenced the community to engage the private forest owners in discussions about starting up a community business by selling timber. Some of the people in the "do not know" group of respondents mentioned that since the committee is slow in addressing forestry-related problems in the community and promotes the protection of the exotic trees in the community, it might perhaps be possible that the forest owners have promised them something which is not known by the community.

Table 5:39: Whether there is a section of land in plantations under the control of the community (in %)

Responses	Total(n=50)
Yes	30
No	22
Do not know	40
Not applicable	8

The issue of the section of the land in the community that has been taken by private forest owners is the most controversial one because it is not clear to most community members. The above table depicts the perceptions of the respondents about this matter. Forty percent of the respondents mentioned that they do not know if there is a section of the land that belongs to the community in the plantations. Some people in this group of respondents argued that they are not sure of this allegation because the content of the title deed is not yet known by the community members. In contrast to this view, 30% of the respondents argued that they are sure that there is a section of the land that belongs to the Saint Bernard community that has been occupied by private forest owners by planting exotic trees. It was mentioned that the land that is currently occupied by trees was left untouched when the area was still under the missionaries. It emerged during the focus group discussions that the land was occupied within a few months after the ownership of the land was transferred to the community. This raises questions about the responsibilities of the community committee. It is also reflected in the above table that 22% of the respondents said that there is no section of the community that is occupied by plantations. Only 8% of the respondents interviewed declined to comment on the matter.

Table 5.40: Availability of seasonal jobs for the community in the plantations (in %)

Responses	Total(n=50)
Yes	76
No	10
Do not know	14

As it has been highlighted earlier, the common benefit for rural communities in relation to the forest industry is that there are usually seasonal jobs and such is the case in the Saint Bernard community. Seventy six percent agreed that seasonal jobs are made available to the unemployed community members. These are usually during

the planting and felling seasons. Fourteen percent of the respondents said they do not know if seasonal jobs sometimes exist. This group involves the senior/elder members of the community. Only 10% of the respondents mentioned that there are no seasonal jobs for the community. The main issue raised was that although such opportunities exist, the majority of the people are not from Saint Bernard.

Figure 5.13: Whether forest plantations negatively impact natural environment (in %) (n=50)
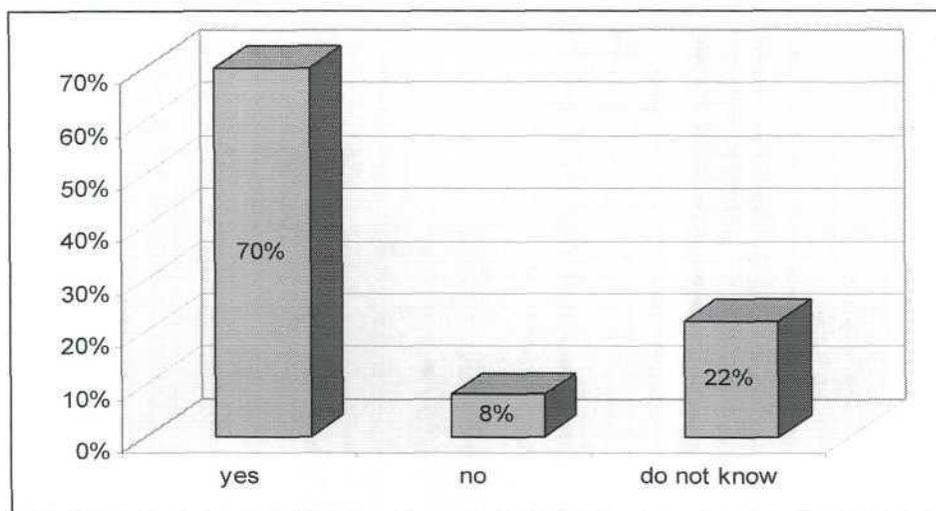
The above figure depicts the respondent's views on whether forest plantations have a negative impact on the natural environment of Saint Bernard. This has been one of the major issues of concern among most of the respondents. The vast majority of the respondents (70%) agreed that plantations impact negatively on the natural environment whereas 22% said they do not know, although some have heard that forest plantations negatively impact on the natural environment from other community members. Only 8% of the respondents denied that plantations have a negative impact on the natural environment.

Most of the respondents mentioned that their close proximity to the forest plantations has degraded most of the community's water resources because all the streams that were once filled with running water around the community are now dry and infested with the exotic trees. The scarcity of water in the community means that the community cannot be effectively involved in small-scale agricultural activities in the community. Most of the respondents mentioned that the forest plantations and the tress that have grown around the community are the major cause of the scarcity of

water in the Saint Bernard community. It was also mentioned that the spread of the alien plants in the community is as a result of the forest plantations because these plants were only found in the plantations but now have spread throughout the community and are also growing in water streams. Furthermore, there is little hope that they can be completely destroyed in the community because they still exist in large numbers in the plantations and are destroying the natural environment in the community.

Table 5.41: Perceived advantages of living next to the forests (in %)

Responses	Total (n=50)
Easy access to forest resources	24
Employment opportunities	26
No benefits	50

The respondents had different views when asked about the advantages of living next to the forests. The above table shows that half of the respondents believe that there are no benefits in living next to the forest plantations. Some of the respondents in this   »
group raised concerns with reference to the impact of tree plantations on the water resources in the community and that there is no enough space for agricultural activities and grazing. According to this group, forest plantations impact negatively on   ;'
the livelihoods of the Saint Bernard community. Twenty-six percent of the respondents mentioned employment opportunities and 24% mentioned easy access to forest resources as advantages of living next to the forests. It should be noted that although some of the respondents pointed out employment opportunities and easy access to forest resources, some mentioned that the benefits could have been more widespread and significant if the community had a share of ownership in the forest plantations.

5.7 Qualitative data analysis

This section outlines the outcomes of the participatory focus group discussions. Particular attention is paid on the discussion of the ranking and scoring exercise, the venn diagram and the mental map drawn by the focus group participants.

5.7.1 The ranking and scoring exercise

Table 5.42a: Ranking Matrix

	IINFR	LEO	NEL	FP	CSTR	ENVP
IINFR	-	IINFR	IINFR	IINFR	IINFR	IINFR
LEO	-	-	NEL	LEO	LEO	ENVP
NEL	-	-	-	NEL	NEL	ENVP
FP	-	-	-	-	-	ENVP
CSTR	-	-	-	-	-	ENVP
ENVP	-	-	-	-	-	-

Table 5.43b: Scoring and Ranking

Problems	Scoring	Ranking
Inadequate infrastructure (IINFR)	5	1
Environmental problems (ENVP)	4	2
Not enough land (NEL)	3	3
Financial problems (FP)	1	4
Community structures not functioning properly (CSTR)	0	5

The ranking exercise was conducted in the Saint Bernard community through the focus group discussion. The main purpose of the ranking exercise was to ascertain the community's development problems and priorities. The ranking exercise in this case has enabled the focus group members to reflect on their own development matters. This has thus provided a platform for the focus group members to identify the main community needs and priorities in as far as development is concerned. The above tables show that during the discussions, inadequate infrastructure was ranked as a serious development concern in the Saint Bernard community. The specific aspects raised were based on the concern for the unavailability of a clinic in the area, no access to clean and piped water, lack of electricity, lack of facilities in community schools and poor gravel roads. Environmental problems were ranked as the second category of community problems. A concern here was mainly on the drying out of water streams in the community as a result of the exotic trees from the plantation forests and alien plant species that have infested the open spaces around the community. It was mentioned that the tanks that have been provided by the

municipality are not sufficient in addressing the everyday water needs of the community. It was therefore suggested that the problem of water scarcity could be addressed only if the government would intervene in the removal of the trees in the river streams and around the community.

There was also a concern that the land that has been transferred under the ownership of the community does not have much space for agricultural activities and grazing. This is further perpetuated by the plantation forests that are adjacent to the community. There was also a widespread concern that most of the open spaces that could have been used for agricultural purposes are occupied by the small pockets of exotic trees that are scattered around the community. A further concern was raised concerning the community's land that was illegally occupied by the private foresters. This exercise has been successful in tracing serious problems facing the community and it is interesting that some of the problems emanate from forestry operations in the area.

Figure 5.14: Venn diagram depicting gender dominance in community institutions and organizations working in Saint Bernard
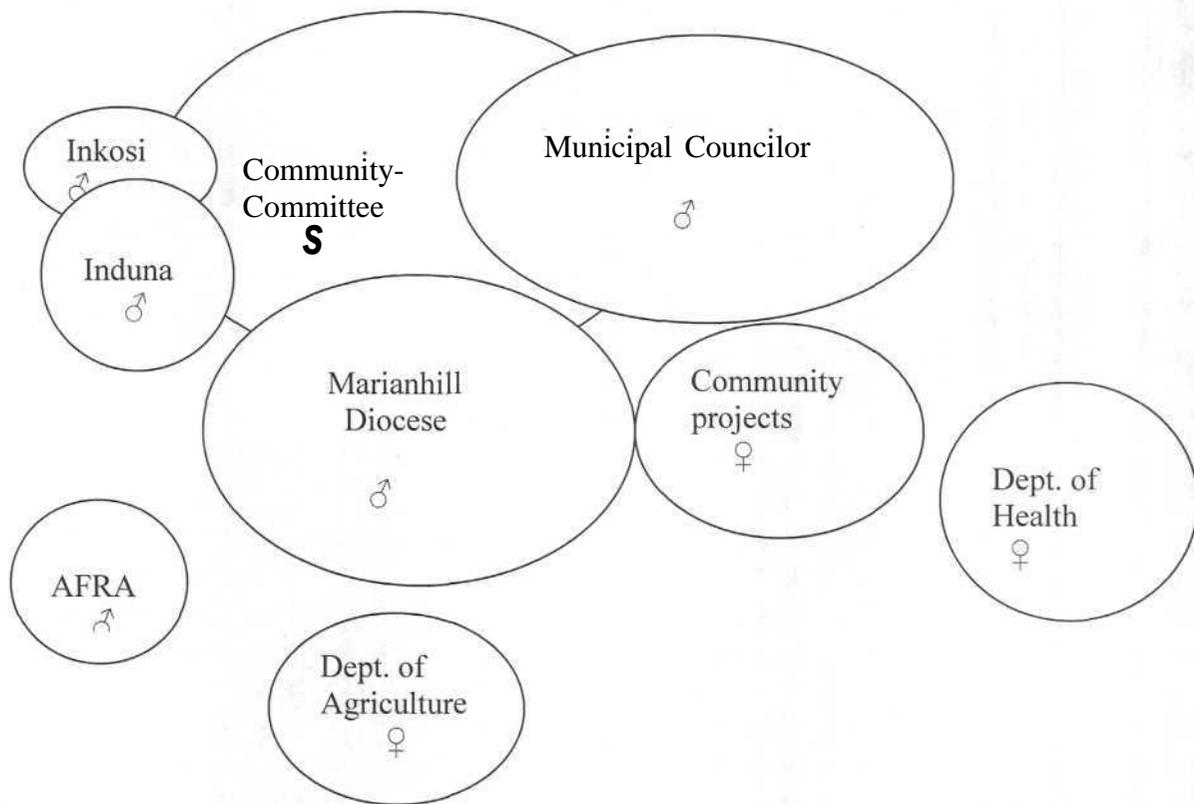
Male dominance   <$

Female dominance   2

5.7.2   The description and discussion of the Venn diagram

Figure 5.14 above depicts the venn diagram that was compiled by the focus group in
the Saint Bernard community. The focus group participants were asked to identify
community institutions and organizations in their order of importance to the
community. In this exercise, diagrams were constructed to indicate the relationships
between and among the institutions and organizations. The venn diagram has enabled
the researcher and the community to identify the power relations and dynamics of the
community institutions and organizations in influencing changes and decisions in the
community. In the discussions, the role of each institution/ organization was carefully
examined and their potential in the creation of opportunities to contribute to the
development of sustainable livelihoods was also looked at.

The venn diagram shows that the focus group members agreed that the community
committee is, in many respects, the most influential institution in Saint Bernard. Since
land ownership has already been transferred to the community, the committee remains
the main legitimate body that influences decisions on community matters. It was
revealed in the discussions that the community is satisfied with the activities of the
committee, but it was not clear whether they are satisfied with the way in which the
committee handles forestry matters because some participants raised a concern that
most of the issues that are discussed in the meetings in relation to forestry are still not
yet addressed. The issue of differences between some community members and the
committee on the protection of the exotic trees that are scattered around the
community was also raised as a main concern that could sometimes discredit the
potential of the committee in dealing with community matters. Nevertheless, the
community committee was applauded with its insistence in ensuring the protection of
the indigenous trees in the community.

The venn diagram also illustrates that there is a close working relationship between
the committee and the municipal councillor. The focus group participants said that
although it is not so long since the municipal councillor has started working with the
community committee, the ongoing relationship between the municipal councillor and
the community committee is expected to deliver positive outcomes. The services that

have been provided so far, including the installation of water tanks, indicate the commitment of the councillor in working with the community.

Also working closely with the community committee is the Marianhill Diocese group. The relationship of the Diocese with the community is not so close compared to that of the community and the municipal councillor, hence the circle representing the diocese is a little small compared to that of the municipal councillor. The Diocese has long been involved in community matters in Saint Bernard, especially when the area was still under the mission. Although the ownership of the area has now been transferred to the community, the Diocese still plays a significant role in relation the development of the Saint Bernard community. Its current roles are to give advice to the community committee, and to identify opportunities for community development. The community garden and the poultry community projects are some of the initiatives that have been promoted by the Diocese in the Saint Bernard community. It was also mentioned that the Diocese has initiated a proposal to help the community start a brick-making project.

Although the community committee is the main decision-making body, there are however, other issues that relate to the community that are reported to the Induna and Inkosi of the area. The relationship between the Induna and the community is not as close as it might be expected under normal traditional protocols. This is indicated by the small size of the circle of the Induna and the Inkosi next to that of the community committee. In the discussions it was revealed that the natures of the issues that are reported to the Induna are those issues that relate, for instance, to the conflict among community members. This means that the Induna and Inkosi often play a mediatory role in the community.

There are two projects that are currently underway in the Saint Bernard community. These are the community garden and the poultry projects. The focus group participants mentioned that the money that is generated from the projects often goes to the Saint Bernard community's development scheme. Depending on the production, sometimes households harvest vegetables for their subsistence consumption. The main current constraint in the running of the projects is water scarcity and production has subsequently decreased. Hence, the sizes of the circles for the projects are smaller.

The venn diagram further demonstrates that there are other institutions that are currently operating in the Saint Bernard community. These are represented by the isolated circles in the diagram. Among the circles, the circle that represents the Department of Health is the biggest of the isolated circles. This is because of the role the Department plays in the community. It was revealed that the Department of Health has initiated the mobile clinic that visits the community once in a month. A concern was raised, however, that the clinic does not provide adequate health services to the community since it only visits once a month.

Lastly, the venn diagram depicts circles that represent the Association for Rural Advancement (AFRA) and the KwaZulu-Natal Department of Agriculture. It was mentioned that the role of AFRA in the community is that of giving advice on land and development related issues whereas the Department of Agriculture provides periodic advice on the community projects including the garden and poultry projects.

The venn diagram has clearly identified the institutions that are important to the community. Most of the institutions are, however, dominated by men. The community committee remains the main decision-making body in the community. Given the development challenges facing Saint Bernard community, it is clear that the committee needs to initiate programs and projects that would uplift the quality of life of the people in the community. However, the sustainability of livelihoods in the Saint Bernard community largely depends on the ability of the community committee on networking with both non-governmental and government agencies. It was stated during the focus group discussions that the committee has shown signs of having a potential to contribute to the development of the Saint Bernard community but it was also stressed that there is a need for the committee members to undergo various skills development workshops in order to boost their capacity to deliver. As a forest community, the Saint Bernard community faces a huge task of seeking plans to influence developments in forestry that would create sustainable opportunities in the community. The community committee therefore needs to make sure that community participation in forest management becomes a reality.

MAP 5.15: Mental map showing the distribution and arrangement of land-use in the Saint Bernard community

Legend:

Bridge | Footpaths | Rivers | I Road | Pine Trees/Forest | Wattle trees | Natural Forest | Mountain | G Garden | T Water tanks | SCH Schools | S Shops | + Church | Households
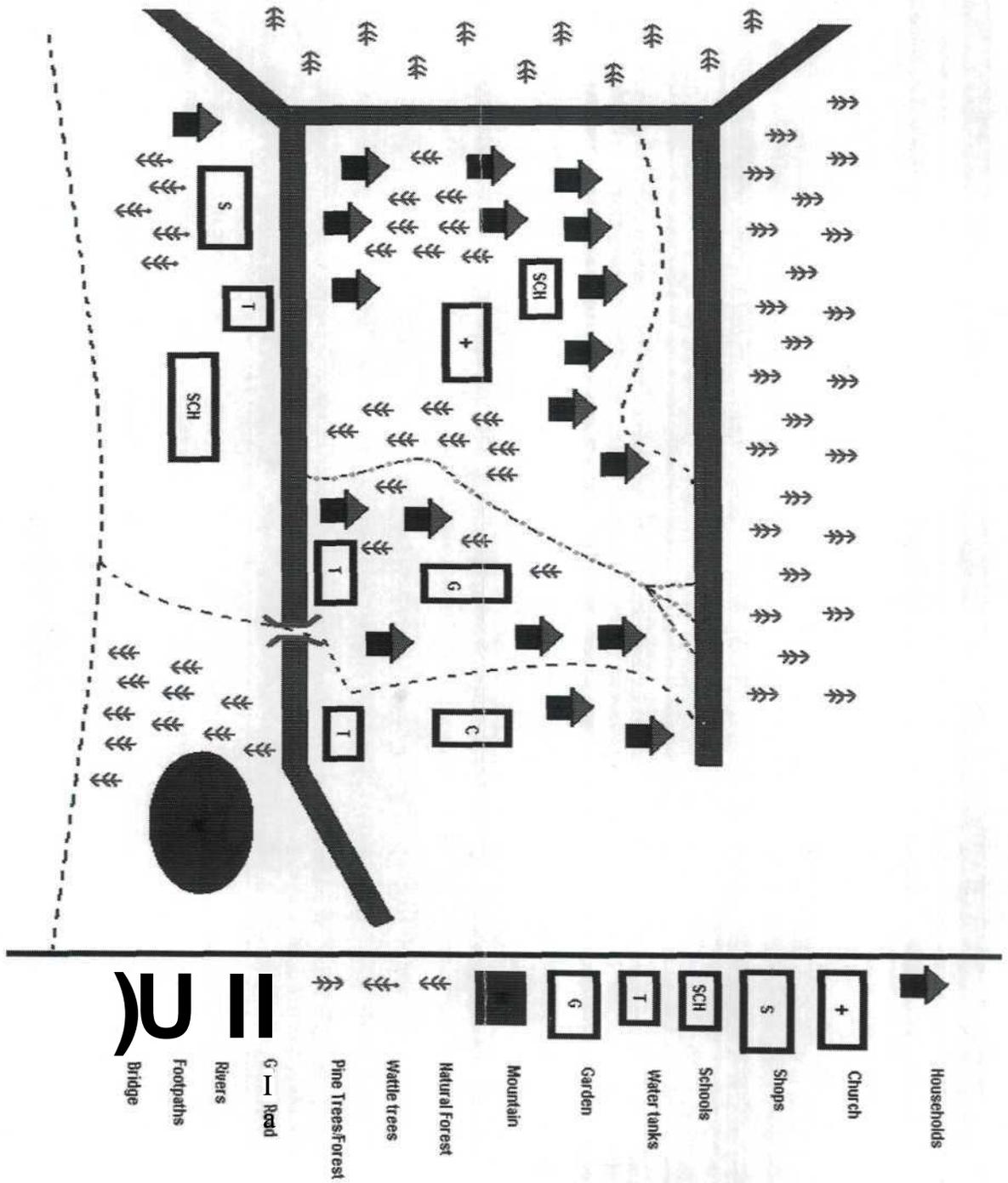
5.7.3 Mental mapping of Saint Bernard community

Figure 5.15 is the mental map of the Saint Bernard community. The map was drawn by the focus group participants on charts and transferred onto an A4 page by the researcher. The map shows the distribution and arrangement of the land use of the Saint Bernard community. Included here is the arrangement of the households around the community, the types of services or infrastructure available for the households in the community, the rivers that run across the community, and more importantly is the distribution and location of all types of forests that exist within and adjacent to the community. During the discussions, a concern was raised that the arrangement and location of the households in the area was not properly planned as most households, especially those that are closer to the church, are not accessible by a car, except through the use of footpaths. This creates a constraint especially in cases where deliveries have to be made to certain households. The focus group participants mentioned that the rearrangement of the location of the households for the creation of accessible streets within the community is one of the priorities for community development.

The inclusion of the church in the map was viewed as significant by the focus group participants. According to the participants, the church clearly signifies that the area was long under the control of the missionaries and therefore this marks the deep history of the Saint Bernard area. Three rivers are also depicted in the mental map. While Umkomazi River runs adjacent to the community, two more rivers run across the community. During the discussion the participants highlighted that the flow of water in rivers have decreased while other streams have totally dried out. The focus group participants further mentioned that these rivers were a major source of water resources for the community but have ultimately dried out mainly because of the forest plantations that are closer to the community and the exotic trees and alien plants that have taken root along the rivers. The water tanks in the map are an indication that Saint Bernard is a water-scarce area; hence water was the priority among the development needs mentioned by the respondents and focus group participants. During the discussions, a suggestion was made that the committee should consult the Department of Water Affairs and Forestry (DWAF) on the matter and also to make

enquiries as to why the Working for Water Programme has not been implemented in the Saint Bernard community.

As indicated earlier, two projects are being run by the community in the Saint Bernard area. These are the poultry and the community garden projects. Furthermore, two schools exist in the community. One school has been built by the community whereas the other had long belonged to the church authorities in the area. The mental map also shows the distribution of all types of forests in the Saint Bernard community. The location of the forests in relation to the community can be identified in the map. The natural forest exists within the community boundaries, next to the Nhlazuka Mountain. The small pockets of exotic trees that are scattered around the community have been identified and lastly the distribution of the commercial forest plantations has also been highlighted in the mental map. It is now clear that the close proximity of the community to the forests is the main contributing factor to the challenges facing the community particularly with regard to water scarcity in the area.

5.8 Conclusion

The primary data of this research has been presented and analyzed in this chapter. The data has been analyzed in a manner that responds to the fundamental objectives of this study. More importantly, the data constructed through the qualitative participatory methods has also been presented and discussed. These have helped unpack a number of issues that are equally important in explaining some of the issues raised in this study. The use of a venn diagram, mental mapping, and ranking and scoring participatory exercises have added value to the quality of the data analysis in a sense that the issues that have appeared as most important to this study have been explained far beyond the limits of the data collected through the questionnaire survey. This chapter has provided a platform wherein the key findings and recommendations of this study can be submitted in the next chapter.

CHAPTER SIX

RECOMMENDATIONS AND CONCLUSION

6.1 Introduction

The main objective of this study was to examine the conservation and management of forest resources and its link to sustainable rural livelihoods. The concept of sustainable rural livelihoods encompasses a wide range of issues. Specific attention was paid to various issues that depict the opportunities and challenges that rural communities are presented with in as far as their livelihoods are concerned in relation to forestry. It is these opportunities and constraints that define whether rural livelihoods are either sustainable or unsustainable. Forest resources constitute one of the multiple livelihood strategies that play a significant role in the survival of most forest-fringe rural households. The role of forest resources to rural livelihoods has been highlighted in this study. The argument that is presented here is that given the role that forest resources play in relation to rural livelihoods, it is necessary that the issues of access and use of these resources by rural communities together with the strategies applied in their conservation and management are examined. Through this approach, both the opportunities and constraints relating to forestry in the community are identified, and based on such findings it can be easily deduced whether the use and contribution of forestry activities and/or forest resources in rural livelihoods are either sustainable or unsustainable.

The focus in this study has been directed to both the natural and plantation forests in the Saint Bernard community. Since the ownership of the Saint Bernard area has been transferred to the local community, an examination of the communal strategies in the conservation and management of forest resources in the community have been examined. Adding to this, given the close proximity of the community to the plantations, an analysis of the impact of the management of plantation forests in the area has also been examined. In this study it has also been established that the participation of rural communities in decisions relating to forestry promises to be a prerequisite for the contribution of forestry to rural livelihoods in a sustainable manner, hence particular emphasis has been based on participatory forestry in chapter two. In this chapter, the summary of the key findings based on the objectives of this research are presented. Furthermore, by linking the key findings to what has been

covered in the literature review and data analysis chapters, the recommendations and general conclusions are also submitted in this chapter.

6.2 KEY FINDINGS IN RELATION TO THE OBJECTIVES OF THE STUDY

6.2.1 The socio-economic profile of the Saint Bernard community

A closer look on the socio-economic characteristics presented in this study illustrates that the Saint Bernard community faces a huge development backlog. The development challenges facing the community are, however, not that much different from those of the other rural areas in South Africa. Most households in Saint Bernard are of a low income category. Many people do not have secure/permanent jobs except for the temporary employment opportunities they usually acquire in the small neighbouring towns. Although it has been mentioned that various households in the community have different livelihood strategies, clearly pension payouts and welfare grants constitute a primary source for income of most households in the Saint Bernard community. According to the research findings, wood is the most used resource for building house structures and is an essential source of fuel, especially for cooking and heating in most households. Candles are mostly used for lighting purposes. The lack of service delivery is another pressing issue. Among the services needed by the community, water appeared to be a priority. Most of the streams that were once filled with running water around the community are now dry and infested with exotic trees and alien plants. It was mentioned that the water tanks that were installed as an emergency response to the matter are not sufficient enough to effectively address the water needs of the community as it happens sometimes that a week passes and the tanks not being refilled.

6.2.2 The main uses of forest resources in the community

The importance of forest resources to the Saint Bernard community has been revealed. Wood is the most used forest product. Wood is used by all households in the area mostly for building house structures, fencing and kraals. Moreover, wood has also been identified as a major source of fuel particularly for cooking and heating in most households. It has been noted that a small percentage of the households harvest medicinal plants in the forests for treating minor illnesses while some sell these in markets. Given the fact that almost all the households in the area are using wood,

particularly as a source of fuel, there is little chance that most of the households will stop using these resources even if other alternatives (like electricity) are made available in the area. It is also important to note that in rural communities were limited income generating opportunities exist (like Saint Bernard), often even when electricity is installed households continue to use fuelwood since they are unable to afford the services. The intensive use of forest resources in Saint Bernard is mainly influenced by a number of issues and these are: the close proximity of the forests to the community, the unavailability of electricity and the inability by most community members to replace/exchange the use of wood with other sources of fuel and building materials which is linked to their low incomes. Nevertheless, the extent to which the households in Saint Bernard utilize forest resources supports the argument often made about the importance of forest resources in rural communities as indicated in the literature review. This therefore indicates the importance of research that looks at the issues of promoting rural livelihoods in as far as the role of forest resources is concerned.

6.2.3 The challenges and constraints in accessing forest resources

The challenges and constraints faced by the community of Saint Bernard in as far as the access and use of forest resources is concerned have been presented and discussed. The research findings reveal that the main problem is the issue of the ownership of the forests. The forest plantations are under the private ownership. It has emerged that the working relationship between the community and the forest owners is generally poor. Although wood is widely used in the community, access to the forests is not easy. People are usually fined if found harvesting wood illegally. The issue of wild pigs that have been released by one of the forest owners is also a serious concern since they are posing a serious threat to community members. According to the findings, it appears that most of the problems relating to access and use of forest resources are not new in the area. The community mentioned that they used to have similar problems even while the area was still under the mission leadership. Some of the respondents also raised concerns that the private foresters have planted trees in the section of the land that belongs to the community. To some people, however, this is not clear because the contents of the title deed have not yet been presented to the community. It is, however, interesting that the community committee is working on plans to have some parts of the forest plantations allocated to start up a small community business

venture through the selling of timber products if the negotiations with the forest owners are successful.   «

6.2.4 Forest conservation and management measures employed

It has appeared that the community committee plays a leading role in the conservation and management of the indigenous forest in the Saint Bernard community. It emerged, however, that the decisions regarding the conservation of the indigenous forest were first discussed in the community meeting and thereafter implemented. It is interesting to also note that most of the respondents understand the need and importance of conserving the indigenous tree resources. Most of the people mentioned that they had been made aware from a young age that trees, especially those of indigenous types, need to be protected since they play a major role in satisfying a wide range of community demands such as fuelwood, construction, healing and the satisfaction of certain cultural practices. Another interesting point to note is that one of the factors that limit access to the indigenous forest is the superstition that there is a big snake in the Nhlazuka Mountain which does not need to be disturbed.   The community committee emphasizes that the indigenous trees in the area should only be used for minor purposes such as the harvesting of medicinal plants but not fuelwood and other purposes that would demand much of these resources. People are also not allowed to cut live wood in the forest. According to the research findings, it was agreed in the community meeting that community members also have a duty to monitor one another on how they harvest forest resources. The people who fail to follow some of these protocols are subjected to a fine as a form of punishment. The indigenous trees are not the only type of trees that are protected in the community. It was noticed that the committee also emphasizes the protection of the exotic trees that have grown around the community, especially in the water streams. This issue has, however, raised conflicting views between the committee and some community members who argue that the trees are a threat to the natural environment, especially to water resources in the area.

6.2.5 Community participation in forestry matters

Given the number of forestry related problems highlighted above, it is necessary that community participation is encouraged when the challenges are addressed. The research findings revealed that the committee promotes community participation in

forestry matters. It was mentioned that community meetings are usually conducted wherein the issues of concern are presented and discussed prior to a final decision being made. Given the nature of the traditional protocols in most rural areas in the province of KwaZulu-Natal, it is often a norm that women do not possess the power that is equal to that of their male counterparts in decision-making. However, it is interesting that in Saint Bernard women participate in several committees, as illustrated in the verm diagram. There is definitely an attempt to include women in decision-making. However, the main organizations remain male dominant. Furthermore, the research findings also revealed that most respondents are not quite satisfied in the manner in which the committee addresses forestry matters in the community. Some respondents mentioned that although the committee usually consults the community, most of the issues that were discussed concerning forestry have not yet been fully addressed. In this light, some people are of the view that it seems as if the committee fails to accommodate all the views of the community in forestry matters. A concern was raised that the committee has long been aware of the wild pigs that are a threat to the community and livestock in the area but the committee has not yet addressed this issue. The issue that has also created a platform for conflicting views in the community is that the committee emphasizes the protection of exotic trees while some in the community are of the view that the trees are the main reason for water scarcity in the Nhlazuka village. It is in this context that the most respondents are not sure whether the opinions of the community are well presented in forestry planning.

6.2.6 The impact of commercial plantations on local livelihoods

The research results indicate that except for harvesting wood, the Saint Bernard community does not significantly benefit much from the forest plantations. The employment opportunities in commercial activities in the neighbouring forests are very few. People only get job opportunities through seasonal jobs either during the planting and/or felling seasons. It has also been mentioned that there has never been any social program/s initiated by the neighbouring forest companies towards the development of the area although several requests have been previously made. The land that has been illegally used by the forest owners for tree plantation remains a principal concern among the members of the community. The most pressing issue, however, is the concern that the planted trees have degraded water resources in the

community. As a result people see no benefit in living next to the forests environments, particularly the plantation forests. These findings reinforce Tewari's (2000) assertion that South African commercial forestry products and activities continue, in many respects, to pose a threat to the livelihoods of most rural communities.

6.3 Recommendations

Based on the key findings of the study it is imperative that some recommendations concerning the study area are forwarded in this chapter. It is important to note here that the tenure reform that has taken place in the Saint Bernard community marks the government's commitment to decentralizing the decision-making power to the local communities, more especially the power to decide on their development priorities and manage their own affairs in as far as natural resources and forestry are concerned. However, while it could still be viewed as a victory on the community's side, the development challenges that are facing the Saint Bernard community indicate that in some of the newly formed communal areas, the land was transferred without a well planned program for the development of these areas. This means that although business plans were drawn as part of the ownership transfer process, the Department of Land Affairs (DLA) has failed to monitor how these areas are coping in as far as their development is concerned after the land has been transferred.

A learning experience in the case of Saint Bernard, therefore, is that the community committee is the main institution that could initiate development opportunities in the community. However, the study has revealed that in some cases the committee does not have knowledge on who should be contacted when certain needs arise, for example, on the issue of water scarcity and alien plants invasion. It is therefore necessary that the community committee should continue to work closely with the DLA for the purpose of making it easier to contact other government and non-governmental organizations that could respond to some of the development challenges facing the community. This will obviously depend on the willingness and commitment of the community committee itself. The issues that the committee need to clarify as a matter of urgency is the one that relates to the land that has been illegally used by the private foresters and that of the title deed that has not yet been shown to some community members. It is also important to note that the fact that the

committee encourages participation of all community members, especially women, indicates that the committee understands the importance of participation in communal areas and this should be further encouraged. Participation should in fact be viewed as a powerful tool that significantly influences progress and development in communal areas. The promotion of the element of participation in forestry in communal areas would create a broader understanding and acknowledgement of the role of forestry in rural development.

In as far as development is concerned, the community committee needs to create a conducive environment for the organizations and institutions that have been identified to work closely with the community. It is also necessary that other organizations are encouraged to work with the community. Particular attention needs to be paid on the Diocese, the Department of Agriculture and the Department of Health to accelerate their services in the community. On the issue of inadequate infrastructure, it is necessary that links with the local municipality and potential external donors are strengthened.

It is interesting to realize how important forest resources are to the community of Saint Bernard. The fact that the use of forest resources in this community is mainly influenced by the low levels of most household's income, indicates that the committee should take the issues of access, use and control of forest resources as one of the priority issues that need to be addressed as a matter of urgency. Since it has appeared that the community uses most of the wood resources that are from the adjacent private forests, this means that plantation forests will continue to play a significant role in addressing the needs of the community. This therefore implies that the committee should strive to create a good relationship between the private forest owners and the community. A good relationship should also entail a willingness on the part of private foresters to contribute on social upliftment projects in the community. Furthermore, since it has appeared that most of the community members will tend to use forest resources from the adjacent forest for many years to come, negotiations should be encouraged between the private forest owners and the community committee, wherein the forest owners would release some sections of their forests to be permanently managed and utilized by the Saint Bernard community. It is, however, surprising that

the government has never shown an interest on addressing forestry matters in the Saint Bernard community.

The issue of pine trees that have grown along the river streams and open spaces around the community also demands speedy attention. The committee needs to understand that a small community forestry business cannot be created by protecting these trees because even now the issue has created conflicting views with others . wanting them removed while others still want to see them protected. While these trees are a source of wood for fuel and building in some of the households, the fact remains that these trees are a threat to the livelihoods of the community and must be removed. The only opportunity through which a small community company could be .. established is through negotiations with the private forest owners. There is a need for the committee to contact the Department of Water affairs and Forestry (DWAF), especially the Working for Water section for advice with respect to the issue of trees that have invaded the community. This step will further ensure that the private foresters become responsible for their operations.

The interest on the conservation of natural forest in the community indicates an understanding among community members of the importance of protecting natural resources and this trend needs to be further promoted in communal areas such as Saint Bernard. Since it has appeared that some community members collect medicinal products from the natural forest, it is important that the forest is protected to an extent that it provides a meaningful livelihood to most community members. It is interesting to also note that one of the reasons for the community to protect the natural forest is linked to the superstition that there is a big snake beneath the mountain next to the forest which does not need to be disturbed. This belief together with the willingness of the community to protect the forest indicates that the forest will retain its natural value for a long time. Nevertheless, there is a need for the committee, through the help of the community, to design effective strategies that would permanently determine , access to the forest and its use in a sustainable manner to those who are currently '• using the forest.

The natural forest, if well protected could mark a significant symbol for the community of Saint Bernard. The committee should in fact approach DWAF about their plans to start up their own Community Based Natural Resource Management

(CBNRM) initiative. The indigenous forest together with the Nhlazuka Mountain and UMkhomazi River provide good local tourism development opportunity. Such an initiative would enable the community to embrace the value of the forest while utilizing it in addressing some parts of their livelihoods. The CBNRM initiative and the small timber forest business would create a forest community which can sustain its own livelihoods through the protection of its forest and the creation of economic development opportunities through the forest sector. In this light, the meaning, importance and practicality of participatory community forestry could be realized.

Given the results of the study, it is imperative that future studies relating to community forestry in South Africa are encouraged. Such studies should focus on tracing the progress that has been made in relation to community forestry. The challenges and opportunities that are associated with community forestry initiatives in communal areas should be examined. Particular attention should be paid to the feasibility of Community-Based Natural Resource Management in the context of rural livelihoods in these areas. Furthermore, the impacts of plantation forests (especially those that are commercially oriented) on the livelihoods of communal areas should be further investigated since there is an indication of many issues that are not clear. Particular attention should be paid on those forests that are adjacent to the communal areas.

6.4 Conclusion

The main aim of this study was to examine the conservation and management of forest resources and their impact on sustainable rural livelihoods. It is interesting to note that the objectives of this study have been addressed and, in the process, many lessons in as far as the topic is concerned have also been examined. It has been interesting to uncover the importance of forest resources on the livelihoods of the Saint Bernard community as well as the challenges and constraints facing the community in as far as access, use and control of forest resources are concerned. Of particular importance has been the finding that the use of forest resources is, in some instances, determined by the socio-economic profile of the community concerned and the close proximity of the forests to the community. In the case of Saint Bernard, it is clear that the above factors have a significant influence on the intensive use of forest resources. In as far as the challenges and constraints are concerned; clearly

community institutions in some communal rural areas find it difficult to address some of their challenges without external support. In this case, it is clear that the challenges facing the Saint Bernard community in as far as forestry is concerned will only be addressed through the assistance of DWAF in ensuring that the private forests owners comply with the standards of managing their forests.

The nature of the problems that are related to forestry in Saint Bernard, however, indicate that the DWAF lacks the capacity to monitor the social and environmental impacts of all the forests, particularly planted forests in remote rural areas. The case of Saint Bernard indicates the failure of the DLA to effectively influence intergovernmental relations when dealing with the land reform issues. One can deduce that if the tenure process was conducted through an intergovernmental approach in Saint Bernard, the forestry related problems would have been addressed in the early stage of ownership transfer. This would have also helped address a wide range of issues relating to the creation of sustainable forest management initiatives with particular reference to the indigenous and planted forests in the community. The questions relating to the Working for Water Programme would have also been addressed in this regard.

This study indicates that some of the communal areas that have been created through the land reform process sometimes have to deal with their own development with minimal or no assistance. In the case of Saint Bernard specifically, in some instances the community institutions find it difficult to effectively address all the challenges that the community is faced with. There is often not a good working relationship between the community and government institutions. This is one of the elements that would jeopardize the sustainability of livelihoods in as far as forests are concerned. While there is hope that Saint Bernard could be a thriving forest community, it is important to note that without the Government's intervention it will take time for the community to take stock of the forest related businesses opportunities and to fully embrace the natural forest in the area as an important communal resource which could contribute to community development in as far as the prospect of Community-Based Natural Resource Management is concerned. This means that although local economic development opportunities through forest activities are probable in some communal areas like Saint Bernard, it would be difficult for such communities to successfully

engage themselves in these activities unless they are supported by the local government (municipalities) or DWAF. Furthermore, while the protection of natural resources by local communities is being regarded as a panacea for sustainable resource management and rural livelihoods, it is important to note that it is not very easy for this trend to be realized unless the government intervenes through raising awareness, advice and creation of activities that would generate a positive attitude among local communities to have a keen interest in conserving natural resources such as forests.

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University of KwaZulu-Natal, Westville Campus
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Conservation, Forest resources and Sustainable Rural Livelihoods: A case study
of St Bernard community in the Nhlazuka village (KwaZulu-Natal)

A. COMMUNITY DETAILS

1.Name:_____

2. Location:_____   _____

B. RESPONDENT'S BACKROUND

1. Gender

Male	1
Female	2

2. Marital Status

Married	Single	Divorcee	Widowed	Other (specify)
1	2	3	4	5

3. Level of education

Primary	Secondary	Tertiary	No-school	Other (specify)
1	2	3	4	5

4. Age

18-24	25-44	45-59	60 and over
1	2	3	4

5. Number of members in the household

Female	Males
1	2

6. How long have you been living in the area?

1-5	1
6-10	2
11-15	3
>20	4

7. Reasons for moving to the area?

Born in the community	1
Job prospects/Business opportunity	2
Closeness to family or relative	3
Lifestyle/quality of life	4
Moved with parents as a child	5
Marriage	6
Forcefully resettled in the apartheid era	7
Other (specify)	8

8. Where did you move from? (By area type)

Always lived in the community	1
Rural	2
Township	3
Small town	4
Big town/city	5

9. Where would you like to live the most?

Not willing to resettle somewhere else	1
In a township	2
In a low income housing near a small town	3
In a low income housing near a big city	4
You don't mind as long as you have a job nearby	5

10. Sources of income.

Household farming	1
Own business	2
Agricultural wage labor/farm worker	3
Informal activities(crafts, traditional medicine	4
Non- agricultural wage labor	5
Forest utilization	6
Pensions, welfare grants, etc	7
Professional	8
Other	9
No source of income	10

11. Which of the following would you like most?

A job on a mine	1
A job in a small town	2
A job in the big town/city	3
To farm on a small farm that you own yourself	4
To work in the forestry industry	5
To run your own small business	6
Other (specify)	7

C. SOCIO-ECONOMIC PROFILE

1. What services are available for the households in your community?

Telephone	1
Water sources (borehole, tap, etc.)	2
Electricity	3
Land for cultivation	4
Land for grazing	5
Toilet	6
Sources of fuel	7
Other (specify)	8

2. What other services would you like to have for your household that should be provided by the community?

_____

_____

_____

3. What are the primary sources of fuel for cooking, lighting and heating for the household?

Source	Cooking	Lighting	Heating
Wood	1		1
Paraffin	2	2	2
Coal	3		3
Electricity	4	4	4
Gas	5	5	5
Generator	6	6	6
Candles		7	
Other (specify)	8	8	8

4. Which source of fuel would you most prefer?

Wood	1
Coal	2
Electricity	3
Paraffin	4
Gas	5
Cow dung	6
Other (specify)	7

4.1. How do you access the source(s) identified above

_____

_____

_____

4.2. Why do you prefer the source of fuel identified above?

_____

_____

_____

5. Do you experience difficulties in obtaining/purchasing/collecting the source of fuel?

Yes	1
No	2
Sometimes	3
Not certain	4

If yes, which difficulties are those?

_____

_____

_____

6. What types of materials are used to build and maintain your home?

Brick	1
Blocks	2
Mud	3
Poles	4
Thatch	5
Other (specify)	6

6.1. Do you experience difficulties in obtaining/purchasing/collecting the building materials identified above?

Response	Code
Yes	1
No	2
Sometimes	3
Not certain	4

If yes, which difficulties are those?

_____

_____

_____

7. Does the household/community experience any of the following problems?

Inadequate infrastructure e.g. roads, telephones	1
Lack of employment opportunities	2
Not enough land	3
Financial problems	4
Community structures not functioning properly	5
Environmental problems, overgrazing, erosion, dry soils	6
Inadequate extension services	7
Any other problem (specify)	8

D. THE MAIN USES AND NEEDS OF FOREST RESOURCES

1. Does your household utilize forest resources?

Yes	No
1	2

1.1. If yes, what forest resources does your household normally harvest and use? Tick from below

Fuelwood	1
Poles	2
Medicinal resources	3
Wild food	4
Other (specify)	5

2. What are the other forest resources that do not appear from the above list and are being utilized in the household?

_____

_____

_____

3. How long have your household utilized forest resources?

1-5	1
6-10	2
11-15	3
>20	4

4. State the main uses of each of the highlighted resources in the household? Tick from the list below

Resources	The uses	Code
Wood		1
Poles		2
Medicinal		3
Wild foods		4
Other		5

5. How do you access the resources highlighted above? Refer to the box below for a correct access figures.

Resource	Access figures				
Wood	1	2	3	4	5
Poles	1	2	3	4	5
Medicinal resources	1	2	3	4	5
Wild foods	1	2	3	4	5
Other	1	2	3	4	5

Codes for the above access figure

Codes	Access options
1	Collected by household member(s).
2	Hire someone to collect.
3	**Buy** from the local people.
4	**All** of the above. I
5	' Other (specify). {

6. How often do you harvest forest resources?

Everyday	1
Once a week	2
After every two weeks	⟫
Third week of every month	4
Forth week of a month	5

7. Among those you utilize, which resource(s) do you harvest more often? Tick from below

Wood	1
Poles	2
Medicinal resources	3
Wild foods	4
Other (specify)	5

8. Why is it harvested regularly?

_____

_____

_____

_____

9. Which of the following defines your household's use of forest resources?

I harvest forest resources for household consumption	1
I harvest forest resources for commercial purposes	2
I harvest forest resources for both purposes	3
Other (specify)	4

10. Who in the household is/ are responsible for gathering forest resources? Tick from below

Mother	1
Father	2
Children	3
Mother, Father and Children	4
Mother and children	5
Mother and father	6

11. How many people in the household are responsible for harvesting forest resources? Tick from below

1-2	1
3-4	2
5	⟫
>5	4

E. THE CHALLENGES AND CONSTRAINTS IN ACCESSING FOREST RESOURCES.

1. Do you have any written documentation relating to land ownership in this area?

Yes	No	Do not know	Not applicable
1	2	3	4

If yes when was it granted? _____

2. To whom does the title of the forested **land** belong?

Tribal authority	1
Local municipality	2
DLA	⟫
DWAF	4
Private company	5
A communal property	6
Other (specify)	7
Don't know	8

3. Are there any partnerships on the forest plantations ownership?

Yes	No	Do not know
1	2	3

If yes what constitutes the partnerships?

_____

_____

_____

4. If it is a private property, under which companies does the ownership of the forest belong?

_____

_____

5. Is your household/ the community allowed to access the forest plantations?

Yes	No	Do not know	Not applicable
1	2	3	4

If no, explain why?

_____

_____

_____

6. Have you had problems relating to the access to the forest plantations in the past?

Yes	No	Not applicable
1	2	3

If yes, what was this?

_____

_____

_____

7. How was it solved?

_____

_____

_____

8. What are the major problems does your household/community experience with regard to access to these forests currently?

_____

_____

_____

_____

9. Are there any written rules that guide access and utilization of forest resources?

Yes	No	Do not know	Not applicable
1	2	3	4

If yes, explain.

_____

_____

_____

10. Are these rules written?

Yes	No
1	2

If no, how are these rules communicated to people?

_____

_____

_____

11. Are any of the following allowed in the commercial plantations?

Grazing of cattle	Yes/no	1
Collection of firewood	Yes/no	2
Collection of wild foods	Yes/no	3
Medicinal herbs	Yes/no	4

12. If yes, are there rules regarding the cutting of trees and collection of firewood in the plantations?

Yes	No	Do not know
1	2	3

If yes, what are those rules?

_____

_____

_____

13. Are there rules as to how many cattle are allowed in the plantations?

Yes	No	Do not know
1	**2**	3

14. Are you/ the community satisfied with the rules?

Yes	No	Not applicable
1	2	3

Reason for response

_____

_____

_____

_____

15. What other difficulties does your household or community experience with regard to access to the forest?

_____

_____

_____

_____

16. How would you rate the level of access into the forest by the general community?

Good	1
Fair	2
Sometimes bad	3
Bad	4
Don't know	5

If bad or sometimes bad, what do you think are the sources of that?

_____

_____

_____

17. Are there demarcated zones in the forest in which access is being restricted?

Yes	No
1	2

If yes, which sections are those?

_____

_____

_____

18. What is the reason for restriction?

_____

_____

_____

F. FOREST CONSERVATION MEASURES EMPLOYED.

1. Do you think forest conservation is important?

Yes	No	Do not know	Not applicable
1	2	3	4

Reason for response

_____

_____

_____

2. Which of the following is true about forest conservation/ do you think defines forest conservation?

It protects biodiversity.	1
It opens for economic gains for private companies.	2
It allows for economic gains and opportunities to sustain the livelihoods of forest fringe communities while ensuring biodiversity conservation.	3
It excludes local communities because they exploit and degrade the forest resources and only enables private companies to make financial growth which contributes to the countries economic growth.	4
Other (specify)	5

3. By whom are/ were the decisions on forest conservation and management taken?

Forest authorities	1
The government official	2
Forest authorities working with the community	3
Forest authorities and government officials	4
Forest authorities, government officials and the community	5
Other (specify)	6

4. Who monitors the cutting of trees and the collection of firewood?

No one	1
Special forest guards	2
Private security company	3
Government officials	4
General community members	5
Other (specify)	6

5. Is your household/ the community allowed to access the natural forests?

Yes	No	Do not know	Not applicable
1	2	3	4

If no, explain why?

_____
_____
_____

6. Have you had problems relating to the access to the natural forests in the past?

Yes	No	Do not know
1	2	3

If yes, what was this?

_____
_____
_____

7. How was it solved?

_____
_____
_____

8. Do you cut live wood?

Yes	No	Sometimes
1	2	3

9. Are you experiencing a scarcity of trees to provide for your needs?

Yes	No	Sometimes
1	2	3

If yes or sometimes, what do you think is the reason behind that?

_____
_____
_____

10. Have you received any training relating to forest conservation and management?

Yes	No
1	2

11. If yes, who initiated the training programme? Tick from below

DWAF	1
DEAT	2
DLA	3
NGOs	4
Forest Company	5
Other (specify)	6

12. What do you think are the benefits of the training?

_____

_____

_____

G. COMMUNITY PARTICIPATION IN FORESTRY.

1. Who makes decisions with regard to forest planning?

The local municipality and forest authorities	1
A democratically elected committee and forest authorities	2
Forest authorities	3
Forest authorities, the elected committee and DWAF	4
Local municipality, forest authorities, a Democratically elected committee and the government officials	5
Other (specify)	6

2. How are decisions communicated to the general community?

_____

_____

_____

3. Did you participate in any decision-making process relating to forest planning?

Yes	No	Do not know	Not applicable
1	2	3	4

3.1. If yes, in what way(s) did you participate? Tick below

Attending meetings such as environmental awareness	1
Discussion of forest management plans	2
Tree planting	3
Attending meetings to elect representative bodies	4
Mobilizing the community to participate in forestry matters	5
Other (specify)	6

3.2. If you did not, who in the household participated?

All adult members of the household	1
Male head of the household	2
Female head of the household	3
Both partners	4
Other (specify)	5
None	6

4. If you or any member of the household participated in any of the processes above, did you feel that your involvement was rewarding?

Yes	No	Do not know	Not applicable
1	2	3	4

If no or uncertain, explain your answer.

_____

_____

_____

5. Do you think that you have access to the information relating to forestry in this community?

Yes	No	Uncertain	Not applicable
1	2	3	4

Reason for response

_____

_____

_____

6. How would you rate the working relationship between the forest authorities and the community?

Good	1
Fair	2
Sometimes bad	3
Bad	4
Don't know	5

If Bad or Sometimes Bad, what do you think are the reasons behind that?

_____

_____

_____

7. Do you think the general public is involved or represented in forestry planning?

Yes	No	Don't know	Not applicable
1	2	3	4

If yes, explain your answer

_____

_____

_____

8. Do you have an elected committee that represents the community when decisions relating to forestry are made?

Yes	No	Don't know	Not applicable
1	2	3	4

9. Are you satisfied with the functions of the committee?

Yes	No	Not sure	Not applicable
1	2	3	4

10. Do you feel that forestry planning processes should involve members of the general public?

Yes	No	Not applicable
1	2	3

11 Explain your answer

_____

_____

_____

12. Do you think that the opinions of the community are presently being heard in forestry planning?

Yes	No	Sometimes	Don't know	Not applicable
1	2	3	4	5

Reason for response

_____

_____

_____

13. Do women participate in forestry planning processes?

Yes	No	Do not know
1	2	3

If no, go to 13.2

13.1. If yes, what role(s) do they play? Tick from below

Attending meetings such as environmental awareness	1
Discussion of forest management plans	2
Tree planting	3
Attending meetings to elect representative bodies	4
Mobilizing the community to participate in forestry matters	5
Other (specify)	6

13.2 What are the constraints to women's participation?

Lack of consultation	1
Too busy doing domestic work	2
Not informed about community meetings	3
Venue of workshops/meetings too far	4
Majority of participants are men	5
Other (specify)	6

14. Do you think there are/were obstacles with regard to general community involvement in forestry planning?

Yes	No	Sometimes	Uncertain
1	2	3	4

If yes or sometimes, what are/were those obstacles/constraints?

_____

_____

_____

H. THE IMPACT OF COMMERCIAL PLANTATIONS ON LOCAL LIVELIHOODS

1. How many people in the household receive a salary from working on activities related to forest plantations? Tick from below.

None	1
1-2	2
3-4	3
5	4
>5	5

2. Are there any business partnerships between the forest authorities and the community?

Yes	No	Do not know
1	2	3

2.1. How long have they been existing?

5 years	1
Less than 5 years	2
More than 5 years	3

2.2. How would you rate the partnership?

Good	1
Satisfactory	2
Very good	3
Bad	4
poor	5

2.3. Are these partnerships open to the general public or certain individuals within the community?

_____

_____

_____

3. Is there a section of the plantations that is under the control of the community?

Yes	No	Do not know	Not applicable
1	2	3	4

4. Is there any seasonal job relating to the plantations that the community members get?

Yes	No	Do not know
1	2	3

5. Would you say that commercial plantations are a hazard to the natural environment?

Yes	No	Do not know
1	2	3

If yes, what environmental problems have you experienced?

_____

_____

_____

6. What social support do you receive through the commercial forestry?

_____

_____

7. What changes have you seen taking place in forestry in the past five years that are beneficial to the general community?

_____

_____

_____

8. What major problems have the community experienced in the past five years in as far as forestry is concerned?

_____

_____

_____

9. What do you consider as being the advantages of living next to a forest?

Ease access to forest resources	1
Employment opportunities	2
Business opportunities	3
None	4
Other	5

Specify

_____

_____

_____