**The effect of a Community Based Natural Resource Management (CBNRM) programme on the capacity of the KwaPitela community in Underberg to manage its natural resources for sustainable use**

*By*

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# ABSTRACT

Community Based Natural Resource Management (CBNRM) programmes are implemented to ensure sustainable use and protection of the environment through appropriate capacity enhancement and empowerment mechanisms. CBNRM is an approach that has multiple objectives, such as enhancing the capacity, of communities to manage resources sustainably, and creating employment opportunities to enhance livelihoods of the communities. CBNRM programmes are implemented in South Africa by different government departments and organisations to achieve these objectives. Despite such interventions, communities often display insufficient knowledge and capacity necessary for effective participation in addressing natural resource management issues.

The main objective of this study was to establish the effect of a CBNRM programme on the capacity of the KwaPitela community to manage natural resources for sustainable use. To address the main objective of this study, three sub-objectives were identified: firstly, to determine the community members' ability to apply skills and knowledge in the management of natural resources for sustainable use; secondly to determine the community's ability to participate with different stakeholders in the management of natural resources; and thirdly determine the community's ability to make decisions about the management of natural resources for sustainable use. A basic qualitative research design was used and data collection methods included semi-structured interviews and focus group discussions. Selected documents were analysed to confirm specific aspects of the qualitative data. The participants of this study were the KwaPitela development committee, members of the community, and stakeholders mandated to equip the KwaPitela community in CBNRM competencies.

Regarding the first sub-objective it was evident that the development committee can apply planning, networking, and leadership skills as a result of the CBNRM programme. The development committee and members involved in the harvesting of natural resources displayed knowledge related to invasive alien species, legislative processes, and the importance of natural resources as an essential for their livelihood. These skills and knowledge were, however, not applied by the community members who were not involved in natural resource management and leadership processes. The development committee and members of the community are still in need of further skills and knowledge, for example

entrepreneurship skills and knowledge on how to sustain projects, in order to successfully implement the land use management plan, as developed during the CBNRM programme.

Meeting the second sub-objective, it was evident that the development committee had the capability to facilitate participation with stakeholders, but the development committee felt that they were not getting enough support from the stakeholders. In assessing the third sub-objective, it became evident that the development committee was able to make well - informed decisions in natural resource management, but they lacked the ability to influence and implement the decisions taken.

# DECLARATION

I, Nokulunga Promise Nxumalo declare that:

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Dr Marietjie van der Merwe

# ACKNOWLEDGEMENTS

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# LIST OF ABBREVIATIONS

CBNRM: Community Based Natural Resource Management

DAEA & RD: Department of Agriculture, Environmental Affairs and Rural Development

EKZNW: Ezemvelo KZN Wildlife

MDTP: Maloti Drakensberg Transfontier Project

NBSAP: National Biodiversity Strategy and Action Plan

NEMA: National Environmental Management Act

NEMBA: The National Environmental Management Act: Biodiversity Act, 2004

NEMPAA: National Environmental Management Act: Protected Areas Act, 2003

SADC: Southern African Development Community

WLTP: Women Leadership and Training Programme

## Chapter 1

## INTRODUCTION AND OVERVIEW

## 1.1 Introduction

Many South Africans use natural resources to survive because their well -being depends on healthy ecosystems. These ecosystems provide the physical requirements such as food, income, shelter, clean water, energy, and recreation. These also satisfy aesthetic, cultural, and spiritual needs of communities (Department of Environmental Affairs and Tourism [DEAT], 2007). It is crucial to safeguard natural resources because economic development depends on a sustainably managed environment and natural resource base. South African natural resources are threatened by pressures, such as change in land use associated with clearing of natural vegetation, climate change, and invasion of land by invasive species .There are economic pressures that lead to over exploitation of resources for profit making. Typically, insufficient knowledge and expertise lead to poor use and management of resources (Smith, 2006). These pressures may lead to the decline of natural resources and ecosystem biodiversity. The South African economy is also adversely affected by diminishing natural resources (Fox and Rowntree, 2003; DEAT, 2005).

Sustainable development, equitable access to resources and public participation are principles adopted by the South African government to respond to diminishing natural resources (Fuggle and Rabie, 2005). These principles include measures aimed at sustainable use, equitable natural resource sharing, access, management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act (NEMA). In 2005, the National Biodiversity Strategy and Action Plan (NBSAP) established the framework and action plan to implement these principles (DEAT, 2005). The specific focus of this framework and plan is to address poverty through community development programmes, encouraging job creation, improving natural resource management and linking biodiversity and social development.

Community Based Natural Resource Management (CBNRM) programmes are implemented in South Africa by the different government departments in line with this framework. The CBNRM programmes include projects:

- that provide rural communities with different ways of enhancing their livelihoods, for example projects to establish better farming methods;

- that assist communities to use their natural resources wisely, for example limiting the use of scarce resources, so that they are not overused;

- that help communities to get benefits from their natural resources without exploiting them. For example tourism development projects, that attract tourists to visit the local area; and

- that encourage the community to form partnerships with other organisations involved in conservation, where the community has access , rights , and benefit to use the land by working jointly with these organisations (DEAT, 2003a).

These projects can be implemented through the Working for Water programme, the Integrated Sustainable Rural Development Strategy, the Invasive Alien Species Programme, the Expanded Public Works Programme and the Landcare Programme (DEAT, 2005). The important component of CBNRM is capacity enhancement of local communities whereby communities engage in participatory and community-based processes. Learning is the underpinning goal of such processes to enable communities to manage the natural resources effectively and sustainably (Measham, 2007; Treue and Nathan, 2007).

## 1.2  Need for study

According to the Environment Outlook (DEAT, 2007), South Africa has made significant progress in the area of environmental management in the last decade ending in 2006. Laws and strategies that focus on key environmental areas were developed. CBNRM programmes have been implemented by a range of government departments and organisations and have received greatly increased budgets. The KwaZulu-Natal Department of Agriculture, Environmental Affairs and Rural Development (DAEA & RD) has the responsibility to implement programmes to impart skills and knowledge to communities in order to enhance their capacity to deal with environmental issues.

During the implementation of these programmes, community members are trained to be the key resources of the community. The training includes increasing the environmental awareness and understanding of the community about environmental issues. Despite such progress recent assessment shows that natural resources are being exploited in an unsustainable way, which threatens the functions of ecosystems (DEAT, 2007).

The Departmental Annual Performance Plan (KwaZulu -Natal DAEA & RD, 2008) also indicates that, despite the implementation of empowerment programmes, such as CBNRM, the capacity of community members is still too low to address environmental issues. This is caused by low participation of the community members in these empowerment programmes. The participation of community members is essential to enhance the capacity of communities to achieve sustainable development (Bachmann et al. 2007; Hill and Thomsen, 2005).

Therefore this study aims to establish the effectiveness of CBNRM programmes in enhancing capacity of communities to manage natural resources for sustainable use.

## 1.3 Problem statement

CBNRM programmes are implemented in South Africa with the aim of ensuring sustainable use and protection of the environment. However, literature (DEAT, 2007; Hillman, et al. 2005; Fabricius and Koch, 2004) show that often the community does not manage natural resources for sustainable use. This is despite the interventions carried out by different government departments and organisations in South Africa.

To establish the impact of the CBNRM programmes, the National Department of Environmental Affairs (South Africa) investigated the number of programmes that were implemented by the Provincial government departments, without assessing how community members' capacity was enhanced through these programmes. This is despite the fact that it is known that communities do not display the capacity to manage their natural resources for sustainable use. Even though there are appropriate monitoring and evaluation systems in place, monitoring and evaluation is not done to establish why these programmes do not achieve what they are expected to achieve.

In answer to this gap, the aim of this research is to answer the following research question: What is the effect of the CBNRM programme on the capacity of the KwaPitela community to manage their natural resources for sustainable use?

## 1.4 Objectives of the research

### 1.4.1 Main objective

The main objective of this study is to establish the effect of the Community Based Natural Resource Management programme on the capacity of KwaPitela community to manage natural resources for sustainable use.

### *1.4.2 Sub-objectives*

In order to achieve the main objective of this study the sub-objectives are to determine the community's ability to:

- apply skills and knowledge in the management of natural resources for sustainable use;

- participate with different stakeholders in the management of natural resources ;and

- make decisions on the management of natural resources for sustainable use;.

## 1.5 Clarification of concepts

It is necessary to clarify what is understood by certain key concepts within the scope of this study. The following key concepts will be defined: community based natural resource management, capacity enhancement and sustainable use.

### *1.5.1 Community Based Natural Resource Management (CBNRM)*

CBNRM is a co- management strategy, whereby communities work in partnership with relevant stakeholders to protect their natural resources and at the same time bring extensive benefits to the community (Fabricius, 2004; Thorsten, 2007). The present study, CBNRM can be viewed as being a community based development approach, whereby local people become actively involved in natural resource management projects and activities. During the process, the community interacts with different stakeholders in decision making regarding various responsibilities concerning natural resources.

### *1.5.2 Capacity enhancement*

Capacity enhancement is the process by which individuals, groups, organisations, and societies strengthen abilities to execute core functions, solve problems, define and accomplish objectives, and to realise how to deal with development issues and needs in a broad context and in a sustainable manner (Eade, 1999; Milen, 2001). On an individual level, capacity enhancement refers to the development of skills and knowledge of community members; on an organisational level it refers to community members' ability to participate as groups in development processes; and on a societal level, it refers to community members' ability to influence decision making process to bring about change (Albertyn, 2005; McNeil and Woolcock 2004; Kabeer, 2001).

### *1.5.3 Sustainable use*

Sustainable use refers to the consumptive and non consumptive use of natural resources in ways projected to sustain the long-term accessibility of these resources in a non-diminished manner for present and future generations. A sustainable supply of a resource means that the same quantity of that resource can be used each year for a specified time (Kellert, et al. 2000; Botkin and Keller, 2000).

## 1.6 Research design

This study was conducted using basic qualitative research methodology. Basic qualitative research is about understanding how people interpret experiences and construct meaning in relation to their social world. This entails studying things in their natural surroundings and makes attempts to interpret phenomena in terms of the meaning people bring to them (Higgs, et al.2009; Merriam, 2009). The data were collected using semi-structured interviews, focus group discussions, and existing documentary sources.

Participants involved in this study include the KwaPitela development committee, members of the community, and stakeholders mandated to equip the KwaPitela community with CBNRM competencies.

The qualitative data obtained from the interpretations were analysed using the method of theme identification. The data were assigned codes that guided the construction of categories. The categories constructed were then divided into themes that were used as a framework for data analysis.

## 1.7 Research procedure

The main objective of this study was to establish the effect the Community Based Natural Resource Management programme had on the capacity of the KwaPitela community to manage natural resources for sustainable use. The following sequence was followed to address the objective of the research:

1. a literature review was undertaken to understand CBRNM and the factors that contribute to the capacity of community members to manage natural resources as part of the CBNRM objectives;

2. a focus group discussion was conducted with 10 development committee and community members;

3. semi-structured interviews were conducted with 5 stakeholders, that were involved in equipping the KwaPitela community members in CBNRM competencies;

4. semi-structured interviews were conducted with 20 community members (including the *induna* [community leader]) and two development committee members;

5. a document analysis was performed that further clarified information obtained through interviews and the focus group discussion; and

6. data were analysed through the method of theme identification.

## 1.8 Delimitation

The CBNRM project was implemented by an organisation called the Maloti Drakensburg Transfrontier Project, with the KwaPitela, Mqatsheni and Stepmore communities within the KwaSani local municipality. For the purpose of this study only the KwaPitela community was chosen for investigation, with 32 members of this community participating. The study focused only on the objective of CBNRM to enhance capacity through knowledge and information sharing, and participatory interaction for better management of natural resources. It did not focus on the economic benefits, such as employment and livelihoods strategies resulting from CBNRM.

## 1.9 Sequence of chapters

This dissertation consists of five chapters. In chapter 1, the introduction, the need for the study, objectives of the research, clarification of concepts, the research methodology, and delimitations to this study is discussed. In Chapter 2 a literature review is presented on the premise that the study aims to evaluate the effectiveness of CBNRM programmes in enhancing capacity of communities in the management and sustainable use of natural resources. In Chapter 3 there is discussion of the methodology applied in this study, the situational context of the study, the subjects, the appropriate sampling methods, data collection, and data analysis to be used. In Chapter 4, the findings of the study are presented in relation to the sub-objectives and literature review. In the last chapter, Chapter 5, conclusions based on the findings and recommendations highlighting areas for future research are presented.

## 1.10 Summary

Chapter 1 gives an overview of a CBNRM programme in relation to the South African framework of National biodiversity strategy and action plan. The main research question of this study is presented which is: What is the effect of the CBNRM programme on the capacity of the KwaPitela community to manage its natural resources for sustainable use? The basic qualitative research methodology is applied to address the main objective. The next chapter reviews literature to provide the theoretical background for this study.

# LITERATURE REVIEW

## 2.1  Introduction

In the previous chapter an overview of the study, study objectives, clarification of concepts as well as the delimitation of this study were discussed. The main objective of this study was to establish the effect of the Community Based Natural Resource Management programme on the capacity of KwaPitela community to manage natural resources for sustainable use.

In this chapter, the concept of Community Based Natural Resource Management and its objectives are explored. Furthermore South African legislation and policies that relate to CBNRM objectives are discussed. Aspects such as community and stakeholder participation in natural resource management are explored. Finally, literature on capacity enhancement is discussed in relation to CBNRM objectives.

## 2.2  Community Based Natural Resource Management (CBNRM)

CBNRM refers to the management of impacts that people have on the environment with the purpose of management to achieve ecologically sustainable development. This management includes utilising, conserving, enhancing community resources so that natural processes on which life depends are maintained, and improving quality of life for present and future generations (Fabricius & Koch 2004). CBNRM aims to enhance the capacity of communities to manage its natural resources sustainably. When the capacity of the community is enhanced, the change in successful natural resource management becomes significant. These changes include reduced environmental degradation, more efficient use of resources, improved livelihood security, increased human capacity for conservation, and effective participation in environmental management (Pimbert and Pretty, 1995; Measham, 2007).

In CBNRM, the focal unit is the local community, in which partnership with relevant stakeholders is established. In this approach, local communities make the attempt to use resources sustainably and be engaged in intentional investments in the conservation, rehabilitation and development of natural resources (Swatuk, 2005; Treue and Nathan, 2007). In this context, investment relates to positive change of behaviour towards natural resource use. Community involvement serves to democratise decision making and encourage

stakeholder participation (Kellert, et al. 2000**;** Armitage, 2005). Decision making power and responsibilities should be entrusted to the local community and communities should have an important share in the benefits of their efforts (Hagmann and Chuma, 2002). Examples of community based natural resource management include projects that provide rural communities with different ways of earning a living, for example projects to introduce better farming methods, community forestry, and tourism development projects. Projects encourage the community to form partnership with organisations involved in conservation, where the community has rights and access to use the land and benefit from working together with these organisations to manage indigenous resources.

It is clear that the central notion of CBNRM is the involvement of local communities in the management of natural resources. The involvement of local communities and local stakeholders in the process and practices of natural resource management represents an important dimension to learning about environmental processes and is crucial to natural resource management. The objectives of CBNRM are explored in the next section.

## 2.3  Objectives of Community Based Natural Resource Management

CBNRM is an approach that has multiple objectives, such as enhancing capacity, empowering the communities to manage resources sustainably, developing economic opportunities, and ensuring conservation and management of biodiversity and other resources (Fabricius, 2004; Murphree, 2004). In this section the three objectives of CBNRM that are relevant to this study are discussed namely: capacity development, socio-economic development and management and sustainable use of resources.

### 2.3.1  Capacity Enhancement

One of the key characteristics of CBNRM is that it aims to be the kind of development that builds capacity of a community to participate in natural resource management effectively, and this should incorporate distribution of power and status among local people as well as participation in decision making (Measham, 2007). Capacity in this context refers to social and human capital, such as skills and knowledge that enable people to become more conscious and understand themselves and their context so that they have the ability to control their future. Knowledge and skills are imperative for CBNRM and are crucial dimensions in enhancing communities' capacity to participate in natural resource management effectively

and take collective decisions for appropriate action (Morgan, 1998; Kellert, et al.2000; Muphree, 2007; Gambu, 2007; Maughan-Brown, 1998). Capacity enhancement will be discussed in more detail in Subsection 2.6 to outline it concerning individual, organisational, and societal development.

### 2.3.2 Socio-Economic Development

The second objective of CBNRM, to be discussed in this study, is the development of individuals and community through economic development. Poverty reduction, livelihoods enhancement and employment opportunities are the components of this objective. This is because poor people in developing countries depend on natural resources and these resources constitute a valuable economic asset (Fabricius, 2004; Murprhee, 2004; DEAT, 2005; Lepper, 2006). These assets can be used in such a way that they provide an income for community members. There are funded CBNRM projects that encourage communities to improve management of natural resources and at the same time create employment opportunities for the community. These projects not only create employment opportunities but also develop skills of community members to improve their small businesses within the community. These tangible benefits are necessary to ensure that community participation is sustained.

### 2.3.3 Management and Sustainable use of natural resources

Natural resource management is an issue of concern because many resources are finite, and even those that are capable of renewal are also liable to damage that may harm their future efficacy. The intention of CBNRM is to promote sustainable use of resources through active participation of local people in managing the use of these resources. The ideal goal of resource management is sustainable resource use, based on the recognition that resources should be protected, conserved, preserved, and restored to the point where the resources used can be replaced by nature (Mclannery, 1998; Botkin and Keller, 2000; Hillman et al., 2005). This objective is closely linked to the other objectives (Subsections 2.3.1 and 2.3.2), because sustainable management of resources is a way of increasing peoples livelihood options and a source of income for communities and government. It is, therefore, important to ensure sustainable management of these resources to promote sustainable development in communities. For these objectives to be best implemented and achieved there is a need for institutional support. The next section will look at the institutional context of CBNRM.

## 2.4 Institutional Context of Community Based Natural Resource Management

For successful implementation of CBNRM, partnerships are required at three different levels of society, namely national, intermediate and local levels (Treue and Nathan, 2007;; Fabricius, 2004**;** Lepper, 2006).

The national level is where policies and legislation are formulated to establish an enabling environment that makes CBNRM attractive to local communities. The institutional framework (policies and legislation) should ensure support for the community and government.

The intermediate level consists of government, Non-Governmental Organisations (NGOs), the private sector and donors. At this level there should be a link between CBNRM and the private sector. CBNRM should be guided by administrative systems that national government has put in place. It is important to promote a decentralisation model of natural resource management that can work under given political circumstances. The support of the intermediate level (government, NGOs, and private sector) is important for implementing CBNRM as developed at national level. The government needs to be committed to strategic planning, comprehension of the issues of the environment, and allocation of resources for institutional development of political leadership so that better management of resources is achieved. Donors, non-governmental organisations, and the private sector also have a crucial role to play at this level. In most cases, donors provide technical assistance, co-ordinate activities, and impose conditions which lead to successful natural resource management.

The local level includes the community. At the local level, it is crucial that CBNRM establishes economic incentives for communities to manage and conserve natural resources. The community should work closely with local and district authorities, as these authorities are responsible for carrying out government policies on natural resources, local economic development and reducing poverty. Community members should be able to play a role in decision making that affects the management of natural resources. Local and sub-national participation of NGOs, indigenous institutions, and concerned individuals in the planning process, are also important at this level. This is to ensure that CBNRM programmes are part of local Integrated Development Plans (DEAT, 2003a, Treue and Nathan, 2007; Bachmann, et al. 2007)

The implementation of CBNRM programmes is facilitated by the policies and legislations that are developed at the national level. In the following two Subsections (2.4.1and 2.4.2) legal frameworks of CBNRM in South Africa (SA) will be investigated. Firstly, the history of how legislation related to natural resource management developed from the 19th century will be discussed. Secondly, the environmental legislative framework in South Africa related to CBNRM will be discussed.

## 2.4.1  History of legislation development in South Africa

Growing recognition of environmental deterioration led to the formation of environmental law by the late 19th century. During this era, environmental laws were directed at the specific forms of pollution and at protecting natural areas that were privately owned. During the 20th century, it was generally accepted that government should regulate the use of natural resources for conservation as well as for social purposes. Problems arose because institutional arrangements were better suited to regulation of exploitation of natural resources than to protection of them. The United States 'National Environmental Policy Act became the law which had influence in other countries. Throughout the world, the 1970s became a decade for environmental concern and legislation for the protection of the environment was enacted (Fuggle and Rabbie, 2005).

In South Africa, environmental conservation gained momentum between the 19th and 20th centuries, and growth in legislation aimed at wildlife conservation took place. A variety of new legislation provided for control of environmental matters which were not previously subject to control and not treated satisfactorily. Environmental conservation became a government policy and led to the publication of the White Paper on National Policy and the establishment of the Department of Environmental affairs assisted by an Advisory Council for the Environment (Barnard, 1999).

After 1973 a growing number of individuals involved themselves in environmental management, planning, and protection (Barnard, 1999). The integration of environmental law and management grew substantially, and this led to the promulgation of the Environment Conservation Act, 73 of 1989. The other Acts that are currently in place to regulate environmental management are the Constitution of the Republic of South Africa Act, 108 of 1996 and the National Environmental Management Act, 107 of 1998. South Africa is also a signatory to the Convention on Biological Diversity, and policies and Plans are guided by the aims of the Convention (DEAT, 2003b; Van der Linde, 2006).

## 2.4.2 Legislative framework of CBNRM in South Africa

The implementation of CBNRM in South Africa is facilitated by legislation and policies. Since 1994, the government of South Africa has made significant strides in a number of areas including the political, socio-economic and environmental. Consequently, framework laws have been developed to promote the effective participation of rural communities in the management and use of natural resources. The equitable access to natural resources, capacity building and poverty reduction, feature prominently in these legal frameworks and laws (Fox & Rowntree, 2003; Holmes-Watts and Watts, 2008; Gambu, 2007).

The SA Constitution (Act 108 of 1996) provides the framework for policy formulation and implementation. The constitution is one of few in the world to include an environmental clause. Section 24 of the Bill of Rights states that, everyone has the right to an environment that is not harmful to their health and well-being and to have the environment protected for the benefit of the present and future generations through reasonable legislative measures which seek to: prevent pollution and ecological degradation, promote conservation, and secure the ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

The above mentioned Section 24 Bill of Rights highlights that the South African government should promote social and economic development in local communities. This implies that the government is obliged to enact legislative measures to protect natural resources, and implement programmes such as CBNRM.

Legislation, such as the National Environmental Management Act (NEMA) gives effect to the environmental right of section 24 of the Constitution. A key principle is that environmental management must place people at the forefront of its concern. Another is the principle of sustainable development that notes that development must be socially, environmentally and economically sustainable. Further principles include that the beneficial use of resources must serve the public interest and the environment must be protected as the people's common heritage. This principle is given effect by the recent promulgation of the National Environmental Management Act: Biodiversity Act 10 of 2004 (NEMBA) and the National Environmental Management Act: Protected Areas Act, Act 57 of 2003 (NEMPAA) (DEAT, 2005; Holmes-Watts and Watts; 2008).

The National Environmental Management Biodiversity Act: (NEMBA) calls for the development of a National Biodiversity Framework. The National Biodiversity Strategy and

Action Plan (NBSAP) developed in 2005 is the first step in the process of developing this framework. The NBSAP set out the framework and plan of action for the conservation and sustainable use of biological diversity in South Africa and equitable sharing of benefits derived from these resources (DEAT, 2005). CBNRM is one of the poverty alleviation and community development programmes that have been initiated in SA, with an opportunity for improving natural resource management and linking biodiversity and social development.

Legislation and policy alone cannot enable communities to achieve CBNRM capacity building objective. There is a need for the government and different community sectors to establish ways to involve communities to participate in this programme to achieve the objectives of socio-economic development, biodiversity protection and sustainable resource use. In the next section, participation for stakeholders and communities and in natural resource management will be investigated.

## 2.5 Stakeholder partnership and community participation in natural resource management

Many developing countries have ecosystems under threat, as a result of limited capacity for management of natural resources (Hillman, et al. 2005). The most effective management approach is to enhance capacity of communities to develop partnerships with the various stakeholders (e.g. government departments, municipalities, NGOs, local businesses and the private sector). The benefits of such participation for the community include increased sense of ownership, and great support for management of natural resources that links conservation and development planning. Participation also enables local communities to become self - reliant and causes power and decision making to devolve from external institutions (Pretty, 1995). Grimble (1998) highlighted that the development in the 1990s of stakeholder analysis in natural resource management emanated from the alarm that many projects have not met their stated objectives because of lack of co-operation or even opposition from key stakeholders.

Identification of stakeholders is important to attain the required results in natural resources management programmes. There are various approaches that can be used to encourage partnership that contributes to sustainable management of resources. Scherl and Dight (1997) viewed collaborative management as one of the mechanisms that can be employed to achieve partnership among the stakeholders. This collaborative management includes mechanisms

and activities in which the various stakeholders are involved and are working together towards managing a particular resource and sharing responsibilities (Armitage, 2005).

According to Scherl and Dight (1997) the following questions should be understood and agreed upon by stakeholders in collaborative management:

• what are the needs related to biophysical, social, economic and cultural environment ? ;

• what each stakeholder needs to effectively contribute to management ? ;

• what the most suitable mechanisms for implementing management in a particular context are ? ;

• who can best fulfil what roles , responsibilities ,and rights in implementing management ? ; and

• how this process of implementation be monitored and evaluated ?

This collaborative partnership could empower the stakeholders to participate in natural resource management. Stakeholder participation can also be facilitated by using the "4R"s Framework (Lynam, et al. 2007). The "4R"s framework assesses stakeholders' role in natural resource management. It analyses the balance or imbalances, of the stakeholders four Rs: Respective rights, Responsibilities, Returns and Relationships. The frameworks assist the stakeholders to identify their roles and analyse deficiencies in the 4Rs in their situations.

Effective participation of local communities has been stressed as being central to all these approaches. Participation in the past was focused on encouraging local people to sell their labour in return for food, cash, and materials. Little effort was made to build local skills, interests, and capacity. More recently, development agencies have attempted to involve local people in aspects of planning and implementation. Community participation is seen as a means of increasing efficiency in the management of natural resources. If people are involved in planning and implementation of activities affecting them, they are more likely to participate (Pretty, 1995).

Three different types of participation have been identified by various authors (Table2.1). At the low level of participation, people do not participate meaningfully because they are told what is to happen. The participants' feelings and contributions are not valued by external people. At the medium level of participation, people are consulted by external institutions about the decisions already made for them. This participation promotes the objectives of external institutions. At the high level of participation, people are involved in local

development initiatives. The process aims to empower people, and they have control and influence and their views are respected because they are involved in the process. This type of participation is likely to ensure community ownership of the programme or project and can increase sustainability of the project.

**Table 2.1:** Types of participation between communities and donors, government and stakeholders (Pretty, 1995; Biggs, 1989 in Pound, et al. 2003)

| Typology of participation | |
|---|---|
| **Low level of participation** | *Passive participation:* situations where people are told what is to happen or what has already happened. People's responses are not valued.<br><br>*Participation in information giving*: People participate by answering questions posed and don't have influence on the proceedings<br><br>*Participation for material incentives*: People participate by providing resources in return for incentives. People are not interested to participate when incentives end.<br><br>*Contractual participation*: One social actor has sole decision making power over decisions taken. Other stakeholders participate in activities, because they are contracted to provide services and support. |
| **Medium level of participation** | *Instrumental Participation*: The application of participatory planning depends on the assumption that, once community views have been taken into account, the policy or project will better respect their needs and take into account a social and economic reality.<br><br>*Functional participation*: People participate in groups with the aim to meet project predetermined objectives, which can involve promoting the interests of external institutions.<br><br>*Consultative participation*: People participate by being consulted; external people listen to views and define problems and solutions for the community. |
| **High level of participation** | *Collaborative participation*: This participation allows collaboration from different actors, through exchange of knowledge and sharing decision making process.<br><br>*Interactive participation*: People participate in joint analysis, which leads to establishment of action plan or strengthening of the existing ones.<br><br>*Authentic public participation*: Participation is an effective process influenced by community on how the programme/ project would be executed, with a view to enhancing their well being.<br><br>*Incremental mode***: Participation is aimed at increasing efforts to extend control over resources and regulative institutions.<br><br>*Self mobilisation*: People participate by taking initiatives independent of external institutions to change systems. They develop partnerships, with external institutions for resources and technical advice, but retain control on how resources are used. |

Considering at the various types of participation as presented in the table, the types reflected in high level of participation are the most appropriate types required in community based natural resource management. This is because in these types of participation, local communities have influence and control over how natural resource management programmes are to be executed.

Community participation requires that participants should be well-informed and organised so that they can participate in an equitable way in decision making processes and be able to design, manage, undertake, control, and evaluate projects which aim to develop their settlements (Chambers, 1994; Bachmann, et al. 2007). For communities and relevant stakeholders to participate effectively in sustainable management of their resources, capacity building is required. In the absence of participation of the civil society; citizens become receptors lacking opportunities for decision making and this can lead to participation by consultation as outlined by Pretty (1995). To generate effective participation, communities have to be informed in such a way that they can express their needs and demands to the decision makers. The more people participate, the more sustainable natural resource management is possible (Bachmann, et al. 2007). Figure 2.1 illustrates two kinds of participation. The one is acceptable (Figure 2.1, right side) for natural resource management, and the other is not acceptable (Figure 2.1, left side). The acceptable one encourages sustainable use of resources where as the other one is related to exploitation of resources.
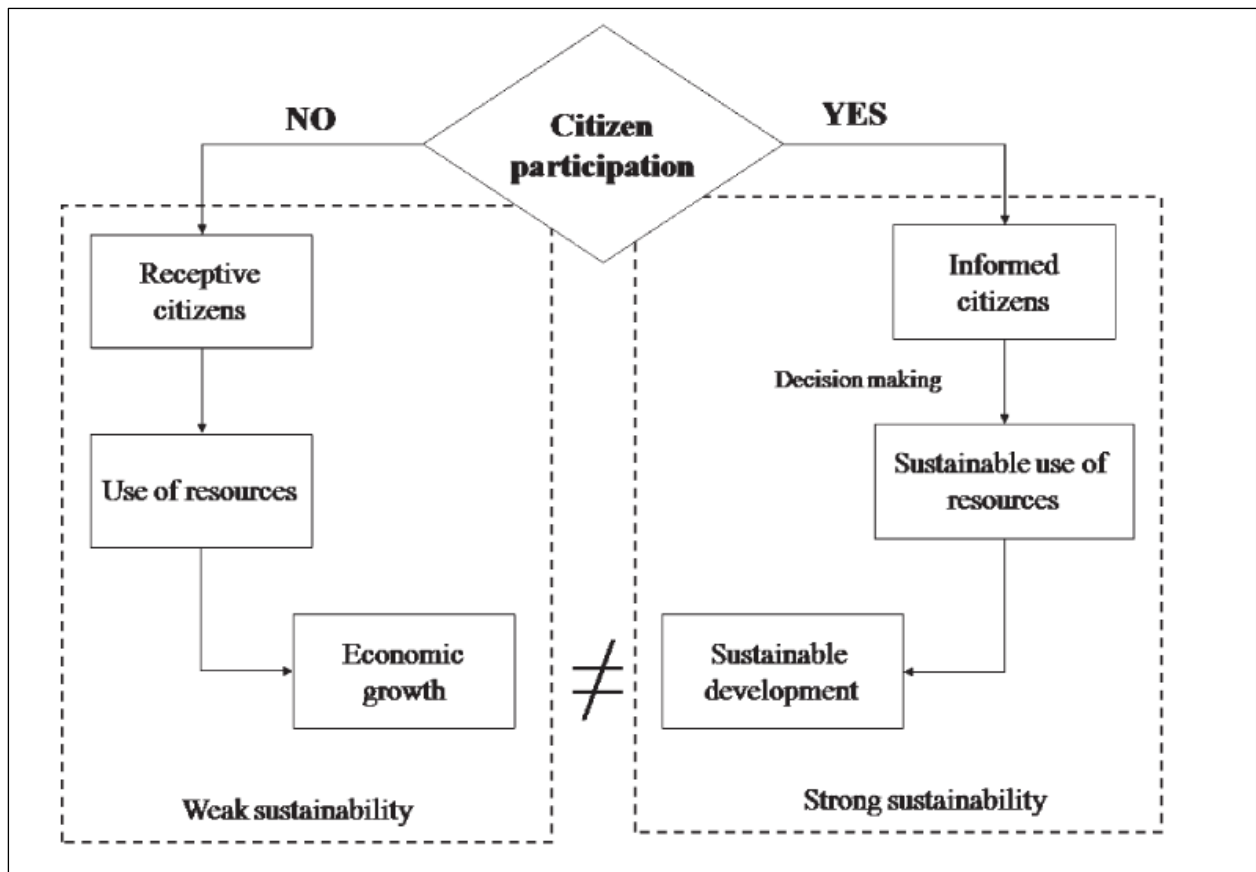
**Figure 2.1:** Model of citizen participation in natural resource management (Source: Bachmann, et al. 2007).

To ensure effective participation from a community it is imperative that, before the decision making process, the stakeholders and the community members are equipped with appropriate skills and knowledge. If the participants are well equipped, they participate effectively in the decision making process. This effective participation will lead to the implementation strategies of natural resource management that inform sustainable resource use. On the contrary, in the absence of participation, stakeholders and community members become receptors, lacking capability to make decisions. This leads to exploitation of natural resources, resulting in weak sustainability.

Participation is a process of social learning which leads to the enhancement of capacity of participants and to sustainable development and in the next section capacity enhancement will be investigated.

## 2.6  Capacity Enhancement

"Capacity" refers to knowledge, skills, and attitudes of individuals, separately or as a group and their competence to undertake responsibilities assigned to them. Capacity effectively translates into the knowledge of what to do and how to do it, and the capability to transform that knowledge into effective decisions and actions to solve development problems for both the short and long-term (Hunt, 2005). Capacity is thus the ability of individuals, or organisations, or societies to perform appropriate responsibilities effectively, efficiently and sustainably (Milen, 2001).

Hunt (2005) defined different types of capacities: namely hard, soft, technical, and core capacities. Hard capacity refers to things like personal skills, functions, structures, systems and to factors such as equipments, infrastructure and financial resources. Soft capacities refer to easily definable and quantifiable factors such as incentives, motivational, and demand factors, of a material, cultural, and social nature. The soft and hard capacities apply to the individual and the organisational level, as well as in the broader governance environment.

Technical capacity includes not only the knowledge, skills and other qualifications of individuals who form the organization, but also the knowledge accumulated within the organisation. Core capacity refers to the ability of the organisation to solve its problems on its own by managing the technical capacity. Core capacity is the fundamental capacity to produce positive outcomes; it represents the commitment, leadership and management that orient the behaviours of individuals and their organisation. Capacity enhancement is the process by which individuals, groups, organisations and societies strengthen the capacity and capabilities to strengthen these four capacities (Milen, 2001).

McNeil and Woolcock (2004), further explains that capacity enhancement occurs over three phases of development, namely investment in human (individual), institutional (organisational) and societal development. *Human development (on individual level)* is defined as helping people to share, disseminate knowledge, acquire, and enhance their skills. Activities at this level can include formal training, special learning events, and on-the-job learning supported by external advisers. This links to Albertyn's (2005) concept of empowerment on the micro level, where capacity enhancement relates to individual feelings, attitudes, and skills under personal control. According to Kabeer (2001), at this level change is reflected in individuals and groups, in their sense of selfhood and identity, in how they

perceive their interests, and in their capacity to act. Human development includes the so-called soft and hard capacities.

*Institutional development (on organisational level)* is defined as being the assistance given to improve and enhance the roles and status of organisations and institutions, their management and financial systems, and the relationships between institutions. The need here is to examine the environment in which the institution operates and identify the areas where people and organisations are constrained from operating effectively. This occurs at the interface level, where there is a change in control and participation in organisational activities (Albertyn, 2005). However, for any such change to translate into meaningful and sustainable processes of capacity enhancement, it must ultimately encompass both individual and structural levels (Kabeer, 2001). Institutional development includes technical capacity.

*Societal development* is defined as being strengthening the process by which good policies are generated and translated into concrete results, and it involves giving attention to broader society issues such as behaviours, cultures, norms and incentives. This occurs according to Albertyn (2005), on the macro level where people are able to carry out analysis on their own, make decisions and take actions. Core capacities are linked societal development.

The above levels of capacity points out that, capacity enhancement is multifaceted, it is a process that involve more than intensification of individual skills and abilities. One has to recognise that capacity enhancement programmes are generally provided in the interest of building organisational and institutional capacity, even though the target audience can be individuals (McNeil and Woodcock, 2004; Kabeer, 2001). The table 2.2 below gives indicators at the various levels of capacity enhancements discussed:

**Table 2.2:** Indicators of levels of capacity enhancement (Albertyn, 2005; Holosko et.al, 2001)

| Level | Indicator |
|---|---|
| *Human development* is outlined as helping people to share, disseminate knowledge, acquire and enhance their skills<br><br>(Micro level) | Ability to accomplish tasks<br>Individual growth<br>Increasing self -efficacy<br>Self- esteem and confidence<br>Pro- active<br>Attitude and behaviour change<br>Apply leadership skills |

| | Feeling of having power over one's life |
| --- | --- |
| | New visions and possibilities |
| | Increased control over resources |
| | Developing one's skills |
| | Critical consciousness |
| *Institutional development* is defined as assistance given to improve and enhance the roles and status of organizations and institutions, their management and financial systems and the relationships between institutions

(Interface level) | Collective group efficacy

Community participation

Decision making

Community organisation

Group identity

Problem solving

Mutual support

Ability to affect behaviour of others

Ability to make a difference around the world

Individual assertiveness in group

Understanding power in the group |
| S*ocietal development* is defined as strengthening the process by which good policies are generated and translated into concrete results, and involving giving attention to broader society issues such as behaviours, cultures, norms and incentives (Macro level) | Critical understanding of the environment

Ability to make a difference and have command over events

Awareness of rights and increased collective political power

Increased control and access to resources

Ready to take action and participate in social change and reconstruction

Influence in decision making affecting community collaboratively

Leadership level of involvement in community activities |

Various indicators of capacity development serve as guideline to measure, evaluate, and monitor outcomes of capacity enhancement (Table 2.2). Capacity enhancement needs to be evaluated and monitored, but it is not an easy task since it is a process that takes place during a period of time and that is situation specific (Mizrahi, 2004). The approaches to enhance capacity in communities are to be discussed in the section that follows.

### 2.6.1  Approaches to enhance capacity in communities

The approaches that build on strengths and capacities which already exist in communities are essential to address issues of natural resource management (Hunt, 2005). The selective approaches to be discussed in this study include, Participatory Rural Appraisal (PRA), Capacities and Vulnerabilities Analysis (CVA) and Asset Based Community Development (ABCD). It is acknowledged that there are other approaches to enhance capacity in communities, e.g. appreciative enquiry and other participatory approaches like participatory technology development, participatory innovation development, rapid rural appraisal, and action learning.

*Participatory rural appraisal* is one of the approaches used to enable local people to share, enhance and analyse their knowledge and develop action plans. It gives local community an opportunity to participate in the process of identifying and solving problems (Parkes and Panelli, 2001; Chambers, 2004). Various tools, such as natural resource mapping, transect diagrams, seasonal calendars, and matrix scoring and ranking can be used in this approach (Conroy, 2002). The tools are efficient in such a way that they give local people the opportunity to participate in collecting socio-economic and biophysical data of the community (Gabriel, 2000). Thus, participatory rural appraisal could be used to gain an understanding of the assets of a community and its vulnerabilities.

*Asset based community development* involves identifying and mobilising the assets available in a community and then building a vision and plan and leveraging external support. When implementing this approach, collecting stories of common success and analysing reasons for success are to be included. Mapping of community assets and building relationships among local assets to solve problems form part of this approach (Kretzmann, et. al. 1996; Gabriel, 2000). These approaches draw on local knowledge and facilitate learning by encouraging participation in order to promote sustainable natural resources management.

*Capacities and vulnerabilities analysis* is related to the approach of asset based community development since it also builds on local capacities but in addition it also takes into consideration the deeply entrenched vulnerabilities faced by communities. This is done through analysing in a participatory manner the skills, capacities, and resources available to the community as well as the root causes of their vulnerabilities. The analysis of capacities and vulnerabilities is done regarding attitudes/motivation, organisational/social, and physical/material assets (Anderson and Woodrow, 1990). The sustainable livelihood framework is similar to the capacities and vulnerabilities analysis since it enables

understanding of communities' vulnerabilities and assets, but it also looks at the transforming processes and structures that generate livelihoods (DFID, 1999).

## 2.7  Summary

The purpose of this chapter was to give a theoretical grounding to the study. CBNRM is described as being a participatory approach that allows communities to be involved in the managing of natural resources. Three of the objectives of CBNRM are capacity enhancement of local communities, socio -economic development and sustainable natural resource management. Capacity enhancement of local communities to manage their natural resources for sustainable use needs to take place on the individual (human), organisational (institutional) and societal levels. Socio economic development is focused on job creation and training and education for livelihood enhancement and poverty reduction. Sustainable natural resource management includes conservation and preservation of resources and protection of biodiversity.

Effective participation and partnership at national (government departments responsible for developing policies and legislation), intermediate (government, NGOs, donors and the private sector), and local (community) levels is essential to implement CBNRM successfully. Communities are capacitated through CBNRM to have influence and control in decision making processes related to the management of natural resources. There are different approaches that can be used to enhance the capacity of local communities, such as participatory rural appraisal, asset based community development, and capacity and vulnerability assessment.

In the next chapter, there is discussion on the research methodology and design applied in this study to establish the effect of the Community Based Natural Resource Management programme on the capacity of the KwaPitela community to manage natural resources for sustainable use.

## Chapter 3
## RESEARCH DESIGN AND METHODOLOGY

## 3.1 Introduction

To address the main objective of this study, basic qualitative research methodology was applied. Qualitative data were collected by conducting semi-structured interviews, focus group discussions, and document analysis. The semi-structured interviews were conducted with stakeholders, the development committee and community members of KwaPitela. The focus group discussion was held with community members. In this chapter the setting, participants sampling methods applied, analysis of data and issues of reliability and validity are described.

## 3.2 Setting

The study was conducted at KwaPitela, a rural area within KwaSani Local Municipality. KwaSani Local Municipality is located within the Sisonke District Municipal area, which is located within the Southern Drakensberg, The KwaSani Local Municipality area is 1180 square kilometres and the estimated population is 17 000 (KwaSani Local Municipality IDP, 2009/2010).The KwaPitela area is adjacent to uKhahlamba Drakensberg Park World Heritage Site, as shown in Figure 3.1. The black arrow in Figure 3.1 shows the KwaPitela area, where this study has been conducted. The biodiversity importance of the area is high because it is part of a significant water catchment area and falls within the buffer zone of the World heritage site (KwaSani Local Municipality IDP, 2009/2010).

The core economies of this area are agriculture and tourism. There is a high level of poverty and unemployment resulting in migration to larger centres for work. The migration of adults to larger cities results in an alarming increase in child headed homes.  There is a high level of illiteracy, and only 2.98% of the population receives tertiary education in the area (KwaSani Local Municipality IDP, 2009).
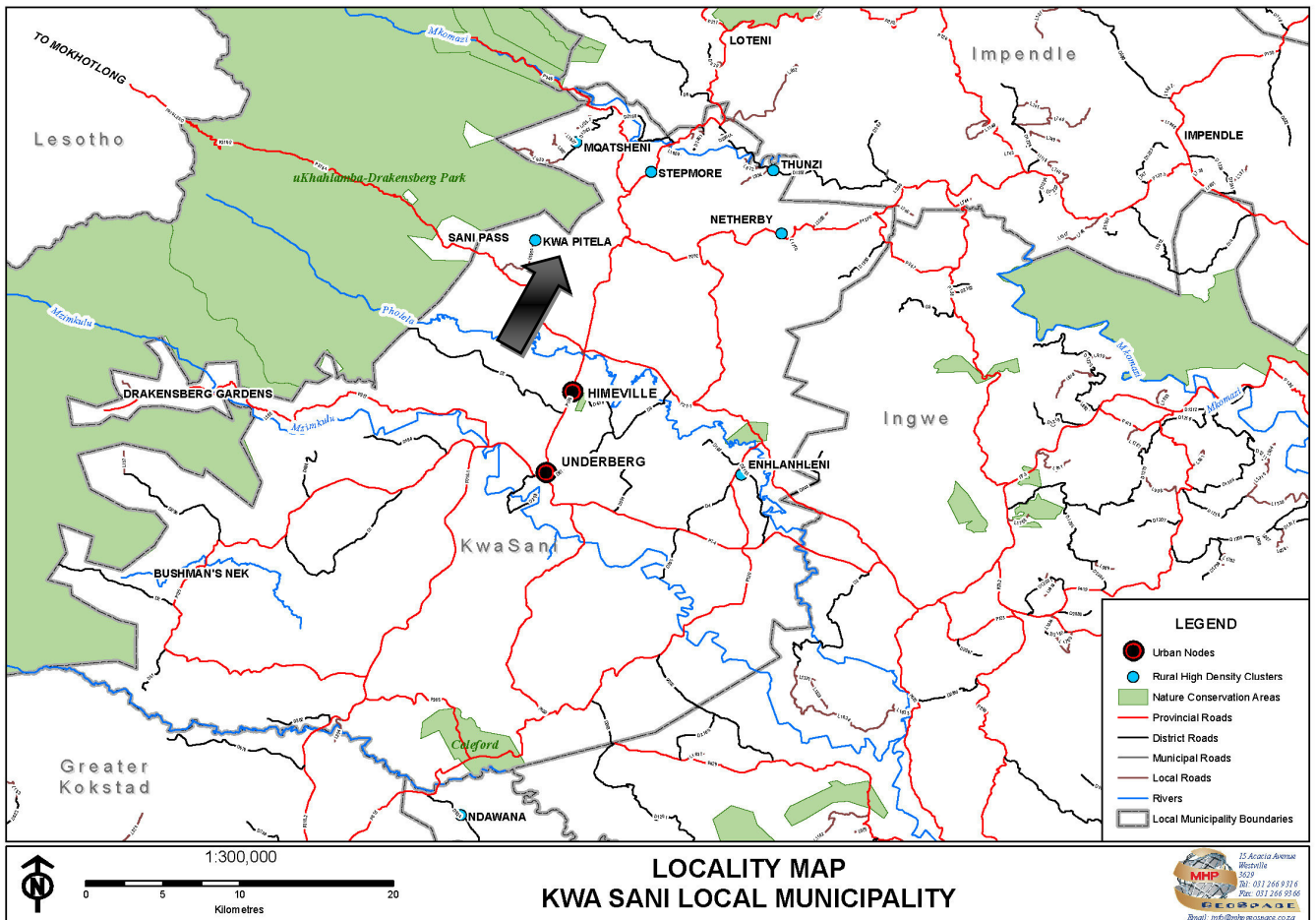
**Figure 3.1:** *A map of KwaSani Local Municipality areas and surrounding areas (KwaSani Local Municipality IDP, 2009/2010)*

Some community members that are unemployed depend on the natural resources available in the area for livelihood enhancement. They harvest the resources for craft production, medicinal plants, fuel, and building material. The species that are commonly harvested include bulbs, reeds and grasses such as thatch, *incema* (Juncus sp), *ukhasi* (festuca costata) and *uqungwa* (hypharhena sp). The resources harvested within the nearby protected area, are quantifiable, as compared to resources harvested within the vicinity of the community. The community members, who hold permits to harvest, do harvest over a specific period of time and the amount of resources harvested is monitored and recorded on the data base (EKZNW, 2010). In the community it is a challenge to obtain these natural resources, because of the invasion of land by alien vegetation.

The community of KwaPitela was selected for this study because a CBNRM programme was facilitated in this community in 2008. Within the CBNRM programme there are different projects implemented which aim to increase community members' ability to manage their

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natural resources. This programme was facilitated by an organisation called Maloti Drakensburg Transfrontier Project the (MDTP) with the objective of supporting the KwaPitela, Mqatsheni, and Stepmore communities in land use management. These communities depend mostly on agriculture for livelihoods and they were faced with challenges of soil erosion and invasion of land by alien plants.

## 3.3  Research Design

The main objective of this study was to establish the effect of the Community Based Natural Resource Management programme on the capacity of the KwaPitela community to manage natural resources for sustainable use. This study was conducted applying basic qualitative research methodology.The basic qualitative research methodology is about understanding how people interpret experiences and construct meaning in relation to their social world. This entails studying things in the participant's natural setting and attempting to interpret phenomena regarding the meaning people bring to them (Higgs, et al. 2009; Merriam, 2009).

### 3.3.1  Participants

The participants that were involved in this study were the KwaPitela development committee, members of the community, and stakeholders mandated to equip the KwaPitela community with CBNRM competencies. The participants were selected through the purposeful sampling method, which involves choosing individuals to be included in the research on the basis of specified criteria (Bless and Higson-Smith, 1995; Denzin, 2003; Welman, et al. 2005).

Members of the development committee were chosen because they co-ordinated the implementation of the CBNRM programme in the KwaPitela community. The development committee co-ordinates all development activities in their community. These committee members are elected by the community.

Members of the KwaPitela community were chosen to represent different perspectives of the youth, adults and the *iNduna* (traditional leader) in the community. These representatives include those who were employed to work in the CBNRM project as well as those who were not employed.

The officials that represented stakeholder organisations were chosen based on their involvement in CBNRM programmes to support the KwaPitela community in the management of natural resources.

Semi-structured interviews were conducted with participants from the KwaPitela Development Committee, community members and stakeholders in the Maloti Drakensberg Transfontier Project (MDTP), Department of Agriculture, Environmental Affairs & Rural Development (DAEA&RD), Ezemvelo KwaZulu-Natal Wildlife (EKZNW), Women Leadership and Training Programme (WLTP) and KwaSani local Municipality.

Focus- group discussion was held with 10 members of the community. This included development committee members and community members that were employed in the CBNRM project. Table 3.1 shows the number of participants that were involved in relation to the different data collection methods.

**Table 3.1:** Participants involved in the data collection

| Research methods | Participants | Number of participants |
|---|---|---|
| Semi-structured interviews | Stakeholders | 5 officials |
| Semi-structured interviews | Community members employed in the CBNRM project | 10 members (1 iNduna, 6 adults & 3 youths) |
| | Community members not employed in the CBNRM project | 12 members (6 adults &, 6 youths) |
| | Members of the development committee | 2 members |
| Focus group discussions | Development committee and community members | 7 development committee members<br>3 community members who were employed in the CBNRM project |

Participants that took part in this research included community members (adults and youths) who were employed and those who were not employed in the CBNRM project as well as community leaders, stakeholders, and development committee members, see figures 3.2 and

3.3. The CBNRM programme aimed to benefit the whole community. However, only a few members were employed in the CBNRM project. These members worked together with the committee, who coordinated the implementation of the CBNRM project. The reason employed and unemployed members were incorporated in this research was because the feeling that CBNRM programmes should also benefit those who were un-employed in the project. It is the responsibility of the development committee and stakeholders to conscientise and involves the community members who are not employed in the CBNRM project, on natural resource management.

**Figure 3.2:** A bar chart showing the composition of the interviewees during semi-structured interviews.
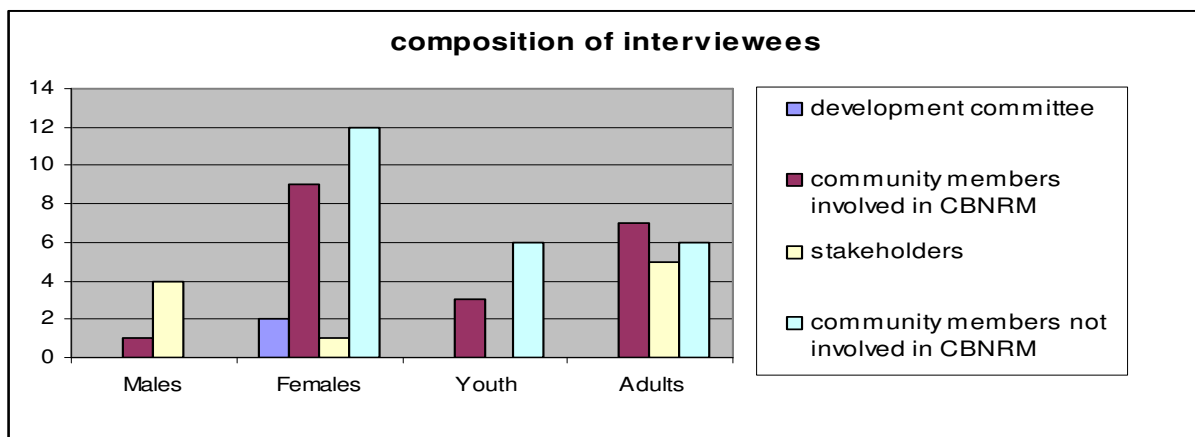


### 3.3.2  Research methods

In qualitative research, data are collected by using less structured methods such as focus-groups discussions, semi-structured interviews, interactive workshops, observations, and document analysis (Gordon, 1999; Mouton, 2001). For the purpose of the present study, the data collection methods included focus- group discussions, semi-structured interviews and document analysis. The purpose of the focus group discussions, semi-structured interviews, and document analysis was to determine if the CBNRM programme assisted in enhancing the capacity of the KwaPitela community to:

- apply knowledge and skills acquired during the programme;
- participate with different stakeholders on the management of natural resources;
- and make decisions on the management of natural resources for sustainable use.

This study was conducted for a period of eight months, attached is the table 3.2 indicating the schedule of each activity. Table 3.2 shows the research process and the timeline for the study.

**Table 3.2:** A schedule of activities during the research process.

| Activity description | Jan 2010 | Feb | Mar | April | May | June | July | Aug | Sept | Oct | Nov 2010 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Develop questions refine questions through consultation, pilot testing | ▓ | ▓ | | | | | | | | | |
| Selecting and contacting respondents | | ▓ | | | | | | | | | |
| Interviews with stakeholders focus group discussion with community. | | | ▓ | | | | | | | | |
| analysis of data, document reviews, write first draft | | | | ▓ | ▓ | ▓ | ▓ | | | | |
| individual interviews with community to obtain more data, | | | | | | | | ▓ | | | |
| analysis of data, | | | | | | | | | ▓ | ▓ | |
| Write final draft | | | | | | | | | | ▓ | ▓ |

## 3.3.2.1   Focus -group discussion

According to Welman, et al. (2005), focus- group discussions can be regarded as in-depth interviews, whereby a small number of respondents are drawn together for the purpose of expressing their opinions on a specific set of open questions. A focus group discussion was used to collect data from the members of the community and development committee

members who were employed during the implementation of CBNRM and involved in the CBNRM project. This method was used to allow participants to engage in dialogue to share with each other their experiences while involved in the CBNRM programme. A set of questions was developed as a guideline for the focus group discussion with the aim of obtaining information on the sub-objectives of the research.

The following themes guided the discussion:

- knowledge and skills enhanced and acquired, and how these are used by the community;
- their attitudes and behaviour towards management of natural resources since their involvement in the programme;
- the community involvement in decision making arenas with regards to management of natural resources;
- the control and influence the community has in natural resource management;
- the capacity the community has to participate effectively in natural resource management in their area; and
- participation of the community with stakeholders in natural resource management.

The focus group discussion was conducted in Zulu for a period of one day and data was transcribed into English.

### 3.3.2.2   Semi-structured interviews

After the focus-group discussion, semi-structured interviews were conducted with stakeholders (officials from the KwaSani local Municipality, DAEA&RD, EKZNW, MDTP and WLTP), development committee members and for community members.

The sub-objectives of this study as well as the data of the focus -group discussions were used as guidelines for the development of the interview questions. For each sub-objective different questions were developed based on the relevant literature (see Appendices A and B). As suggested by Birley and Moreland (1998), additional and supplementary questions were asked participants in cases where the researcher required clarification or elaboration from interviewees. Different sets of interview questions were developed for the stakeholders and the community (including the development committee).

After the questions were developed, two environmental officers were asked to read the questions to establish whether the questions really asked what they were intended to ask. Alterations were made to the questions after this process. The interviews were conducted in

Zulu with community members and in English with the stakeholders. The data was transcribed into English.

### 3.3.2.3 Document analysis

The purpose of document analysis is, according to Merriam (2009) and Blaxter et.al (2006), to assist the researcher to gain insights about the research problem. Documents to analyse include those documents that existed before the study was conducted and included official records, letters, newspapers, government documents, and visual documents.

Document analysis was applied in this study after the researcher had become aware of specific documents during the focus group discussions. These documents included the:

- Sustainable Livehood Analysis report for KwaPitela community that outlined the activities the community did to establish the assets and vulnerabilities of the community;

- CBNRM project report that outlined the planning, implementation and monitoring processes of the project; and

- Land Use Management Plan developed by the community as a result of the CBNRM project.

These documents were thus used to supplement and support data obtained from the focus group discussions and semi-structured interviews and to gain deeper insight.

## 3.3.3 Data analysis

According to Leedy and Omrod (2001) and Blaxter (2001), in a qualitative research design, data and their interpretations should be scrutinised for underlying themes and other patterns that\ can characterise the case more broadly than a single piece of information. In this research the data were analysed by using methods of theme identification. Firstly, open coding was used whereby the data that were useful and relevant to the sub-objectives were identified. Secondly, the coded data were grouped into categories. The categories constructed were divided into three themes. The development of these themes was also guided by the sub-objectives and the literature review. These themes were used as the framework for the data analysis.

## 3.4  Validity

In basic qualitative research design, it is important to ensure validity of the study to determine the extent to which the researcher drew accurate conclusions (Birley and Moreland, 1998). The validity was ensured in this study by:

- questions that were developed for focus-group discussions and interviews were discussed with environmental officers to ensure that the questions asked what was intended to ask;

- after analysis of the data, the findings were discussed with two stakeholders to comment on the findings; and

- the data were discussed with two peers, who are colleagues of the researcher at the Department of Agriculture, Environmental Affairs and Rural Development.

This was done in accordance with the strategies suggested by Leedy and Omrod (2001) and Merriam (2009).

## 3.5  Reliability

According to Welman 2005, reliability refers to the extent the study findings are consistent and reliable. Internal and external reliability will be constructed on the findings of these study as well as validity of data collection procedures and instruments. It is important to validate the study internally and externally so to determine the extent to which the researcher draw accurate conclusions and the extent to which conclusions drawn can be generalized other contexts (Birley and Moreland ,1998). The reliability of this study was ensured by using multiple methods to collect data. Focus group discussions, semi- structured interviews and documents review were used to collect data.

## 3.6  Summary

In this chapter, the application of the basic qualitative research methodology to address the main objective of this research was discussed. The qualitative data were collected through focus-group discussions, semi-structured interviews, and document analysis. The data were analysed by using the method of theme identification.

The next chapter describes in more detail how the theme identification method was applied to analyse the data obtained through the qualitative research on which the discussion of the findings is based.

# Chapter 4
# RESULTS AND DISCUSSION

## 4.1  Introduction

In the previous chapter, the research methodology that is followed in this study is described. A basic qualitative design was used, and the data were obtained using focus-group discussions, semi-structured interviews, and document analysis. The qualitative data obtained were guided by the sub-objectives of this study, which are to determine the community members' ability to:

- apply skills and knowledge in the management of natural resources for sustainable use;

- participate with different stakeholders in the management of natural resources; and

- make decisions on the management of natural resources for sustainable use.

In this chapter the empirical part of the study is synthesised and discussed. The data collected were assigned codes. The coding of data guided the construction of eight categories. The eight categories constructed were then grouped into three themes that were used as a framework for data analysis. The transcribed data obtained from the semi-structured interviews, focus -group discussion and document analysis was categorised as follows:

- knowledge and awareness of natural resource management issues;
- application of knowledge acquired in natural resource management;
- skills acquired and needed by the community;
- participation of community members in issues of natural resource management ;
- motivation to participate due to  livelihood opportunities;
- motivation to participate because of the knowledge acquired of natural resource management;
- influence and control by community members in management of natural resources; and
- involvement in issues community development.

The above categories were compared to the sub-objectives and reviewed literature for this study to establish the following themes:

- knowledge and skills in the management of natural resources;

- participation in management of  natural resource; and

- decision making in the management of natural resources.

These themes are used to guide the discussion in this chapter. Table 4.1 illustrates the development of themes as the basis for data analysis.

**Table 4.1:** The development of themes as the basis of analysing data

| Sub-objectives | Theme | Categories | Literature |
|---|---|---|---|
| To determine the community members' ability to apply knowledge in the management of natural resources for sustainable use. | Knowledge and skills acquired through the CBNRM programme. | Knowledge gained and awareness of issues of natural resource management. . Application of knowledge acquired. Skills acquired and needed by the community. | Objectives of management of natural resource (Subsection 2.3). Approaches to enhance capacity in communities (Subsection 2.6). Indicators of capacity enhancement (Subsection 2.6). |
| To determine community's ability to participate with different stakeholders in the management of natural resources. | Participation in natural resource management. | Participation of community members. Motivation to participation due to livelihood opportunities. Motivation to participate because of the knowledge acquired of management natural resources. | Participation and effects of participation in management of natural resource (Subsection 2.5). Indicators of capacity enhancement (Subsection 2.6). |
| To determine the community's ability to make decisions on the management of natural resources for sustainable use. | Decision making in the management of natural resources. | Influence and control in natural resource management. Involvement in issues of community development. | Participation and effects of participation in management of natural resources (Subsection 2.5). Indicators of capacity enhancement (Subsection 2.6). |

The approaches used in the CBNRM programme to impart knowledge and skills to the KwaPitela community and how the community applied the attained knowledge and skills are discussed in Subsection 4.2 and Subsections 4.2.1 to 4.2.4. In subsection 4.3 the participation and factors motivating the community to participate in management of natural resources are investigated. Subsection 4.4 contains a discussion on decision making in promoting sustainable resource management.

## 4.2 Knowledge and Skills acquired through the CBNRM programme

The literature review revealed that knowledge and skills are imperative for CBNRMs and crucial in enhancing the capacity of communities to participate effectively in the management of natural resources (Kellert, et al. 2000; Measham; 2007). Capacity in the context of this study refers to skills and knowledge that enable people to become more conscious, understand themselves and their context, in such that they have ability to control their future. This capacity is referred to by McNeil and Woolcock (2004) as an investment in human development. Human development is about assisting people to share and disseminate knowledge and acquire and enhance their skills.

The following three subsections describe the approaches used to impart knowledge and skills

### 4.2.1 Approaches used to impart knowledge and skills in KwaPitela community

The documents analysed, focus group-discussion, and semi-structured interviews with participants revealed that different participatory methods were used by the MDTP Regional Community facilitator to raise awareness and impart knowledge about the importance of natural resources during the implementation of the CBNRM project.

These include:

- Sustainable Livelihoods Analysis (SLA);

- Resource Mapping (Participatory Rural Appraisal [PRA] tool); and

- Environmental Picture Building Exercise.

### 4.2.1.1    Sustainable livelihoods analysis

Krantz (2001) describes SLA as a holistic and strategic approach at local or policy level to analyse livelihoods when the goal is to identify critical issues that require intervention for effective poverty reduction. Literature (DFID, 1999; Krantz, 2001) describes different principles to follow when implementing SLA. One of the principles of SLA is that people should be at the centre of development. At a practical level, this implies that the approach should start with analysis of people's livelihoods and how it has been changing over time. The outsiders should support people in achieving livelihood goals (DFID, 1999). In the KwaPitela community, the implementation of SLA followed the principle of people centeredness, because the local community was involved in analysis of their livelihoods.

The document analysis revealed that the SLA was conducted by five members of KwaPitela development committee, assisted by the MDTP regional community facilitator. The committee used the Southern African Development Community (SADC) research toolkit that focuses on the vulnerability of livelihoods. The development committee conducted research about the historical profile of the area by interviewing elderly people who were 60 years and above. The research on the current context of the KwaPitela area was conducted with youths and adults through three focus-group discussions. The research undertaken by the development committee was used as a contextual framework to identify actions to be taken by the community to deal with vulnerabilities. The community was able to identify issues of soil erosion and the presence of invasive alien species as threats to their livelihood. This led the community to implement the CBNRM project to eradicate bramble as a strategy to enhance their livelihoods. The use of SLA produced the following benefits for the community:

- The community became aware of the assets available in the area. The SLA study revealed that the natural assets in the KwaPitela community include the land, wetlands, rivers, mountains, rock art paintings, medicinal plants, thatch, reeds and livestock. These natural resources played a major role in a livelihood strategy for this community many years ago.

- The community learnt that their livelihood is vulnerable due to fact that these natural assets are under threat. The land is degraded due to soil erosion and rapid invasion of alien species which are difficult to control. This caused the land to be unsuitable for grazing by livestock.

- The community became aware that the natural resources that were harvested for food, craft production, building materials, fuel and medicinal plants were diminishing.

Thus the application of SLA enabled the community to become aware of the assets that can be utilised to improve their livelihoods and the threats that cause the natural assets to diminish.

### 4.2.1.2    Resource mapping

Resource mapping is a participatory rural appraisal tool that is used to help villagers get a better understanding of the diversity of the physical and natural assets in their community (Conroy, 2002). This is done by enabling the community to identify the physical and natural assets that exist within the community to generate baseline information against which future changes can be analysed over time. To apply this tool, the facilitator should involve the local community members to draw natural and physical assets using symbols that represent the different assets (Conroy, 2002). The document analysis and focus -group discussion revealed that the resource mapping was facilitated by the MDTP facilitator with the KwaPitela development committee in the same manner as described above.

The community was assisted to conduct mapping of natural resources of the area. The development committee drew maps with the objective to create a contextual understanding of threats to natural resources in the community. This exercise also assisted the development committee to identify key environmental issues in the area.

### 4.2.1.3    Environmental picture building game

The environmental picture building game is an environmental education resource that can be played by literate and illiterate people to explore environmental issues. The game consists of picture cards that assist in creating deeper understanding of the environment and interactions between human beings and the environment. It is used to encourage communities to use natural resources in a sustainable manner. The game was explained to the KwaPitela development committee by showing how other communities within the Maloti Drakensburg Transfrontier Project have developed picture games for the environmental issues that were identified in these communities. After this explanation members of the development committee of KwaPitela played the game. They were able to build the picture of the environmental issues that are prevalent in the area. This enabled them to identify environmental issues that are relevant to their community.

In general, these three tools (Subheadings 4.2.1.1 to 4.2.1.3) enabled the community to acquire knowledge about the threats to natural resources in the area as reflected by the following statements made by some members of the development committee during the focus- group discussion:

> *Our minds got used to bramble and wattle in a way that we stopped questioning its origins and we were not aware of the impacts caused by these plants to our natural resources.*

> *"We realised that this bramble is problematic it invaded the grazing land, there was no land to plant and we were even short of sites to build the houses."*

> *"MDTP community facilitator opened our minds, we became aware that our environment is not good because of bramble and soil erosion."*

These statements indicate that, the learning process that the development committee went through using Sustainable Livelihoods Analysis and the other tools made the community realise that their land could be an asset and used productively, if it were free from alien vegetation infestation and soil erosion. The community then engaged in a CBNRM project to respond to these threats.

As described above, the approaches enabled the community to be enlightened about the environmental issues, because they were involved in the process of analysis and generation of information that would assist them to find strategies in dealing with these issues. This also correlates with the description by Chambers (1994); Conroy (2002) and Hunt (2005) of the benefit of participatory approaches to capacity enhancement, since these approaches encourage people to participate and allow people to express information in a way that is tangible to them. Information is thus owned and shared by local people, whereas outsiders only facilitate the collection, presentation, and analysis of information.

It is important to note that it was only the KwaPitela development committee members that were involved in the facilitation of these three above mentioned approaches. The community's participation was in that they were interviewed and took part in focus-group discussion. The development committee's close participation in this project enabled it to have a clear vision of how it wanted to develop the natural resources in the community and members are able to mobilise the community to take part in the management natural of resources.

### 4.2.2  Knowledge and skills acquired and applied by the community through CBNRM

The findings indicate that the CBNRM project made the community aware of the importance of conserving and protecting natural resources in communal land and in the protected area. This is evident in the following statements made by the participants:

> *There is a positive change in behaviour in this community when it comes to managing the natural resources. Most of the community members are unemployed; they have seen the importance of maintaining their land for cultivation. (Stakeholder, semi-structured interview)*

> *I didn't know that our mountains are important in such a way that tourists come to visit this area to see rock art paintings ….. (Community member, focus-group discussion)*

> *We have learnt that we need to conserve our resources for the benefit of attracting tourists in the area… some members of the community do craftworks and beadwork and sell to the tourists and to the community. (Community member, semi-structured interview)*

These statements show that the members of the community realised the need to conserve and protect natural resources. This is because the community members became aware that the natural resources available in this area are essential for their livelihood necessities such as physiological needs which include: cultivation, harvesting of medicinal plants, grass, thatch and reeds to generate income.

Another aspect learned by the community from being exposed to the CBNRM project is the existence of legal and administrative mechanisms that control access to natural resources. The following remark by the member of the community confirms this:

> *I am doing craftwork for a living, in order to harvest resources such as ukhasi and incema (types of grass) from the protected area. I need to get the permit to harvest these resources.*

This statement indicates that the community involved in harvesting resources is aware that a permit is required to harvest communal natural resources as well as resources available in the proximity protected area. This new understanding of legislation also enabled community members to encourage community members to comply with legislations that control the management of natural resources, as reflected by the following statement:

*I represent the community in local board for Southern Ukhahlamba region, my responsibility is to ensure that no illegal activities such as poaching, illegal harvesting of resources inside and outside the protected areas take place. ( iNduna)*

*Previously hunting was done anyhow, now the community knows about hunting seasons and permits are needed to hunt, if we see poachers with dogs we phone each other as the development committee and the poachers are reported to relevant authorities (member of the development committee)*

In summary, the community involved in harvesting natural resources has knowledge that hunting and harvesting resources in communal and in protected areas is regulated by permits and licensing systems to ensure sustainable use. The harvesting of these resources is done in accordance with certification standards based on known sustainable levels by the authorities.

It also emerged from the semi-structured interviews with stakeholders and members of the development committee that members of this committee have improved planning skills, leadership skills, and networking skills through the CBNRM programme. This is conveyed by the following statements made by development committee and stakeholders.

*The development committee has leadership skills, they have influence and mobilise the community, and they understand their role in the community.*

*To develop the Land Use and Natural Resource Management plan has equipped us with planning skills and since then we are so confident to plan on our own.*

*In the past we were scared to approach the municipality; we presented the plan to the municipality and to stakeholders.*

Those involved in the planning and implementation of the CBNRM programme, namely the development committee, developed these above mentioned skills (leadership, planning, and networking) but these skills have not trickled down to the community members. The objective of CBNRM is to benefit the whole community and not only the development committee. However, the community members that are involved in harvesting natural resources and that were employed in the CBNRM project developed knowledge about

conserving and protecting of natural resources and about legislation related to management of natural resource.

According to Kabeer (2001) and Albertyn (2005), at an individual level existing or new acquired skills should be strengthened in such a way that the individual involved has the competency to apply those skills. It is thus important to establish whether the development committee was able to apply the skills and if they were able to transfer them to other community members. One of the indicators of community capacity is knowledge transfer. Knowledge transfer refers to the exchange and use of knowledge within groups and organisations (Albertyn, 2005).

The development committee applied the acquired knowledge and skills by developing the land use management plan. This plan is a 20 year strategy that entails how the community intends to manage the natural resources in the area. The plan provides an overview of key issues identified by the community and the set of outcomes and activities needed to achieve the goal of sustainable management of natural resources. The development committee showed itself to be proactive by developing the plan to assist in the proper management of natural resources in the community. This land use management plan showed that the development committee has acquired knowledge and capabilities to develop strategies to manage natural resources and they have ownership of this plan. This is reflected by the following statement by a stakeholder:

> *The community has ownership of this plan, since they were fully involved in the process. It will enable the community and relevant stakeholders to achieve the projects identified in the plan. In 2005, the Department of Agriculture and Environmental Affairs undertook resource assessment of this area and produced a Land Use Management Plan, and it was a highly technical document and the community did not participate in the process. The community had no knowledge and understanding of issues that were reflected in the plan, and no action was taken by community to implement what was stipulated in the plan* (MDTP CBNRM facilitator).

This indicates that strategies developed without involving the community are not likely to be implemented. Capacity enhancement strategies must be factored into the local perspectives of situation analysis to be implemented successfully (Morgan, 1998; Mizrahi, 2004).

The findings of the present research indicate that community members in development and leadership structures; and community members harvesting resources for livelihood enhancement and economic development apply their knowledge and skills in activities that aim to achieve the goals set in the land use management plan.

This is evident in the following statements made by the *iNduna* (community leader):

> *I need to ensure that resources are protected since this area is under my leadership. The challenge we have is funding, I communicated with EKZNW, other stakeholders, and the municipality to assist in the implementation of the plan. However, the community members volunteered to collect pebbles and stones to build gabions to rehabilitate dongas.*

The above statement indicates that the leader of the KwaPitela community area is able to mobilise community members to volunteer and apply the knowledge they have to rehabilitate the dongas. The knowledge has enabled the community to engage themselves in livelihood strategies that are derived from natural resources as reflected in the following statements by the members of the community:

> *We have learnt that we need to conserve our resources for the benefit of attracting tourists in the area… some members of the community do craftworks and beadwork and sell to the tourists and to the community."*

> *I am in the youth development committee, since most of the youth is unemployed, we need to generate employment ourselves,…a tourism project has been initiated.*

The above two statements indicate that the knowledge possessed by the members of the development committee, community members harvesting resources, and youth committee members, have enabled them to identify new possibilities to deal with the issue of unemployment, but at the same time conserve the resources. According to Freire (1973) and Couto (1998), when capacity of people is enhanced they have the ability to take control of special circumstances like poverty and unemployment through increased control of livelihood assets. The KwaPitela development committee, and community members that were employed in CBNRM and involved in harvesting natural resources, have reflected an increased ability to manage these natural resources. There are for example plans to establish a tourism industry for the sustainable injection of monetary incentives to improve the community livelihoods.

### 4.2.3 Knowledge and skills needed by the community

It is clear that, the community members have limited skills and knowledge (Subsection 4.2.2); in order for the community to manage their resources for sustainable use, and therefore would benefit from more knowledge and skills training. The type of knowledge and skills as identified by the development committee include financial management; marketing skills; and how to develop and fill business plans to apply for funding.

For the development committee to implement activities reflected in their land use management plan they need to get financial assistance, as reflected by the following statement:

*The community is next to the Maloti Transfontier Park and they understand the relationship between the natural resources and their livelihoods. The challenge is that they need funding to pursue activities in the land use plan. It's concerning that Government departments are not playing their role; they should assist such communities, on how to fill forms to apply for funding.*

*The community is well capacitated in land care issues because in areas where they remove the American bramble they started cultivating the land, but they don't have marketing skills, they need to be capacitated with marketing skills, and they need to know how to approach the commercial world after their produce.*

Community members need to be capacitated on the three skills mentioned above to enable them to get funding for future projects.

The youths that were involved in the CBNRM project indicated that they need skills for the development and management of tourism and for craft development projects. They also expressed a need to learn certain craft skills like weaving and beadwork.

This research indicates that the development committee and community members that use natural resources to sustain their livelihoods displayed a lack of knowledge and skills. These knowledge and skills would enable them to further manage their natural resources for socio- economic improvement and for sustainable use.

## 4.3  Participation in management of natural resources

Participation processes are effective if the community influences and takes control over local decisions with a view to enhancing their well-being (Pretty, 1995). Communities cannot work in isolation. Participation in management of natural resource requires interaction with various stakeholders. The findings of this research indicate that the development committee in the area participates actively in issues of natural resource management and other issues related to the development of the entire community. This committee is mandated by community members to perform such functions. The role of this committee is to communicate with the community about issues regarding community development, through meetings and other forms of social gatherings. The other group that participates actively in management of natural resources includes community members that harvest natural resources to sustain their livelihoods.

The findings also indicate that the development committee has identified various stakeholders to pursue the goal to manage the natural resources sustainably/ but the partnership between these stakeholders and the community is not clear. These stakeholders include Ezemvelo KZNWildlife, Department of Agriculture, Environmental Affairs and Rural Development, Maloti Drakensburg Transfrontier Project, Department of Health, Women's Leadership and Training Programme,KwaSani Local Municipality and development committees from Mqatseni and Stepmore areas. The following remarks by the development committee confirm that:

> *We presented the land use management plan to the stakeholders in order to get assistance in implementing the projects in this plan. We also requested the municipality to include the projects identified in the IDP.*

> *The challenge we have is funding but I communicated with EKZNW, other stakeholders, and the municipality to assist in the implementation of the Land use management plan. I don't receive positive response from other stakeholders. However, the community members volunteered to collect pebbles and stones to build gabions to rehabilitate dongas.*

The above statements indicate that the development committee is involved in participatory processes and facilitates the involvement of the larger community on the land use management plan. The development committee interacts with stakeholders that have a role to play in the management of natural resources. However, the development committee

faces a challenge of not getting required assistance and co-operation from some stakeholders in obtaining funding. Thus, it is required for the development committee and the stakeholders to be involved in collaborative management of resources. Collaborative management of resources involves different stakeholders that share different responsibilities and work together towards the need of managing a particular resource (Armitage, 2005).

Another finding was that some members of the community that were interviewed display the understanding that participation is about attending community meetings.

> *I participate because I attend meetings called by the committee, but I am scared to talk.*

> *I don't have time to attend meetings, because I run the tuck shop that is why I don't participate.*

Firstly, these statements indicate that the members of the community feel that attending meetings called by the committee is the participation required in management of natural resources. These community members display passive participation. In this type of participation, people become receptors lacking opportunities for decision making (Bachmann et al., 2007). This can lead to a type of participation, whereby people participate only by giving information asked for and have no influence on the proceedings (Pretty, 1995).

Secondly the above statements indicate that community members have special needs that conflict with attendance of meetings. Ways should, therefore, be found by the development committee to engage and accommodate these community members in management of natural resources.

Other participants expressed the concerns about the lack of youth participation in natural resource management activities as follows:

> *The challenge is that the youth do not want to be involved in natural resource management issues, they don't want to volunteer, and they want to be paid for everything they do.*

> *The youth in this area is demotivated they don't want to involve themselves in community issues. At one stage we were required to establish a youth co-*

*operative in order to buy shares from a nearby farmer, we lost that opportunity, because they had no interest.*

These statements reflect that there is lack of participation from the youth in natural resource management issues. This indicates that the youth want to participate in return for material incentives. The implication of the absence of participation of all concerned community members can result in an unsustainable use of natural resources. The concept of Agenda 21, highlight that the best way to deal with natural resource management issues is to have participation of all citizens, including the youth (DEAT, 1999). Therefore, it is crucial that ways are found to encourage youths to engage in the management of natural resources to ensure sustainable use in future.

### 4.3.1  Factors motivating participation in the community

The participants indicated two factors that motivate community members to participate in management of natural resources. Firstly, there are the results of the CBNRM project implemented in the community. The project brought benefits which include short-term employment opportunities, the land that was cleared from alien plant species, became available to plant crops and on which livestock could graze, and restoration of resources such as thatch.

*To see the results of the project, the grazing land became available and we were able to plant in the fields this motivated to continue clearing the bramble.*

*The short- term employment opportunities created, needy families employed in the project earn R40 per day.*

The statements indicate that firstly knowing the benefits derived from natural resources encouraged the development committee to realise the need to manage natural resources. This made them continue involving themselves in actions that aims to enhance their livelihoods. Fabricius and Koch (2004) and Murphree (2004) also state that a community is encouraged to become involved in CBNRM once they become aware of the change brought by the programme in the community. CBNRM offers multiple benefits such as enhancing livelihoods, economic development, and ensuring conservation and management of resources. These benefits motivate communities and other role players not only to participate in projects but also to manage their resources sustainably.

Secondly, the knowledge, understanding, and awareness of issues related to management of natural resources enable the community members to participate. These issues are reflected by the following statements recorded during the interviews with stakeholders:

> ..the awareness and knowledge gained by the community during the implementation of the projec, capacitated them to participate.

> The KwaPitela development committee is so assertive when in comes to development issues, they are enlightened; they know that should there be development in the area, the environment should be protected. They participate in IDP imbizo, the committee always raise environmental issues to be featured in the IDP.

The statements indicate that the members of the community that participate in management of natural resources are knowledgeable and have information that enables them to participate even in Integrated Development Plan (IDP) forums and also raise issues about management of natural resource management. In order for the community to participate effectively, they should have information and knowledge so that they can participate in decision making processes and be able to design, manage, execute, control and evaluate projects (Hunt, 2005).

## 4.4  Decision making in the management of natural resources

According to Burns and Taylor (2002) and Mizrahi (2004), the levels of participation in decision making include the following necessary requirements:

1. communities should have control over all activities;
2. decisions should be taken at a level that local communities can influence;
3. communities should  have a formal advisory role in information dissemination; and
4. communities should  have a role in budgeting decisions.

In the above elements, numbers 1 and 3 were displayed by the development committee. Findings of the study have shown that the development committee takes control of most of the CBNRM activities that are taking place in the community. The development committee works together with the community to identify and recruit members of the community to be employed if projects are implemented in this community. The development committee also communicates information to the community members on issues related to management of natural resources. The following statement reflects that

decisions are taken collectively and the development committee is responsible for giving feedback to the community and stakeholders on decisions taken:

*They are good in taking decision on their own, and the development committee always makes us aware of decisions taken by community. They have been vocal in development issues such as water project and road construction project in the area.*

Of the above elements numbers 2 and 4 were not displayed by the development committee or members in the KwaPitela community. The findings of this research indicate even though the development committee members are involved in making decisions on how the projects are to be implemented members cannot influence the decisions taken regarding finances and they also do not play a role in budgeting, as reflected by the following statements:

*….we opened the bank account, without any consultation we were told that funds for this project will be managed by another organisation we were not happy about this, I believe we are capable to manage our funds.*

This statement indicates that members of the community, under the influence of the development committee, can make decisions on their own, but they are still dependent on other organisations for financial and technical support to implement decisions taken. The implication of this is that the community without help from other stakeholders lacks the competencies to implement its programme. The goal of capacity enhancement is to develop, build, and increase competencies (Botha et al., 2007) of individuals to become less dependent on others for help. This implies that, even though development committee members display local organisational capacity in making decisions, they still lack the competencies to influence and control decisions taken.

Hagmann and Chuma (2002) state that decision making about natural resources, requires approaches in which all community members learn to be involved in decision making. There is, therefore, a need to find ways to include community members in decisions regarding management of finances.

## 4.5  Summary

In this chapter, the findings on how CBNRM has improved capacity in the KwaPitela community were discussed. These findings indicate that the programme assisted the

community to improve certain knowledge and skills to manage natural resources in the area. However, the study indicates that this capacity is displayed only by community members that are involved in the in the community development committee leadership structures, and harvesting natural resources for livelihood necessities.

The development committee has the ability to network with stakeholders that have a role to play in the management of natural resources, but the committee does not receive required co-operation from these stakeholders. The findings indicate that there is lack of participation from the youth in issues relating to the management of natural resources.

The development committee members display capacity in making decisions, but they still lack the competencies to influence and control decisions taken. This is because they are still dependent on other organisations to get financial and technical support to implement decisions taken.

The conclusions and recommendations drawn from the findings of this study are to be discussed in next chapter.

## CONCLUSIONS AND RECOMMENDATIONS

# 5.1  Introduction

Community based natural resource management (CBNRM) programmes are implemented to ensure sustainable use and protection of natural resources through appropriate capacity enhancement and empowerment mechanisms. One of the objectives of CBNRM is to enhance capacity through knowledge sharing, information gathering and participatory interaction for better management of natural resources. The main objective of this study was to establish the effect of the CBNRM programme on the capacity of the KwaPitela community to manage natural resources for sustainable use.

The key findings presented in Chapter 4 are summarised and conclusions are drawn with respect to the effectiveness of the programme of community based natural resource management in enhancing capacity in this community. Recommendations are made, and areas for further research are suggested.

# 5.2  Summary of key findings

To address the main objective of this study, three sub-objectives were developed to determine the community members' ability to 1) apply skills and knowledge in the management of natural resources for sustainable use; 2) participate with different stakeholders in the management of natural resources, and 3) make decisions on the management of natural resources for sustainable use;. The following Subsections (5.2.1 to 5.2.3) summarise the key findings in relation to these sub-objectives.

## 5.2.1  Knowledge and skills in community based natural resource management

A CBNRM programme enhances capacity if there is a change in the way people manage the natural resources (Morgan, 1998). On an organisational level, capacity is enhanced when people work together, organise themselves, mobilise resources, take action, and participate in social change (Albertyn, 2005). This change includes reduced environmental degradation, more efficient use of resources, and increased capacity in the management of natural resources. Management of natural resources requires communities to be

knowledgeable about natural resources and the interconnectedness of the eco-systems (Murphree; 2007).

The findings of this study indicate that the development committee of the KwaPitela community applied knowledge and skills by developing the Land Use Management Plan. The plan provides an overview of key issues identified by the community and the set of outcomes and activities that are needed to achieve the goal of sustainable growth in natural resources management. The skills that the development committee displayed include leadership, planning, and networking skills

The development committee and community members employed in CBNRM and those who are harvesting resources for livelihood enhancement displayed increased knowledge on the preservation and conservation of natural resources. It was also evident that they have increased understanding of legislative measures in place to protect natural resources.

There are also some skills and knowledge like marketing skills and development of business plans, that the development committee still needs to further manage their resource in a sustainable way. The youth also needs entrepreneurial skills related to establishing new business projects.

### 5.2.2  Participation in management of natural resources

The development committee displayed the ability to participate with various stakeholders that have a role to play in the management of natural resources, but they don't receive co-operation from these stakeholders. The development committee and community members who use natural resources to sustain their livelihoods have the capacity to participate actively in management of natural resources. Nevertheless, the findings indicate that two community members were inhibited to participate because of fear of talking in front of other people and because of a lack of time to attend meetings. There is also a lack of participation from the youth in management of natural resources.

There were factors that were found to motivate participation by community members. Firstly, the community became aware of the benefits that were brought by the CBNRM project implemented in the community. The project brought benefits, such as, short term-employment opportunities, land that was cleared of alien plant species, land that became available to plant, graze livestock, and restore thatching grass. These benefits encouraged the community to continue participating in management of natural resources. Secondly,

the knowledge, understanding, and awareness of issues regarding the management of natural resources created confidence to participate effectively.

### 5.2.3  Decision making in the management of natural resources

This research indicates that the development committee has influence and makes valuable decisions on management of natural resources and issues of development. The decisions are taken collectively, and the development committee is responsible for giving feedback to the community and stakeholders on decisions taken. Even though the development committee members display capacity, in making decisions, they still lack the competencies to influence and control decisions taken. This is because they are still dependent on other organisations for financial and technical support to implement decisions taken.

## 5.3  Conclusions

There are three conclusions drawn from the findings of this study. These conclusions are in relation to the research question and sub-objectives of this study.

1. The KwaPitela community members show capability to apply skills and knowledge in the management of natural resources. This includes the development committee and community members that harvest resources for livelihood enhancement and economic development. It is concluded that the CBNRM programme was effective in enhancing certain capacities in these community members, but they still lack additional knowledge and skills to ensure the management of resources for sustainable use.

2. The development committee displays the ability to network with stakeholders that have a role to play in the management of natural resources, but its members do not receive co-operation from these stakeholders. Other community members and the youth display a lack of participation in management of natural resources.

3. The development committee shows the ability to make decisions but it still lacks the competencies to influence and control decisions taken. Committee members are still dependent on other organisations for support to implement decisions taken that are related to funding the identified CBNRM projects.

## 5.4  Recommendations

Recommendation will be given regarding practice and further research.

### 5.4.1  Recommendation for practice

Based on the findings of the study and the conclusions drawn, the following recommendations are made:

- Organisations implementing CBNRM should develop programmes that encourage the development of skills and knowledge and that will enhance the community's ability to source funding for CBNRM programmes, manage the funding appropriately, market products, and also develop and sustain projects.
- The programmes should also ensure that youths are represented in the structures for community development that facilitate the implementation of CBNRM programmes.
- The CBNRM facilitators should encourage involvement of stakeholders by using approaches that will allow stakeholders to collaboratively manage their natural resources.

### 5.4.2  Recommendations for further research

There are two areas recommended for further research. The first relates to the lack of participation by the youths in management natural resources. There is a need to encourage youths to be interested in the management of natural resources and to find ways of their participation. Secondly, it is recommended that the partnership required between stakeholders and community members in the management of natural resource is explored. . These stakeholders include Ezemvelo KZNWildlife, Department of Agriculture, Environmental Affairs and Rural Development, Maloti Drakensburg Transfrontier Project, Department of Health, Women's Leadership and Training Programme, and KwaSani Local Municipality.

## 5.5  Conclusion

The research question developed for this study was: What is the effect of the CBNRM programme on the capacity of the KwaPitela community to manage its natural resources for sustainable use? This research question emanated from the problem statement that despite interventions for managing natural resources sustainably, communities often times display an inability to manage resources sustainably.

To address this problem, a basic qualitative research methodology was applied. Semi-structured interviews, focus group-discussions, and document analysis were used as data collection methods. The findings of this study indicate that the programme assisted the community to improve certain knowledge and capabilities to manage natural resources in the area. However, the study indicates that this capacity is displayed only by the development committee and community members that harvest natural resources for livelihood necessities. The members of the development committee have the ability to network with stakeholders that have a role to play in the management of natural resources, but they don't receive the required co-operation from these stakeholders. The development committee members also display capacity in making decisions but they still lack the competencies to influence and control decisions taken that are related to finances.

It is concluded that the lack of identified capacities requires intervention by appropriate stakeholders in CBNRM in order to enhance capabilities necessary for effective participation by all community members in management natural resources

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## Appendix A: Interview guide for the community

1. What is your understanding of natural resource management?

2. How are you involved in natural resource management in your community?

3. What knowledge have you gained whilst involved in community based natural resource management project?

4. How is that knowledge gained utilised in the community?

5. What skills have you acquired in the process?

6. Do you feel the knowledge and skills you have equips you to manage natural resources in your community in a sustainable manner?

7. What skills and knowledge are you still in need of?

8. How were you influential in the following aspects during implementation of the project and presently?

- Budget decisions
- Deciding who gets appointed
- Information dissemination
- Advisory input

9. How influential are you in making decisions regarding the management of natural resources in your community?

10. How are decisions communicated to various stakeholders and community members?

11. Who are the key stakeholders you interact with in the management of natural resources in the community?

12. Did you experience difficulties to participate with these stakeholders?

13. If there are difficulties, how do you address the difficulties?

14. Why do you participate in natural resource management issues in your community?

15. What motivates you to participate in these issues?

16. Do you have any plans in place, intended to maintain long term availability of natural resources in your community?

17. How do you ensure that the plans are implemented?

## Appendix B: Interview guide for stakeholders

1. What was your role and contribution in the implementation of the CBNRM project in the community?
2. How influential was the community in the implementation of the project?
3. What motivated the community to participate in this project and why?
4. What role did you play to encourage them to participate?
5. Did you experience barriers to participation from community members when implementing natural resource management programmes?
6. How are those barriers addressed?
7. How the community benefited from the CBNRM project?
8. Do you think from this project, the communities have acquired knowledge necessary to manage their natural resources sustainable? Justify
9. What skills obtained by community enables them to manage their resources sustainable?
10. What skills are they still in need of?
11. Do you feel the community have the ability to manage their natural resources sustainable even after the completion of this project?
11. Is there noticeable change in community behaviour and attitude towards the management of natural resources presently, as compared to their attitude before they were involved in the project?
12. Is community empowered to make decisions regarding management of natural resources?
13. How are issues raised by communities get into the decision making agenda?
14. If the decisions are taken, how are they implemented?
15. How are these decisions reported back to various stakeholders and community members?
16. Do communities mobilize themselves or are they still dependent on authorities in managing their natural resources?

## Appendix C: Focus group discussion guide

The following themes guided the discussion:

1. knowledge and skills enhanced and acquired, and how it is used by the community;

2. their attitudes and behaviour towards management of natural resources since their involvement in the programme;

3. the community involvement in decision making arenas with regards to management of natural resources;

4. the control and influence the community has in natural resource management;

5. the capacity they have to participate effectively in the natural resource management in their area; and

6. their participation with stakeholders in natural resource management.

# Appendix D: Transcripts of interviews with community members

**Research topic: The effect of a Community Based Natural Resource Management (CBNRM) programme on capacity enhancement of KwaPitela community in Underberg.**

Name of interviewee (optional):

Gender of interviewee: Male

1. What is your understanding of natural resource management?

   A: It is about managing, conserving the natural resources that we have. For example we need to clear the bramble that has taken away land for livestock and cultivation

2. How are you involved in natural resource management in your community?

   A: I am the member of the local board within Southern Drakensberg Ukhahlamba Region. It is my responsibility to ensure that no illegal hunting takes place, and to manage the grazing of livestock to prevent soil erosion.

3. What knowledge you have gained whilst involved in community based natural resource management project?

   A: I was not aware before being engaged in the project, that bramble and wattle are invasive alien species, with so much impact in the environment. The shortage of land brought the shortage of food; because we lost interest to plant .The project opened our eyes in terms of environmental issues.

4. How is that knowledge gained is utilised in the community?

   A: As the community we took an initiative to continue managing our resources. The community is aware that if we manage and conserve natural resources, we can attract the tourists in our community. We have started a tourism project in the area. We have the youth that is trained as tour guides; they transport the tourist and show them around. The community members are volunteering to collect to collect stones and pebbles in order to rehabilitate dongas. The community is aware that they cannot harvest natural resources any how, they must have permits. I also facilitate that community members obtain these permits

5. What skills have you acquired in the process?

A: I know how to handle chemicals to clear alien plants

6. What skills and knowledge are you still in need of?

   A: The youth should be taught business skills

7. How were you influential in the following aspects during implementation of project and presently?

   ➢ Budget decisions

   ➢ Deciding who gets appointed

   ➢ Information dissemination

   ➢ Advisory input

   A: While the project was implemented, the members of the development committee were responsible for recruiting community members to be employed in the project. I was involved as the member of the development committee. We (committee) were not given the opportunity to manage the finances of the project. I was not happy about this; the committee opened the bank account because we were hoping the funds were to be deposited into our account. But that didn't happen; the funds were managed by another organization.

8. How influential are you in making decisions regarding the management of natural resources in your community?

   A: I am influential, since the farm (KwaPitela community) belongs to me and my brother. I always ensure that activities that are taking place, do not affect this community, since the community is under my leadership

   How decisions are communicated to various stakeholders and community members?

   A: Whatever decisions taken are reported to the community by us (the development committee

9. Who are the key stakeholders you interact with in the management of natural resources in the community?

   A: It is NCS (currently known as EKZNWildlife), KwaSani Local municipality

10. Did you experience difficulties to participate with these stakeholders?

A: No difficulties, except that the Land Use Management Plan we had as the community, was featured in the IDP before, now nothing is mentioned about our plan.

11. If there are difficulties, how do you address the difficulties?

A: I always communicate with relevant officials if there is something to be discussed

12. Why do you participate in natural resource management issues in your community?

A: Since this is my farm, I have to ensure that natural resources are managed I and that the environment is protected

13. What motivates you to participate in these issues?

A: I have a learnt, that there are so many benefits, if natural resources are taken care of.

14. Do you have any plans in place, intended to maintain long term availability of natural resources in your community?

A: We developed the land use management plan, but the challenge we have is to obtain funding to implement the activities in this plan. In some cases we request assistance from various departments; at times we get help, such as chemicals to remove alien species.

15. How do you ensure that the plans are implemented?

A: The challenge of funding hinders, the implementation of our plan

**Community member**

**Research topic: The effect of Community Based Natural Resource Management (CBNRM) programme on capacity enhancement of KwaPitela community in Underberg.**

Name of interviewee (optional):

Gender of interviewee: F

1. What is your understanding of natural resource management?

A: It is about taking care of natural resources by being involved in projects like donga rehabilitation, control of veld fires, livestock rotation to avoid overgrazing and soil erosion and to take care of wetlands

2. How are you involved in natural resource management in your community?

A: As I am in the youth development committee, I have to ensure that all development activities that take place does not end up degrading our natural resources.

3. How influential are you in making decisions regarding the management of natural resources in your community?

A: As the youth we took an initiative to build the sport ground and the community hall. As I am ware of the importance of the natural resources, when the sites were identified, it was ensured that these projects won't cause harm to the environment.

Why do you participate in natural resource management issues in your community?

A: I am in the development committee, I represent the youth, I feel it is important to represent and voice the opinions of the youth in the community. But the youth in this area is not motivated; they don't want to involve themselves in activities. For instance there was a period, when the youth was required to form a co-operative in order to buy shares from the neighbouring farmers, but they were not interested, and we lost that opportunity.

4. Do you have any plans in place, intended to maintain long term availability of natural resources in your community?

A: There is a plan in place, I wish to be engaged in a project to rehabilitate wetlands in the area, and I need information on how to, go about doing such projects. I wish to strengthen the forum in the community, whereby natural resource management issues will be dealt with extensively.

5. What skills and knowledge are you still in need of?

A: I would like to get training in agriculture, tourism and marketing

**Community member**

**Research topic: The effect of Community Based Natural Resource Management (CBNRM) programme on capacity enhancement of KwaPitela community in Underberg.**

Name of interviewee (optional):

Gender of interviewee: F

1. What is your understanding of natural resource management?

A: It is about managing plants and wild animals in our area. Since we are next to the protected area we must get the permits to get in and harvest grass, which I use to make brooms. It is also about managing our waste w e generate as the community, we need to collect waste, so that our environment is clean. NCS come to collect litter bags from the community.

2. How do you ensure that this knowledge you have is shared among other community members?

A: I teach the youth about the importance of natural resources, especially the young girls on how they should take care of themselves, as this is part of our culture and heritage.

3. What skills and knowledge are you still in need of?

A: I think the soil we have is not conducive to plant certain crops, I will be happy if the officials can come and test our soil and teach us about soil.

4. How influential are you in making decisions regarding the management of natural resources in your community?

A: The committee is very active, they give us information and we are called in meetings to discuss development issues. I attend meetings and contribute to discussions. I always want to be updated with information, since am harvesting resources for living.

**Community member**

**Research topic: The effect of Community Based Natural Resource Management (CBNRM) programme on capacity enhancement of KwaPitela community in Underberg.**

Name of interviewee (optional):

Gender of interviewee: Female

1. What is your understanding of natural resource management?

A: It is to take care and protect the resources we have, because they are an asset to communities.

2. How are you involved in natural resource management in your community?

A: I was involved in the bramble clearing project, ,being exposed in the project, made me aware that we must take care of resources, The project assisted us, because we were able to plant in our gardens and in the fields. I also harvest grass to do mats, and medicinal plants such as *ikhathazo* and I sell these plants during pensioner's days and to other places during market days.

3. How do you ensure that resources you harvest are always available for your consumption?

A: I have the permit from Ezemvelo KZNW, and I know the correct ways to harvest and when am I to harvest the natural resources I need.

4. How influential are you in making decisions regarding the management of natural resources in your community?

A: I am involved in issues that are taking place in the community, I attend meetings.

5. What skills and knowledge are you still in need of?

A: I once enrolled with ABET, but now that has stopped. I wish Ito be given the opportunity to learn again.

**Community member**

**Research topic: The effect of Community Based Natural Resource Management (CBNRM) programme on capacity enhancement of KwaPitela community in Underberg.**

Name of interviewee (optional):

Gender of interviewee: Female

1. What is your understanding of natural resource management?

A: It is about taking care of natural resources, Wildlife management and to ensure that the environment is free from alien plants.

2. How are you involved in natural resource management in your community?

A: I am a member of the youth development committee; I initiated the tourism project with the youth in this community. I was instrumental in drawing the business plan to do backpackers

3. How do you share the information you have and encourage the youth to be involved in the management of natural resources?

A: I involve myself during environmental wareness campaigns, I am skilled in art, I teach the youth to make materials from waste products, in order to minimize waste in the community.

4. What skills and knowledge are you still in need of?

A: I would like to get training in financial management, so to be equipped in managing the funds for the projects

5. How influential are you in making decisions regarding the management of natural resources in your community?

A: Since I am in the development committee, I always try to mobilize the youth to involve themselves in development issues.

6. Why do you participate in natural resource management issues in your community?

A: I have realised that since I am unemployed, I need to be self employed and use these natural resources to generate income, I involve myself cause I have the opportunity to be kept informed about issues and this help me to improve my knowledge as well

**Community member**

**Research topic: The effect of Community Based Natural Resource Management (CBNRM) programme on capacity enhancement of KwaPitela community in Underberg.**

Name of interviewee (optional):

Gender of interviewee: Female

1. What is your understanding of natural resource management?

A: It is about saving water, not to dig medicinal plants anyhow and to know the right time to harvest natural resources

2. How are you involved in natural resource management in your community?

A:  I do basket weaving, so we were taught how and when to harvest the resources I use for craftwork.

3. What knowledge you have gained whilst involved in community based natural resource management project?

A: I was not involved in the project

4. What skills and knowledge are you still in need of?

 A: I need to be taught farming for commercial purposes.

5. How decisions are communicated to various stakeholders and community members?

A: I am not in the committee; the committee communicates with us, as the community.

**Community member**

**Research topic: The effect of Community Based Natural Resource Management (CBNRM) programme on capacity enhancement of KwaPitela community in Underberg.**

Name of interviewee (optional):

Gender of interviewee:

1. What is your understanding of natural resource management?

A: It is about saving water, not to dig medicinal plants anyhow and to know the right time to harvest natural resources

2. How are you involved in natural resource management in your community?

A:  I do basket weaving, so we were taught how and when to harvest the resources I use for crafts

3. What knowledge you have gained whilst involved in community based natural resource management project?

A: I was not involved in the project

4. How is that knowledge gained is utilised in the community?

5. What skills and knowledge are you still in need of?

 A: I need to be taught farming for commercial purposes.

6. How decisions are communicated to various stakeholders and community members?

A: I am not in the committee; the committee communicates with us, as the community.

## Appendix E: Transcripts of interviews with stakeholders

**Research topic: The effect of Community Based Natural Resource Management (CBNRM) programme on capacity enhancement of KwaPitela community in Underberg.**

**(Stakeholder)**

1. Women Leadership and Training Programme (WLTP) is an NGO that has been involved in the community since 2001, and have established relationship with the community. The organisation has initiated small scale farming projects in the community focusing on girls and women. Currently I am the WTLP project coordinator, during the implementation of the project I was appointed by MDTP as the Regional community facilitator.

2. MDTP adopted an open process approach with the principles of acknowledging and strengthening existing structures and processes in communities. The strategy used to implement the project, was to use the existing leadership in the area, which is the development committee. To recruit members of the community to be part of the project was the responsibility of the community. As an organization we believed that the communities are an agent of their own development and change

3. I think the approach we used; implementing the action-reflection process which allows for "planning as you do" made the community to participate actively in the process. The development committee has to work together with the community to plan; the process was powerful because they had to share knowledge. There were cases when the communities did mentoring and giving each other advises. Being in partnership with other nearby community and share information, visit each other, during the pilot project motivated, them, they saw the results of clearing bramble. When they had to visit other communities where similar projects were implemented and to attend meetings, they were provided money for transport.

4. As a regional community facilitator my role was to ensure that they participate for the project to be a success. I have to maintain the trust in order for us to work

collaboratively as a team. Teamwork and commitment was the key in maintaining their active participation. Even though the development committee, have other development duties to undertake, they participated in the process from the beginning to the end, and ensured that the community is involved. Regular visits to the community as an official to show your support and to communicate with the community really motivate the community to participate in development issues. The past experiences with EKZNW, building a school for the community, also motivated the community to participate because they knew that if they participate in this project it will bring benefits to the community.

5. The committee realised that to achieve their goals they need to work with the municipality. During the 08/09 IDP meeting for KwaSani Mnicipality, they requested that their 20 year plan be included in the IDP. They did a presentation to the municipality on the impacts of bramble in the area and insisted that there should be improvement in communication between municipality and dev committee. The have the right to be consulted about any development taking place in their area.

6. The committee and some members of the community are empowered when it comes to natural resource management issues. Though they want development in the area, but they know that their environment should also be taken care of as well. For example during the proposal of building the bridge in the area, they manage to raise the issue of an endemic flower that will be destroyed during the EIA public participation process.

7. Yes, I think the trust and working relationship between MDTP and the committee grew significantly, and the independence of the committee and the way they accept responsibilities made me not to doubt that they are capable of making valuable decisions. The community also trusts the committee. The community is next to Maloti Transfontier Park and they understand the relationship between the natural resources and their livelihoods. They are knowledgeable in natural resource management, the challenge they have is funding. Government departments should assist such communities, on how to fill forms to apply for funding

8. The level of awareness on natural resource management increased. Being involved in the Sustainable Livelihood research empowered them. They manage to develop the Land Use and Resource Management plan. They presented the plan to various stakeholders.

9. They have improved on presentation skills, especially the development committee. They acquired planning skills, report writing skills,   the development committee has leadership skills, they understand their role in the community

10. Yes, the plan they developed served as their guide on how to manage their natural resources. After the completion of the project they manage to get assistance from environmental affairs to get chemicals. They have the same commitment they had during the implementation of the project The community have a potential to manage resources even after the project is handed over to tem, If they can get funding for chemicals they  are committed that each household will be responsible to clear bramble in their yards and fields, the development  committee will monitor that.

11. Change is noticeable; they are keen and have commitment to address issues pertaining to natural resources.  Being practically involved in the process has made the community and development committee to change their behavior the Land Use and Resource Management plan says it all. The community has ownership of this plan, since they were fully involved in the process. In 2005, the Department of Agriculture and Environmental Affairs undertook resource assessment of this area and produced a Land Use Management Plan, and it was a highly technical document and the community did not participate in the process. The community had no knowledge and understanding of issues that were reflected in the plan, and no action was taken by community to implement what was stipulated in the plan.

**(Stakeholder)**

1. DAEARD became involved with KwaPitela community after the completion of their projects. They invited our Department and did a presentation of their Land Use and Resource Management plan for 20 years. So I would not enable to assist in some aspects concerning the implementation of the project. What I can state is that I was so fascinated by the presentation done by members of the development committees; they displayed knowledge of environmental issues in their areas, such as soil erosion, grazing land restoration and community tourism development. The community manages to come up with their own strategy to address such issues.

2. They have intact participation with stakeholders; they are able to sustain life partnership with stakeholders, this is shown and visible through the meetings they had with other stakeholders, minutes were shown and they keep records of all stakeholders they have been engaged with.

3. I think the community can make minimal decisions regarding the operations they do. They are able to make plans to take care of their resources, because they are able to identify environmental issues. They can identify alien plants and feel a need to be assisted with chemicals to eradicate these plants, because they have plans to cultivate their land for commercial purposes.

4. The development committee is very good in mobilizing the community, but they need assistance to get resources to pursue their programmes. Once they have necessary resources they are able to accomplish their activities. I have managed to assist them with the chemicals to continue with the removal of bramble as it is in their action plan for Land use and Resource Management plan. They are also aware of their environmental rights.

5. I think they have acquired organisational skills; they are able to organize themselves. I have observed leadership skills from the committee, they also have business skills, they were able to draft their business plan, and I assisted them to fill the business plan for landcare funding. They have networking skills, now they are able to identify and invite stakeholders with the interests in the project.

6. They have knowledge; they are able to identify indigenous species and alien species in the community. I think the project capacitated them in landcare issues, land cultivation, because in areas where they remove the American bramble they started cultivating the land.

7. They are not empowered with marketing skills, they need to be capacitated with marketing skills, and they need to know how to approach the commercial world after their produce.

8. They are able to sustain their projects through the knowledge gained, but they need assistance somehow. The community has been mobilised, the community has a focal point in the importance of natural resources, because they know that there are benefits. If they continue managing their natural resources they have greater benefits to be derived from these resources.

9. The assistance that they have received have enhanced more positive attitude towards maintaining their natural resources. Sustainability of natural resources is at the required level, their behavior have changed, they are more conscious of issues, and they were able to request assistance of chemicals from the department, they continued removing bramble on their own.

**(Stakeholder)**

1. My role was to facilitate meetings in the community and ensure that the Worlds bank s vision and mission is accomplished.

2. I have no idea since was involved in the project by the time the community was already implementing the project.

3. I can say yes because in the meetings only one male use to attend from KwaPitela group u Baba uMhlophe.

4. They were very influential in the project, and they were motivated because after clearing the bramble in their area, they offered to assist neighbouring farms to clear their private land as well.

5. They could see the results of the first phase of their project, the grazing and becomes available and they become motivated to continue removing American bramble.

6. Our role as EKZNW was to facilitate and make the community to realize the importance of looking after their resources and to pursue the interest of our organization that the buffer zone is well managed.

7. There were no barriers, since were communicating in the same language (isiZulu), they have the skills and know how when it comes to comes to management of natural resources. One has to make sure that they become independent because they still rely on organizations to get funding for their projects.

8. none

9. I am not aware of any particular issues, except that they wanted support to get funding for the project. But they were other issues that were raised by community, stock theft, and proof cable fence, additional funding was made available for this.

10. Decisions were reported in meetings and development committee members were to report to the community.

11. I have no idea on this one.

12. They have shown understanding and knowledge when it comes to their natural resources, they know the impacts caused by alien plants in their natural resources. They are empowered; they even requested the organization to pursue the commercial farmers to clear their lands, because they know the impacts.

13. They are trying but not there yet, there is still lack capacity to source funding for themselves, and they still need assistance in this issue.

14. There were employment benefits; they receive training on how to use herbicides, handling and its application. They also benefited in restoration of the natural resources, some of them have B+Bs due to the tourism potential in the area, and they are also selling beadwork. All this came as a result of the exposure to this project

15. yes, the SL framework have assisted them a lot in realizing the importance of their resources and being engaged in this project motivated them to conserve their resources.

16. They have acquired business management skills, research skills and they are able to develop their business plans.

17. Fund raising skills and to develop entity to consolidate all their projects in the community.

18. change is noticed, a positive change , because they want to clear their land from alien species and manage their resources in a way that is compatible with conservation objectives,

## Appendix F: Transcripts of focus group discussion

The Development committee existed in the community with the responsibility to coordinate development activities. Mr Buthelezi from EKZW introduced the idea of implementing a project to assist the community in conserving their natural resources to the committee. But the community has to come up with the project to implement. The development committee and the community came up with the idea of clearing American bramble. This alien plant was problematic to the community because, the grazing land for their livestock was reduced, grass removed, land to plant was invaded by this bramble. The indigenous medicinal plants became extinct and they even short of sites to build their houses. The community benefits from the project included:

➢ rehabilitation of land, livestock recovery,
➢ they were able to get grass to thatch their roofs ,
➢ the land  was cleared and able to plant  in the fields
➢ land available to build the houses
➢ short term employment opportunities created, earn R40  per day 21 members employed.
➢ The youth benefited in the project and there was no time to wander about and do unnecessary things.

From being involved in the project the community gained knowledge and awareness in the following aspects:

➢ They are aware  that they must not burn fire and fields at any time,
➢ They know when the hunting season is and how to hunt if they see poachers they phone the dev committee and the poachers are reported to relevant authorities.
➢ They have learnt about the importance of their mountains that attracts the tourists to see rock paintings ,Khoisan arts, their natural heritage
➢ The importance of conserving their resources, the medicinal indigenous plants in their area
➢ The need to conserve their resources for the benefit of attracting tourists in the area.

They attended one day training on how to handle and use chemicals was done, how to identify alien plants, why it is important to conserve their natural resources. The training

assisted them with knowledge of the correct herbicides to be used, because now they don't have a problem on how to use the herbicides given out by DAEARD.

The community was fully involved in the project and actively participated in the process. Prior to the implementation of the project the community assisted by development committee, had to do research on the assets they have and had in the past using SL Framework. During this exercise they feel they acquired research skills, and they were not even aware that they were doing research. Sbongile didn't tell them, that the exercise they were engaged was research. They are so proud of themselves, because they thought research was only done highly learned people. They are grateful of participation in this process because it has made them share community problems.

The development committee was responsible for recruiting members of the community to be employed in the project and to undertake research. Members of the community take turns of two in the projects, so that everybody will benefit. Regular meetings were done with various stakeholders during the implementation of the project. The decisions were taken collectively and it was the duty of the community to provide feedback to the community at large. The schedule of meetings was made available to members of the committee. Meetings were done at the local school, in cases where meetings were held in town or other areas; they were reimbursed for transport cost. They were given an opportunity to provide meals for stakeholders that were part of those meetings and get paid for providing that service.

However the development committee /community were not involved in budget decisions /finances of the project. They were told to open the account where the funding from World Bank was to be deposited, without any consultation they were told that their funds were managed by another organisation. The resources (chemicals and equipments) to run the project were made available to them but no report was done on expenditure. They were not happy about this, and at some stage they were told that the funding is finished, they need to stop working without being given the notice on time. During the implementation they participated with the ff: stakeholders:

- ➢ NCS(EKZNW)
- ➢ Pholela Biosphere responsible for monitoring of funds,
- ➢ MDTP,assisted with the implementation of the project. Sbongile from MDTP assisted them a lot to make their project a success.

They feel they are capable of making their own decisions about their needs and interests now. The development of the Land Use and Natural Resource Management by the community members, has equipped them with planning skills and since then they are so confident to plan. In the past they were scared to go to the municipality, now they write down their development needs and give it to the municipal officials. They have developed their vision 2020 strategy, based on the research they have done. The strategy entails action plans on how to

- ➢ eradicate alien plants,
- ➢ restore grazing land,
- ➢ donga rehabilitation,
- ➢ combating soil erosion,
- ➢ and to have a museum in the community.

This plan was made available to KwaSani local municipality so to be included in the IDP.Their attitudes and behaviour towards management of natural resources since their involvement in the programme has changed. They always request assistance from other government departments to implement their plan. The development ensure that the community is made aware about the importance of managing the natural resources

One of the members of the committee mentioned during the focus group discussions that she notices that the number of fishes is decreasing in the river; there is a possibility that the community up the river is polluting water, but they will have to find out the cause as the development committee.

On the day of the focus group discussion a service provider came to the site nearby the community hall where the discussions ware taking place. The iNduna Baba uMhlophe approached the service provider and asked why they were in the area. It was discovered that they were sent by the municipality to drill the borehole, and the dev committee was not aware of this. BabuMhlophe phoned their local municipality to enquire about this and the reason why they were not informed. And they felt they should have been consulted and given an opportunity to specify where that borehole should be drilled based on their needs as the community. To my observation this has led me to realise that the community is well capacitated in terms of their rights and responsibilities and the capability to make their own decisions.