SOCIO-ECONOMIC BENEFITS OF COLLABORATIVE MANAGEMENT APPROACH TO COMMUNITIES AROUND NYIKA NATIONAL PARK, NORTHERN, MALAWI.

MASTER OF SCIENCE THESIS IN TRANSFORMATIVE COMMUNITY DEVELOPMENT

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MZUZU UNIVERSITY

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BSc NATURAL RESOURCES MANAGEMENT

A RESEARCH THESIS SUBMITTED TO FACULTY OF ENVIRONMENTAL SCIENCES, DEPARTMENT OF AGRI-SCIENCES, IN FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF SCIENCE DEGREE IN TRANSFORMATIVE COMMUNITY DEVELOPMENT

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DECLARATION

I declare that this thesis titled "Socio-economic benefits of Collaborative Management approach to communities around Nyika National, Park" is my original work. All citations, references and borrowed ideas have been duly acknowledged.

None of the work has been submitted previously for any degree or examination in any other University.

_____ _____

Student's Name **Date**

CERTIFICATE OF APPROVAL

I certify that this thesis is a result of the author's own work, and that to the best of my knowledge, it has not been submitted for any other academic qualification within Mzuzu University or elsewhere. The thesis is acceptable in form and content, and that satisfactory knowledge of the field covered by the thesis was demonstrated by the candidate through an oral examination held on 20th October 2025.

Signature..... Date .....

Frank Mnthambala, PhD

Main Supervisor

DEDICATION

I dedicate this thesis to my family and friends, and everyone who contributed to its development in one way or another.

To my late father Lufeyo Chiwanga Chulu and mother Lenia Kamanga Chulu who instilled the hard working and perseverance spirit in me.

Lastly, my special dedication should go to my dear husband Andrew and my children (Hawelah, Nohakhelah and Ekumi) for the love, care, support and understanding throughout my study period.

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LIST OF ABBREVIATIONS AND ACRONMYS

ADMADE	Administrative Management Design
CAMPFIRE	Communal Area Management Programme for Indigenous Resources
CBNRM	Community Based Natural Resource Management
CM	Collaborative Management
DNPW	Department of National Parks and Wildlife
IUCN	International Union for Conservation of Nature
GoM	Government of Malawi
LIRDP	Luangwa Integrated Resources Development Project
MZUNIREC	Mzuzu University Research Ethics committee
NGO	Non-Governmental Organizations
NNP	Nyika National Park
NRC	Nature Resource Committee
NVA	Nyika Vwaza Association
PA	Protected Area
PPF	Peace Parks Foundation
REDD+	Reducing Emissions from Deforestation and forest Degradation
RSS	Revenue Sharing Scheme
RUP	Resource Use Programme
SADC	Southern African Development Community
SPSS	Scientific Package for Social Scientists
T/A	Traditional Authority.
TFCA	Trans-Frontier Conservation Area.
TLC	Total Land Care.
ZNRC	Zone Nature Resource Committee.

ABSTRACT

Many protected areas (PAs) have followed the conventional and exclusionary approaches to preserve and conserve the flora and fauna. In some cases, these approaches have triggered adverse social impacts on local communities, disrupting their traditional ways of living and limiting their control of and access to natural resources. As such, inclusive approaches such as the Collaborative Management (CM) were introduced for the communities to be involved in the management of natural resources whilst deriving benefits from the PAs. However, the impact of these approaches on communities has not been adequately explored. Since the introduction of the CM to Nyika, the community is still not fully supporting wildlife conservation, which means limited benefits. The overall objective of this study was to assess the socio-economic benefits of the Collaborative Management approach to the communities around Nyika National Park. A mixed research approach was conducted in communities around Nyika National Park. The data collection tools included questionnaire, where a survey was conducted on 250 households, six focus group discussions, and 7 key informant interviews. The study results found that communities perceive Collaborative Management as an approach that, is a suitable for park management, and can contribute a lot towards the socio-economic status of communities and can reduce poaching. In addition, passion for conservation of wildlife (26%), economic benefits (30%), Resource Use Programme (32%), and safeguarding properties from animals (12%) are motivational factors for community participation in Collaborative Management of Nyika National Park. The study found that the CM approach has many socioeconomic benefits to communities. The study recommends enhancing benefit-sharing procedures to ensure that all members have equal opportunities to benefit. It also suggests focusing on both individuals and the broader community to maximize socio-economic gains at the local level.

Keywords: *Collaborative Management, Socio-economic benefits, protected area.*

CHAPTER ONE: INTRODUCTION

1.1.Background

A protected area is an area of land and/or sea, especially dedicated to the protection and maintenance of biological diversity, and associated cultural resources and managed through legal or other effective means (IUCN 2004). The protected areas include National Parks, Wildlife Reserves and Sanctuaries. Protected Areas (PAs) are one of the most frequently used conservation strategies, but remain contentious due to their negative impacts on local communities and mixed evidence on their ability to conserve species and habitats (Ward et al. 2018).

Previous conservation policies focused solely on the conservation of wildlife resources within protected areas without taking into account the rights and needs of the surrounding human population (Dressler et al. 2010). This approach was referred to as 'fences and fines' or the 'fortress approach', this meant, for many years, the exclusion of people and residents from natural areas, and often the limitation of their traditional consumptive use and of other forms of human pursuit (Dressler et al. 2010). This fences and fines approach restrict local community access to natural resources through coercion and it became the de facto management model for most protected areas (Dressler et al. 2010).

In recent decades, conservation and central government control have recommended policies and legislation that strive for the inclusion of multiple stakeholders (Bluwstein and Moyo 2016). Since the turn of the 1980s, community involvement has become a new convention approach to management of natural resources and wildlife conservation in Africa, including Malawi, Zimbabwe, South Africa and Kenya (Zuka & Zuka 2016).

Conservation practices all over the world are changing from the traditional management approach with emphasis on managing natural resources in a way that ensures greater flow to all stakeholders, especially local community members (Sam et al. 2014).

In an effort to collaborate with local communities to enhance local livelihoods and effectiveness of PAs (e.g., national parks), PA authorities across Africa adopted co-management approach (Abukari and Mwalyosi 2020). This new intervention, commonly known as co-management in PAs, under the broad canopy of community-based natural resource management (CBNRM), is a major emerging issue for conservation policy in many developing regions that has also been widely promoted by international conservation agencies (Rashid et al. 2013).

The aim of Collaborative Management approach was to reduce local costs of PAs and provide more equitable management. In addition, it recognized the need to promote involvement and empowerment of rural communities by linking their economic and social development to Natural Resources Management (Ward et al. 2018). The term "Collaborative Management " (at times also referred to as co-management, joint management, shared-management or round-table agreement) describes a partnership among different stakeholders for the management of a territory or set of resources (Borrini et al. 1997). This rather inclusive approach has been touched upon in several articles, which proves its importance and need for further observation (Agrawal and Gibson 1999). Collaborative Management is justified on the assumption that it would bring efficiency in wildlife management while at the same time taking care of the interests of the community (Zuka & Zuka. 2016) which depend on the area and region.

1.1.1 Wildlife Conservation Approaches in Malawi

Formal wildlife management in Malawi started in 1896, before an institution to manage was formally organized. The first moves to preserve were made by the then Consul General H. H. Johnston which led to the publication of regulation to preserve wild game in certain parts of the country on 9th September 1896. From then many protected areas were established and gazetted for example Nkhotakota Game Reserve. In 1946 the Department of Game and forest reserves commission was established. From 1947 the Nyasaland Fauna Preservation Society (now Wildlife and Environment Society of Malawi) took a leading role in making the initiative to have certain areas declared game reserves. Although game reserves were created, the activities were centred on game control. In 1949 the commission was developed into Department of Tsetse Fly Control up to 1962 when the Department of Forest and Game was established. In 1973 the Department of National Parks and Wildlife which is the government arm responsible for wildlife conservation started. Malawi has five National Parks (Nyika, Kasungu, Liwonde, Lake Malawi and Lengwe), four wildlife reserves (Vwaza Marsh, Nkhotakota, Majete and Mwabvi) and three nature Sanctuaries (Mzuzu, Lilongwe and Michiru) (GoM 2018).

1.1.1.1 Fence and Fine Approach

Malawi has a long history of state intervention into wildlife management through the Fence and Fine Approach that was aimed at outlawing traditional methods of hunting which were seen as wasteful in the hunting of game (Zuka & Zuka 2016). The approach relies on strict protection where communities are not involved and punitive measures are employed. The approach involves the protection of wildlife that keeps humans away from the protected area and any intrusion is met with fines or legal actions. The approach resulted into conflicts between the state and communities around the protected areas. This affected biodiversity and

genetic flow and wildlife became isolated. The general failure of this approach to reduce losses of biodiversity led to a search for an alternative Natural Resource Management (NRM) regime. The conservationists realised that there is a need for the new approach which ensures that benefit derived from conservation be directed to the needs and wellbeing of the local people in the area. The concept of community-based natural resource management (CBNRM) arose specifically to address the goals of environmental, economic and social justice (Ward et al. 2018). The CBNRM/CM, approach focuses on involvement of communities in conservation that give them a sense of ownership and responsibility.

1.1.1.2 Collaborative Management Approach

Collaborative Management has emerged as a promising approach in wildlife conservation, offering a shared decision-making framework that involves various stakeholders, including government agencies, local communities, and conservation organizations (Fisher et al. 2019). This approach aims to address the shortcomings of traditional centralized management models, which have often failed to effectively protect and sustainably manage wildlife resources (Zuka & Zuka. 2016). (Borrini-Feyerabend et al. 2004) define Collaborative Management or co-management as "a situation in which two or more social actors negotiate, define and guarantee amongst themselves a fair sharing of the management functions, entitlements and responsibilities for a given territory, area or set of natural resources. Collaborative Management of protected areas is therefore an arrangement which permits all stakeholders who have an interest in the resources of any protected area to participate in the decision-making process and in the drawing up of strategies for the management of the protected area as well as being involved in the sharing of benefits accruing from their management.

The park services and the communities that are adjacent to the parks are engaged to work together as partners for the management of the parks. What this means is that the local

communities are encouraged to work hand–in–hand as partners with the park services to ensure the effective preservation of the resources of the parks.

Collaborative Management , also known as co-management, is a way of engaging local people in resource management by incorporating their ideas, experiences, values, and capabilities, and sharing the benefits of management (Zuka & Zuka. 2016; (Manda et al. 2023). The co-management approach seeks to share power, authority, and resources with communities and sub-national levels of government, recognizing the basic needs of local people in and around protected areas (Ward et al. 2018); Dressler et al. 2010).

The structure of Collaborative Management in wildlife conservation typically involves a partnership between government agencies, local communities, and other stakeholders, such as conservation organizations and scientific communities (Zuka & Zuka. 2016). The government agencies often provide the legal and policy framework, technical expertise, and resources, while the local communities contribute their traditional knowledge, customary rights, and active participation in management decisions and implementation(Zuka & Zuka. 2016), (Borrini et al. 1997).

1.1.1.2.1. Collaborative Management Approach in Malawi.

The Collaborative Management approach in wildlife conservation, particularly in Malawi, is a strategy that involves cooperation between the government, local communities, and other stakeholders like non-governmental organizations (NGOs) and private entities. This approach recognizes that effective conservation can be achieved by sharing responsibilities and benefits (GoM 2018). In the Department of National Parks and Wildlife, involvement of local communities in management of wildlife is through CM. It has been adopted and fully integrated in the Wildlife Policy of 2018 and National Parks and Wildlife Act of 2018.

Collaborative Management differs from other forms of participatory management, what the literature describes as "Community-Based Natural Resource Management", because it recognizes that it is not generally possible or desirable to vest all management authority in the community (Borrini et al. 1997). The state should and will always retain some responsibility, It is also known as a shared authority and decision making between parties, often local communities and the government or NGOs (Borrini et al. 1997, (Manda et al. 2023). Malawi's wildlife management Collaborative Management structure below is where communities around PA collaborate with government to manage wildlife resources (Figure 1).

Figure 1 Collaborative management concept in wildlife

1.1.1.2.2. Collaborative Management approach in Nyika National Park

The Department of National Parks and Wildlife (DNPW) initiated Collaborative Management approach (CM) in Nyika National Park in 1984. The initiative started in the form of resource utilization such as bee keeping. In 1986, communities were allowed to collect a few resources (honey, mushroom, reeds, thatch grass, flying ants, caterpillars, medicinal plants etc.) from the park within a 5-kilometer strip (GOM 2018). It is recognized that people who live 5 km from a PA often have regular interaction with the PA and thus impact or are impacted by the PA (Oldekop et al. 2016). The grassroots institutions (Natural Resources Committees) were formed at group village headman level to facilitate the resource use programme (GoM 2004). This was purposefully made to make management more effective by involving all stakeholders,

especially the neighbouring communities and providing the motivation for their active participation and appreciation (GoM 2018).

In 1996, other incentives like the revenue sharing scheme were introduced in addition to resource utilization. With the revenue sharing, the border zone communities of Nyika National Park gets a proportion of revenue collected (GoM 2004). In 1998, with support from Border Zone Development project and Nyika Vwaza Conservation project the approach changed to Collaborative Management (GoM 2004). In 2000 the Nyika Vwaza Association was established and registered as an umbrella body to facilitate revenue sharing. Government through its Collaborative Management.

Collaborative Management Programme wanted to extend to other protected areas in Malawi. It has been discovered that many local communities' livelihoods are sourced from the natural resources, hence impacts of PAs on local livelihoods can be a major determinants of attitudes of local communities towards conservation (Oldekop et al. 2016).Therefore, there is need to assess if the CM approach is providing socioeconomic benefits to communities around PAs in order improve their livelihood.

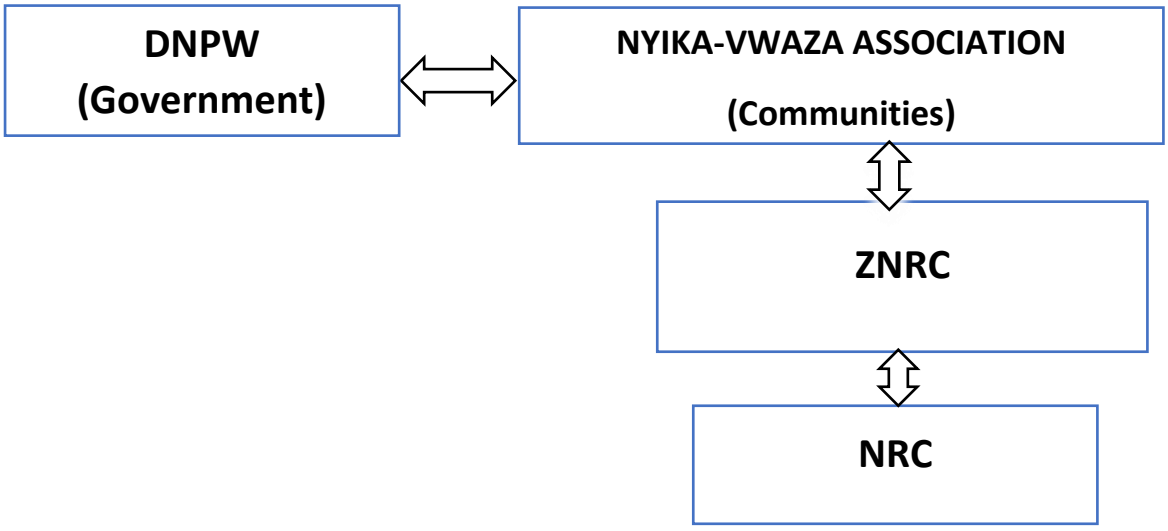

Figure 2 CM structure in Nyika National Park

The CM concept between government (DNPW) and communities (NVA). Nyika Vwaza Association is an umbullera body for all communities around the protected area where revenue sharing is spearheaded then Zone Natural Resources Committee(ZNRC) are formed at TA level representing communities in that traditional leader. They supervise NRCs whereas for NRC are formed at GVH level which is representing all communities in that specific area at grassroots level (figure 2).

1.2 Problem Statement

Traditional top-down management approaches have frequently failed to balance ecological preservation with local livelihoods, leading to tensions between park authorities and adjacent communities. In response, globally Collaborative Management models have been introduced, aiming to involve local populations in decision-making, resource use, and benefit-sharing. Collaborative Management is regarded as a major strategy for enhancing conservation outcomes while also seeking to improve rural livelihoods globally. It has been claimed that the protected area that bring more socio-economic benefits to the surrounding communities are more likely to achieve positive conservation outcomes (Oldekop et al. 2016) although little evidence of socioeconomic outcomes exists (Pailler et al. 2015).

According to Kolahi et al. 2013 study, lack of community participation in the management of wildlife in parks is one of the main causes of the unsuccessful management Nyika approaches in the protected areas. However, despite engaging communities in conservation, wildlife in Nyika National Park continues to suffer from poaching by community members (-Vwaza (UK) Trust 2016). Local community participation in wildlife conservation and management is known to have existed for many years, however, the socio-economic activities regarding community participation remain questionable (Tarimo & Olotu 2020).

Nyika National Park serves as a unique and representative case of highland biodiversity conservation within a developing country context. Its ecological significance, combined with the presence of surrounding rural communities reliant on natural resources, makes it an ideal setting to examine the effectiveness of collaborative management approaches. As such, insights drawn from Nyika not only inform local conservation and development strategies but also contribute to global discourses on community-based natural resource management in protected areas. In the context of Nyika National Park, it is unclear to what extent Collaborative Management has translated into tangible socio-economic benefits to communities. This gap in understanding hinders effective policy design and may undermine long-term conservation and development goals. In addition, despite the growth in popularity of Collaborative Management in Malawi, the socioeconomic benefits of Collaborative Management from the protected to local communities is not understood well in the context of wildlife conservation in Malawi. Therefore, the need for more detailed study to better understand the full range of socioeconomic benefits of Collaborative Management in wildlife conservation is very important. It is therefore, necessary to assess the socio-economic benefits of CM to surrounding communities of protected areas in Malawi like Nyika National Park.

1.3 Objectives

1.3.1 Study Objectives

The main objective of this study was to assess the socio-economic benefits of Collaborative Management approach to communities around Nyika National Park.

1.3.2 Specific Objectives

The specific objectives of the study were to:

1. To assess community perceptions of the Collaborative Management approach in Nyika National Park.
2. To assess benefits of Collaborative Management that contribute to socio-economic status of the communities around Nyika National Park.
3. To examine motivational factors influencing community participation in Collaborative Management programmes in Nyika National Park.

1.3.3 Research Questions

The research questions of the study were as follows;

1. What are the community perceptions on Collaborative Management approach in Nyika National Park?
2. How does Collaborative Management contribute to the socio-economic status of communities around Nyika National Park?
3. What are the motivational factors of community participation in Collaborative Management programmes?

1.4 Justification of Study

This research paper aimed to assess the socio-economic benefits of Collaborative Management to communities. The findings of this study contribute to the growing body of literature on community-based conservation and highlight the importance of integrating diverse stakeholder perspectives in the design and implementation of effective protected area management strategies. This study will contribute to the reduction of the knowledge inadequacy and enrich the academic discourse around the benefits of Collaborative Management of wildlife in Malawi, in general, and in Nyika National Park in Particular. The study will also contribute to

the development of effective and efficient wildlife management approaches and policies in Malawi and induce further research into the topic.

Understanding the perception of the community on Collaborative Management Approach will help management to make good decision. According to (Snyman 2014), it is believed that managing and understanding community expectations and attitudes under varying socio-economic circumstances will lead to more efficient, equitable and sustainable community-based conservation.

The results from the study will assist to know the gaps and progress of the approach towards socio economic status of the community for support of wildlife conservation. Therefore, highlighting socio-economic benefits of the Collaborative Management will create further support from stakeholders for the management of the park. It would also enable the DNPW to target future project-activities where there is greatest need from the results. The study will also be an eye opener to community on whether the approach is really beneficial or not. Furthermore, the results will help to create area of focus when implementing different methods of conservation for improved levels of participation. The potential users of the findings are communities surrounding the PA, DNPW, Total Land Care (TLC), Nyika Vwaza Association (NVA), Nyika Vwaza Trust and Peace Park Foundation (PPF) through the Malawi-Zambia TFCA Collaborative Management.

1.5 Limitation of the Study

One of the key limitations identified in the study was the lack of a baseline report on the socio-economic status of communities around Nyika National Park prior to the implementation of Collaborative Management (CM) initiatives. This absence made it difficult to make direct comparisons or measure the exact level of change resulting from the CM approach.

Additionally, the study faced a seasonal variation challenge, where the benefits reported by communities differed depending on the time of year, since some benefits and resource access are seasonal in nature. These factors limited the accuracy and consistency of data interpretation.

Solution. To address these challenges, the researcher triangulated data from multiple secondary sources, including reports from park management, headquarters, and the Nyika-Vwaza Association (NVA), to reconstruct the socio-economic conditions before CM implementation. This helped provide a more comprehensive understanding of community welfare trends over time. Furthermore, by considering data across different seasons and comparing findings from various periods, the study accounted for seasonal variations and ensured a more balanced analysis of community benefits and participation in CM activities

1.6 Summary

This chapter was trying to introduce the concept of Collaborative Management in wildlife, its background, exploring the gap existing, the objectives of the study and justifying the importance of conducting this study. The chapter was introducing this study on socio economic benefits of CM to communities. It explores the various benefits that CM in wildlife conservation provides to societies, particularly in terms of socio economic aspect.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter summarizes, compares, critiques and explores the key concepts, theories and relevant studies of Collaborative Management (CM). CM, which is also known as co-management, has emerged as a promising approach in the field of wildlife conservation. This approach involves the active participation of local communities, indigenous groups, and government agencies in the decision-making and implementation processes, aiming to achieve more equitable and sustainable outcomes. The Collaborative Management approach recognizes the importance of integrating local knowledge and community-based initiatives with scientific and institutional expertise, fostering a shared responsibility and ownership over natural resources. This review aims to synthesize the current evidence on the socioeconomic benefits of Collaborative Management in wildlife conservation, with a particular focus on the impact on local communities and their livelihoods.

2.1.1. Collaborative Management in protected area

Collaborative Management is an approach refers to the sharing of authority, responsibility, and decision-making power between government agencies and local communities or other stakeholders in the planning and management of protected areas.

“Co-management is a partnership in which the government and local communities (and sometimes other stakeholders such as NGOs or private entities) share the authority and responsibility for the management of a natural resource or protected area” (Borrini-Feyerabend et al. 2004).

“It is a form of participatory management where decision-making, benefit sharing, and responsibility are negotiated among stakeholders, aiming to improve both conservation outcomes and local livelihoods” (Carlsson & Berkes 2005).

The arrangements range from consultative arrangements to full power-sharing partnerships, depending on legal, cultural, and ecological contexts." Borrini-Feyerabend et al. 2004

Globally, Collaborative Management models have emerged as alternatives to strictly top-down conservation approaches. These models aim to balance biodiversity conservation with local socio-economic development, especially in areas where communities depend on natural resources for their livelihoods(Roe, D. et al. 2009).

Socio-economic benefits in wildlife conservation refer to the positive impacts that conservation efforts, such as protected areas or wildlife management programs, bring to local or national livelihoods, income, social services, and well-being of communities or stakeholders.(Abukari & Mwalyosi 2020)

2.2 Theoretical Background of the Study

CM in this context is almost synonymous to CBNRM with the exception that the previous usually involves management of common property resources by a group of people(Ward et al. 2018). In case of wildlife conservation, the term Community Based Wildlife Management is usually used instead of CBNRM for purpose of qualification. But in both it highlights the local community as focus in the management approach with rights of ownership, use and access defined. To differentiate CM from CBNRM is that CM generally applies to protected area, which are *defacto* state land where it is not possible to vest all management authority to communities but where the state should retain some authority and responsibility. This study focuses on CM as it applies to state or public land which in this case is Nyika National Park.

This study was based on two theories namely Participatory and Common Pool Resource theory. According to (Waisbord 2001), the Participatory Theory criticises the Modernization Paradigm on the ground that it promotes a top-down ethnocentric and paternalistic view of development.

The theory argues that the Strategic Model proposes a conception of development associated with a western vision of progress. The top-down approach of persuasion models implicitly assumes that the knowledge of governments and agencies is correct, and that indigenous populations are either ignorant or have incorrect beliefs (Dinbabo 2003). It encourages the involvement of all stakeholders in the process of development and can be used to the development initiatives like Collaborative Management approach in natural resources conservation. The participatory approach often promote local people to be involved in decision making that affect their personal and communal lives (Riswan & Bushra Beegom 2021). This approach views development as a process which focuses on community's involvement in their own development using available resources and guiding the future development of their own community (Dinbabo 2003). This area of theory is well suited for the research because it focuses on bottom up approach where indigenous population are part and parcel of the system and are able to benefit from it, which this research aims to explore.

The second theory was Common Pool Resource theory that focuses on the ability of people to act collectively to overcome the management dilemmas inherent to common-pool resources (Forrest et al. 2014). The theory developed in response to the work of Olson and Hardin, both of whom argued that groups of people were not likely to work effectively together. Hardin, in particular, blamed resource degradation on the "tragedy of the commons," in which users are unable to cooperate to achieve mutually beneficial outcomes (Forrest et al. 2014).

This theory can be applied to the ability of communities around protected areas to sustainably manage wildlife resources for socio economic gains and conservation of wildlife through Collaborative Management approach. Collaborative Management is referred to as a participatory, joint management. It is used to describe a situation in which some or all relevant stakeholders in the protected area are involved in a substantial way in management activities

(IUCN 1996). According to this generic description of Collaborative Management , the agency with jurisdiction over protected area develops partnership with other stakeholders, primarily local residents and resources which specifies and guarantees their respective functions, rights, and responsibilities (Zuka & Zuka 2016). Communities are involved in the management of Nyika National Park for their benefits. The communities around the park are working together with government for conservation of wildlife and livelihood improvement. The approach is based in Resource Use programme, revenue sharing scheme and direct benefits from the park.

2.3 The Origins and Outcomes of CBNRM around the Global

Community Based Natural Resources Management (CBNRM) refers to an institutional development where natural resources such as wildlife is used to economically empower local people, providing the catalyst for them to organise themselves around democratic and managerial principles (Zunza 2012). In southern Africa, known examples of CBNRM include Luangwa Integrated Resource Development Project (LIRDP), Administrative Management Design (ADMADE) both of Zambia, and Zimbabwe's Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) (Zunza 2012). Currently, CBNRM is experiencing a crisis of identity and purpose. Nevertheless, Dressler et al., (2010) conclude that despite the current crisis, there is scope for refocusing on the original ideals of CBNRM: ensuring social justice, material well-being and environmental integrity.

CAMPFIRE (Communal Area Management Programme For Indigenous Resources), struggled to devolve benefits to local resource use and overall income simply was not enough to provide tangible benefits to local people (Dressler et al. 2010) and observed that, these initiatives focused on providing benefits to local communities through a utilitarian approach to wildlife. Using two of the earliest and most studied community-Based Natural Resource Management

(CBNRM) Initiatives in Africa (ADMADE in Zambia and CAMPFIRE in Zimbabwe), one argues that such critics miss the actual stakes of community-based policies (Estienne 2009). From this point of view, community-based policies must be viewed as long-term approaches to change in rural Africa, which will progressively make the local/global partition fuse into processes of continual social ‘‘mobilization’’ (Estienne 2009). In this context the Zimbabwean CAMPFIRE program, and to a lesser degree ADMADE, its Zambian equivalent, have been presented as standard approaches to be replicated in other countries of the Southern Africa region (Pekka 2002). (Mugizi et al. 2017) also concluded that providing benefits to local people results in support for conservation, especially that individual benefits tend to have a greater impact on attitudes than community-level benefits.

2.4 Factors that Influence Local Community Participation

Community’s participation is fundamental in understanding the factors that influence their access to and utilization of resources (Mogomotsi et al. 2020). The successful conservation of protected areas is largely dependent on the active participation of local communities in their management (Fox et al. 2008). As a concept, local participation in development activities is regarded as a bottom-up process that empowers disenfranchised groups, thus providing them with opportunity to have a say and greater control over decisions and activities that affect their lives and well-being (Fox et al. 2008). (Mugizi et al. 2017) discovered that age, benefits, and income source motivates communities to participate in conservation related activities. In addition, he suggested that there is a need for a manager to also consider the critical segregated gender roles when planning and implementing the participation of local communities in the management of resources. He further observed that participation of women is important and should be encouraged because it leads to generation of incomes that directly benefit the households than men. A Study by (Manda et al. 2023) revealed that age is the most influencing

factor that influence community participation in conservation. Furthermore, studies show that perceived fairness and transparency in benefit-sharing mechanisms significantly increase local compliance with conservation regulations and reduce incidences of poaching or illegal resource use (Reinhardt et al. 2022).

2.5 The Impact of Protected Areas on Local Livelihood

According to (Abachebsa 2017), Protected areas are managed for different purposes, including the protection of species and ecosystems, landscapes, protection of watersheds and important reserves of biological resources; and increasingly for the sustainable use of natural resources by local people. Despite the stated role of protected areas many are severely degraded and destroyed.

The impacts of protected areas on livelihood are both negative and positive. On one hand PAs have positive impacts: according to the study by (Clements et al. 2014), there was no evidence that PAs exacerbated local poverty or reduce agricultural harvests in comparison with controls but rather are significantly better off, because they have more secure access to land and forest resources. Protected areas provides job opportunity to the local people through ecotourism, safeguard cultural heritage sites and traditional practices and promotion of resource management which provide long-term benefits for local communities. Communities benefited significantly in terms of income earned, they almost double the gross income and the majority reported being better off as compared to before the commencement of the programme (Mugizi et al. 2017). (Wunder et al. 2014) pointed that forests and wildlands are particularly important as resources to rural dwellers for avoiding falling into poverty, not only as safety nets in response to shocks such as bad harvests, family illness, etc. and also as seasonal gap-fillers during income slack periods, such as between agricultural harvests.

PAs are believed to play an important role in poverty alleviation by supplying ecosystem services, developing ecotourism, and providing conservation benefits for social and economic development (Franco et al. 2021). The gained benefits and experienced costs associated with living adjacent to PAs can influence local people's attitudes towards conservation activities both positively and negatively.

According to (Sam et al. 2014), community-oriented approaches to wildlife conservation usually have a strong economic benefit from the participation and encouraged wildlife conservation, and at the same time improves community welfare. (Bwalya Umar & Kapembwa 2020) claimed that promises and offers of economic benefits to communities are insufficient for engendering a wildlife conservation ethic and risk being counterproductive in that when the benefits do not materialize, apathy and negative attitudes towards community wildlife management programmes emerge among such communities.

The study conducted by (Abachebsa 2017) revealed that despite that protected areas are managed to conserve biodiversity, they are equally important for the livelihoods of local communities, who live and/or depend on the resources available in the protected areas for their survival.

It has also been revealed that protected areas value is far greater in terms of ecological services, than the value of direct benefits (Abachebsa 2017). The study by Abachebsa 2017 also stated that protected areas supply numerous goods such as food, medicinal plants, building materials and services, such as soil stabilization and provision of clean water.

On the other hand, protected areas have negative impacts on people's livelihoods in the sense that it restricted access to the resources, the displacement of people during the establishment of the PAs affect people's welfare, limited benefits and conflicts (Abachebsa 2017).

The local people opposed the existence of the Protected Area because the park would threaten their economy by reducing access to expand farming, to have pasture land, settlement, fuel wood collection and extraction of minor forest products (Kumssa & Bekele 2014).

The displacement of the local people during the establishment of protected is another negative impact to community. This has been widely documented in different literatures which means the removal of people from their homes by force and economic dislocation, the exclusion of people from particular areas in the way that harm their livelihood (Abachebsa 2017). This, affect economic activity and can lead to diverse socio-economic problems like landlessness; unemployment; homelessness; marginalization; loss of right to use common property and other social disarticulation.

The human wildlife conflict is another negative impact of protected area it usually starts when wild animals consume resources meant for human Consumption and property (Abachebsa 2017).

2.6 Community Participation in Conservation of Natural resource

Local peoples' support and participation are necessary for sustainability of conservation programmes (Solomon et al. 2012). This was also conceptualized by (Steinmetz et al. 2014) that protected area management without community engagement, the protected area stands alone against poachers (barrier opposing village and town poachers) and with engagement of community the protected area have support from the communities that is social fencing.

The study by (Derkyi et al. 2021, p. dar) revealed that participation of local communities in forest conservation actions are assumed to be influenced by two decisions; whether to participate or not. The decisions to participate in conservation actions are assumed to be

influenced by factors like leadership status, participation in forestry training programs and local custom.

According to a study by (Sam et al. 2014), community participation in conservation of natural resources significantly influences resource management, because participation of local community in natural resources management is the integration of local people to mobilize themselves to make decisions, manage their resources and control the activities that affect their lives. It also indicated that the distribution of benefits is necessary but itself may not be a sufficient condition for communities to engage in wildlife conservation (Sam et al. 2014). (Andrade & Rhodes 2012) mentioned that local communities are more likely to comply and to commit themselves to long-term conservation strategies when their knowledge and opinions are incorporated into PA decision-making processes.

2. 7 Who participate in Collaborative Management

2.7.1 Collaborative Management and CBNRM

Collaborative Management refers to the sharing of authority, responsibility, and decision-making power between government agencies and local communities or other stakeholders in the planning and management of protected areas(Borrini-Feyerabend et al. 2004). Collaborative Management is an approach to wildlife management which takes its focus on identified wildlife resource associated with specific and precisely defined area of land. The collaborators are all those people, institutions, or other stakeholders who have an interest in the resource. The principle is that partners manage the resources jointly, in accordance with ana greed management plan, and for their mutual interest. They bound legal agreement that specify the rights and responsibility of each partner and the way benefits derived from the resource will be shared (GoM 2018).

While Community-Based Natural Resource Management (CBNRM) is an approach that places local communities at the centre of managing and benefiting from natural resources, such as wildlife, forests, and water, with the aim of achieving both conservation and development goals. “CBNRM is a strategy that gives communities the right and responsibility to manage natural resources on their land, with the expectation that the benefits gained will provide incentives for conservation.”(Tchakatumba et al. 2019). “It is a participatory approach where local people, often in collaboration with government and non-governmental partners, take active roles in the management, utilization, and protection of natural resources.”(Manda et al. 2023). (Table 1)

Table 1 Comparison of CM and CBNRM

Aspect	**CM**	**CBNRM)**
Definition	A joint decision-making and power-sharing arrangement between government authorities and other stakeholders (e.g., communities, NGOs) for managing natural resources.	A strategy where local communities are the primary decision-makers and beneficiaries in managing natural resources within their areas.
Primary Governance Model	Shared governance between state and community/other actors.	Community-led governance**,** with varying degrees of external support or oversight.
Decision-Making Power	Shared between the state and communities (can be equal or unequal).	Devolved to communities; the state plays a supporting or regulatory role.

Aspect	CM	CBNRM)
Legal Framework	Often formalized through co-management agreements or MOUs**;** embedded in protected area policies.	Requires legal devolution of rights (e.g., user rights, land tenure) to communities.
Level of State Involvement	High: the government usually retains some control or oversight.	Moderate to low: state enables but does not usually co-manage day-to-day operations**.**
Community Role	Partner in management and implementation, with limited authority.	Leader in planning, implementation, and benefit-sharing.
Scale of Application	Often applied in national parks, reserves**,** and other state-owned protected areas**.**	Commonly applied in customary lands, communal lands**,** or buffer zones**.**
Resource Rights	Rights are usually negotiated or shared; often not exclusive.	Communities hold full or exclusive rights to manage and benefit from resources.
Examples	Nyika National Park co-management (Malawi), Annapurna Conservation Area (Nepal),	Namibia's community conservancies, Zimbabwe's CAMPFIRE,
Focus	Emphasizes conflict resolution, legitimacy**,** and shared responsibility**.**	Emphasizes empowerment, poverty reduction, and community resilience**.**

Source: (Borrini-Feyerabend, G., et al. 2004**).**

2.7.2 Stakeholders Identification and analysis

Stakeholder identification and analysis are critical components of designing and implementing a Collaborative Management approach in wildlife conservation. This ensures that all parties with an interest in, or impact on, natural resource management are included, understood, and appropriately engaged (GOM 2018) to identify who to participates in a participatory manner.According to partnership under study on who should participate it is mostly government and other stakeholder especially communities around protected areas (Borrini-Feyerabend et al. 2004). It suggest that people who bear the cost of staying with wildlife or are affected , by the presence of wildldife should participate and benefit from such initiatives(GOM 2017). In case of Nyika National Park only people residing within adistance of about five kilometres from the boundary are participating in CM.

2.8. Challenges of Implementing Co-management

Collaborative Management is facing a number of challenges one of them is the process and procedure of establishing the approach. According to (Ward et al. 2018), some challenges of implementing Collaborative Management approach include institutional barriers, engaging all relevant stakeholders, conflict throughout planning processes and equity issues relating to collective decisions or unequal distribution of benefits.

2.8.1 Institutional and Stakeholder Dynamics

The first challenge is the institutional and stakeholder dynamic where communities do not take part in many decisions. Often government institutions or external organisations hold more power and influence than communities leading to decisions that may not fully reflect the community interests or needs. The study by (Hossu et al. 2018) revealed that a critical challenge in natural resource Collaborative Management approach is to bring all stakeholders together and negotiate solutions to critical problems.

2.8.2 Power Imbalances and Conflicting Interests.

The second challenge is power imbalance and conflict of interest. To address the potential for power imbalances between stakeholders, such as government agencies, NGOs, and local communities is difficult. Different stakeholders may have conflicting goals such as economic development and conservation leading to disagreements and slow decision making. Sometimes there is competition for natural resources between communities, conservationist and private sectors which may create tension and hinder collaboration (Ward *et. al*. 2018).

2.8.3 Community expectations and historical grievances.

According to study conducted by Sakala and Moyo, (2017) the other challenge is unfulfilled expectations from the communities. The benefit from conservation are not enough to cover all community needs hence delay the process of CM. Implementation Challenges is another challenge considering the complexities of implementing CM, there is need for clear roles and responsibilities, effective communication, and equitable benefit-sharing mechanisms which in most cases are not followed.

In addition the past experiences of the exclusion during the establishment of the park created an antagonistic behaviour towards the park and the people feeling that their original land should be returned to them (GoM 2018). This resulted into lack of trust by community when implementing CM activities which delays the process.

2.9 Policy and Legal Framework for Collaborative Management in Malawi

In Africa laws and regulations, often limit community participation in co-management arrangements (Derkyi et al. 2021). The Constitution of Malawi (Chapter 3, Section 13(d)) provides for general conservation and management of biodiversity which also include wildlife as a resources (GoM 1994) and it does not mention Collaborative Management , it only mention

the rights of future generation by means of environment protection and the sustainable development of natural resources (GoM 1994).

The Wildlife Policy directly mention Collaborative Management as a key approach for management and conservation of wildlife in Malawi. This is backed by the National Parks and Wildlife Act 1994 (Amended 2018). Other policies like forestry, fisheries also support community involvement in management of forestry. Generally, it can be said that CM is implemented within clear policy and legal framework of Malawi government and globally.

2.10. Conceptual Framework of Collaborative Management

CM is a new approach of wildlife management which allow the inclusion of other stakeholders. It is a form of partnership in which various stakeholders agree on sharing amongst themselves the management functions, rights and responsibilities for a territory or a set of resources under protected status (Zuka & Zuka. 2016). The term CM has also been used to describe different programmes (such as community-based conservation, collaborative conservation and integrated environmental management, but generally refers to resource management shared by at least two different stakeholders (one often being a government agency), in which resources are managed to accrue some benefit (Borrini et al. 1997; Solomon et al. 2012). The approach emphasizes shared responsibilities, benefits and decision making. Malawi Wildlife Policy allows the involvement of stakeholder in wildlife conservation, hence the establishment of collaborative agreement between Department of National Parks and Wildlife and the surrounding communities (GoM 2018). This partnership entails that each partner has the responsibility for the conservation of wildlife.

Socio-economic benefits are the positive impacts on social and economic well-being of individuals and communities arising from effective wildlife conservation activities.(Lekgau & Tichaawa 2020)

The framework according (Solomon et al. 2011), intends to achieve sustainable management of PA through provision of temporary support from governmental and non-governmental organisations for raising community awareness programs, alternative income generating activities and building capacity of community-based organisations. These activities aim and lead to optimized extraction, substitution of the demands of natural resources, forest and biodiversity conservation and reduction of livelihood dependency on PA. The framework emphasizes on the need for inclusiveness, equitability and sustainable practices. CM Approach of protected area is partly premised on sustainable development as well as ecosystem approach for natural resources management. It attempts to achieve ecological sustainability and socio-economic development (Bennet & Dearden 2014).

Collaborative Management (CM) is a common strategy used to engage local people living in and around protected areas (PAs) in conservation efforts. CM emerged from perceived failures of 'fortress conservation' (Solomon *et, al. 20*11). Nyika National Park Collaborative Management structure involves the government of Malawi through department of national parks and wildlife and communities around the protected area. Each partner has obligation on the agreement for sustainable wildlife conservation.

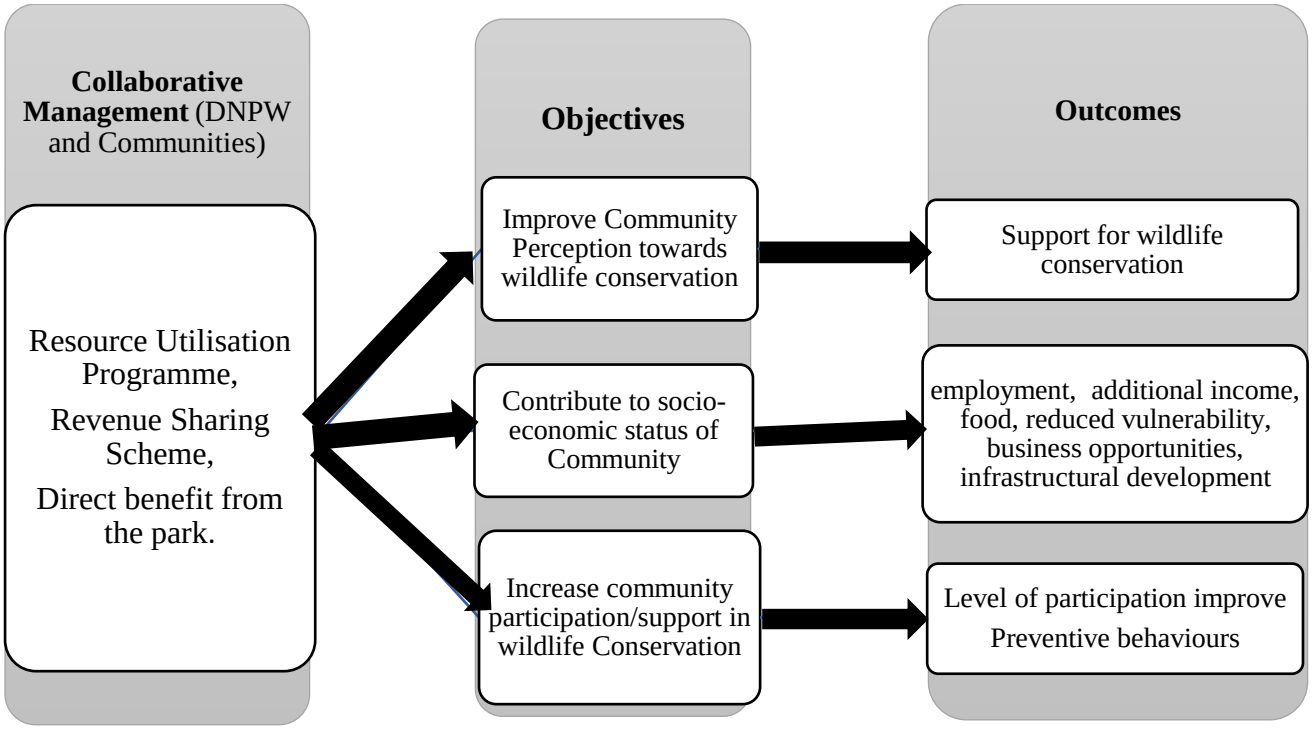

Figure 3 Conceptual framework for CM (adopted from Solomon J and Liu 2011)

The framework illustrates the relationships between Collaborative Management structures, wildlife conservation activities that result into socio economic benefits for local communities. It identifies key inputs for CM like RUP, RSS, and direct benefits from the park as mediating factors to achieve objectives and outcomes. It is showing the impact of CM activities that can help to improve community perception, improve socio economic status of communities and increase community support towards wildlife conservation (Figure. 3).

This framework visualizes households in a context of vulnerability in which they access the benefits through Collaborative Management that affect their livelihoods. This can be used when assessing the impact of conservation approach on livelihood outcomes, and when planning new activities to strengthen livelihood capitals and outcomes linked to greater resilience. We therefore used this framework as a guide to present key findings and analysis of the causes and

underlying mechanisms responsible for the effects that Collaborative Management approaches have on the livelihoods of local communities (Solomon et al. 2011).

Socio-economic benefits play a crucial role in enhancing community support for protected areas and promoting sustainable natural resource use. When local people receive tangible benefits such as employment, revenue-sharing, improved infrastructure, or access to social services, they are more likely to view conservation efforts as legitimate and in their interest (Roe et al. 2009). These benefits—particularly in the form of ecotourism income, community development projects, and rights to resource use—help to offset opportunity costs associated with restrictions on land use or resource harvesting(GOM 2018). For example, in countries like Kenya and Namibia, communities living adjacent to protected areas have reinvested tourism revenues in education, health, and water infrastructure, thereby linking conservation to development goals (Salerno 2021). Thus, socio-economic benefits derived from conservation serve not only as incentives but also as tools for building local governance capacity, social equity, and long-term conservation stewardship.

2.11. Summary

The chapter focused on the theoretical Background of the Study the origins and outcomes of CBNRM around the Global perspective, factors that influence Local Community Participation, the Impact of Protected Areas on local Livelihood, community participation in conservation of Natural resource. Who participate in Collaborative Management, challenges of Implementing Co-management, Policy and Legal Framework for Collaborative Management in Malawi. It has been revealed that while Collaborative Management has been widely studied in Southern and Eastern Africa (e.g., Namibia, Tanzania, Zimbabwe), there is limited empirical research focused specifically on the Malawian context**,** particularly in areas surrounding protected areas like Nyika National Park. Most available studies are generalized and do not reflect the socio-

political and cultural dynamics that influence outcomes in Malawi. Addressing these knowledge gaps is essential for designing more effective and equitable Collaborative Management models that truly benefit communities. The present study on Nyika National Park contributes to filling some of these gaps by employing mixed methods, disaggregated analysis, and a participatory approach to understand the real socio-economic outcomes of collaborative conservation.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1. Introduction

This chapter gives an overview of techniques and procedures that were employed in the study. These include study sites, study design, sampling methods, sample size, data collection methods and tools, data management and data analysis method.

3.2. Study approach

This study employed a mixed-methods approach, combining both quantitative and qualitative methods to comprehensively assess the socio-economic benefits of the collaborative management approach to communities around Nyika National Park. The design was both descriptive and exploratory, aiming to describe existing benefits while exploring community perceptions and experiences. Using mixed research design is important because it allows one to triangulate data from different sources (Creswell 2014). It also allows the researcher to combine quantitative and qualitative data. The study further adopted the convergent parallel mixed methods form where quantitative and qualitative data was collected simultaneously and then integrated in the interpretation of the overall results (Creswell 2014).

3. 3. Study area

The study was conducted in the border zone of Nyika National Park in the 5km stripe around the park (Figure 3.1). This protected area was chosen because it is one of the first protected area and pilot site to adopt Collaborative Management initiative in wildlife sector in Malawi.

Nyika National Park occupies a tract of mountain plateau and associated hills and escarpments in northern Malawi. Its area is 3,134 Km^2, and it is centred upon 10°33’S, 33°50’E (Figure 4). The Park lies astride the Chitipa, Karonga, and Rumphi Districts of the Northern region. Part of its western boundary coincides with the Malawi-Zambia border, and a section is contiguous with the Zambian Nyika National Park. In 1978 the park was expanded to its current size from

940 km^2 by inclusion of the plateau's Northern and Southern foothills. Land outside the park is mostly used for agriculture by smallholder farmers on land occupied according to customary tenure (Customary Land) or medium to large-scale commercial farmers on leasehold estates (GoM 2018). It is one of the first protected to adopt collaborative management.

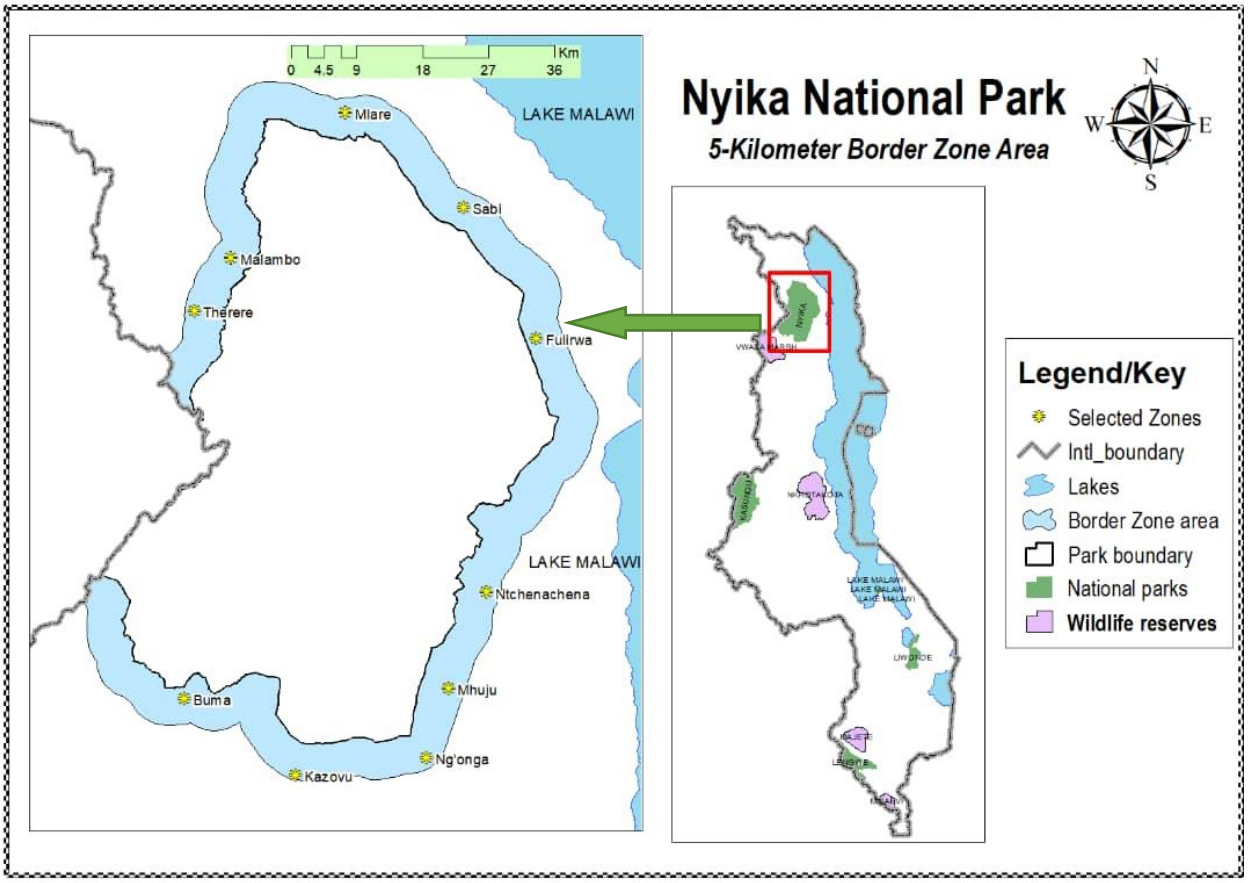

Figure 4 Map of Nyika National Park showing Boarder zone (study area)

3.4. Sampling population

The Sample frame of the study area was all households living within the 5km strip from the boundary of Nyika National Park, traditional leaders, Nyika Vwaza Association and DNPW staff.

3.5 Research approach

The study employed multistage sample technique because it is particularly useful in large-scale studies where it is impractical to survey the entire population and it is very flexible to use different stages. The first stage was the selection of zones since Nyika National Park is subdivided into 24 zones. A total of 10 zones out of 24 zones were selected randomly. This approach was also used in the area by (Van Velden et al. 2020). The major difference was that, in this study, the selected households were within the 5km distance from the boundary since the purpose of our study was to assess the benefits of Collaborative Management approach to communities so 5km strip is where CM approach is implemented. The zone where the study was conducted was randomly selected with much focus on each district. The zones selected were Mlare, Sabi, Furirwa, Therere, Malambo, Ntchenachena, Ng'onga, Mhuju, Kazobvu and Buma (Table 1). The study targeted zones with proportionally reported greater CM activities and were formed long time ago than the new zones which have been formed for the past 5 years.The second stage was the selection of household to be interviewed. The households interviewed in those zones were selected using simple random sampling within the selected zones.

Key informants were purposively selected because they are key players in Collaborative Management and aware of CM activities. Two from Department of National Parks and Wildlife (Park Manager and Education and Extension officer), three traditional leaders and two Nyika Vwaza Association members (the Chairperson and treasure) were interviewed.

Six FGDs were conducted in the selected zones, which were also randomly selected. The participants for FDG were NRC members. Both men and women, were members of NRCa. The FGD were conducted at Thazima, Kawala, Nchenachena, Malambo, Furirwa and

Kazobvu. The respondent for survey were drawn from Rumphi 160 (64%) respondents, Chitipa 50 (20%) respondents and Karonga 40 (16%).

Table 2 Distribution of Respondents by districts

District	Zone	Number of respondents	Percentage %	% Percentage per district
	Buma	20	8	
	Kazobvu	45	18	
Rumphi	Mhuju	30	12	64%
	Ng'onga	20	8	
	Ntchenachena	45	18	
Chitipa	Malambo	25	10	**20%**
	Therere	25	10	
	Furirwa	18	7.2	
Karonga	Sabi	13	5.2	**16%**
	Mlare	9	3.6	
		250		**100%**

3.6 Sample size

The sample size of the study was calculated using Slovin E. (1960) sample formula at 95% confidence interval and 5% marginal error (Moussa 2020).

$$n = \frac{N}{1 + N(e)^2}$$

where

n = Sample size,

N = Population from which the sample was obtained

e = Margin of error (in this case 0.05)

The sample size was calculated at 95% confidence interval and 5% marginal error. The total population of the 10 selected zones was calculated at 39000.

The sample size was calculated to be 253 respondents but the study was carried out on 250 respondents/households.

3.7. Data collection methods

The study employed a set of methods and generated both quantitative and qualitative data. This was aimed at reducing the errors posed by each data collection. Collection of primary data involved field visits by the researcher to the study site. Overall data for all the three objectives data were collected using Household questionnaire, focus group discussion key informant interview and secondary data through review of reports.

3.7.1 Household survey

A Semi structured questionnaire, (Appendix C) with open and closed questions were administered to an adult household member. Some interviewees chose to use English. The research assistants were all university graduates with understanding of natural resource governance and rural development issues. Therefore, they had some reasonable familiarity with the subject of the research. The household questionnaire was pre-tested with a small sample from Bondi village in Bolero but non-target community with similar socio-economic characteristics. This helped in refining ambiguous questions, standardizing language, and improving consistency in responses. Mock interviews were conducted to ensure consistency in data collection across different fieldworkers.

3.7.2 Focus group discussion **(FGDs)**

Six Focus Group Discussions (FGDs) were sampled purposively to ensure representation of different segments of the communities around Nyika National Park. Communities were selected based on their proximity to the park, involvement in Collaborative Management (CM) activities, Within each selected community, participants were chosen to capture diverse perspectives, including men and women, youth, local leaders, and households directly

benefiting from CM initiatives. This purposive sampling ensured that the FGDs reflected both direct beneficiaries and those indirectly affected by park activities, allowing for comprehensive insights into socio-economic impacts and community perceptions of CM.

Focus Group Discussions (FGDs) was used as a central qualitative tool for capturing community perceptions and experiences around Collaborative Management of Nyika National Park. According (Scheelbeek et al. 2020) FGDs helped reduce social desirability bias, prompting participants to express views more freely and authentically. This study targeted 5 to 10 participants per group which according to (Krueger and Casey 2015), is the ideal size of a focus group for most non-commercial topics as smaller groups are easier to recruit and host as well as more comfortable for participants. While 10 to 12 people is mostly the recommended number of participants during a focus group discussion for marketing research (Krueger and Casey 2015), The FGDs comprised of mixed participants including Natural Resources Committee members, non-members and local leaders as well as one gender to allow free contribution of all participants. Two-stream approach for focus group discussions was used, i.e., women-only FGDs, and men-only: In selected sites men and women were separated having 5 women and 5 men but mostly it was mixed group for FGD. Each FGD lasted approximately 40 to 60 minutes". During the process two people were facilitating the discussion one as a facilitator and the other one as note taker.

3.7.3 Key Informant Interviews

Unstructured and open- ended checklists were used to collect data from Key informants through interviews (Appendix E). During key informant interview the researchers interviewed all the participants using the checklist. The park manager and extension officers were interviewed to confirm the benefits from the park, the 3 traditional leaders were interviewed to confirm the benefit since they are custodians of the area and 2 NVA association members were

interviewed to give evidence of the benefit community received from the CM as an umbrella body representing communities around Nyika.

Fieldwork was conducted in October 2022 and July 2023 by the researcher and five research assistants who conducted household interviews, key informant interviews and six focus group discussions (FDGs). The research assistants were trained prior to the fieldwork and were all competent speakers of the language in the study area *(Tumbuka*) that was used in the interviews.

3.7.4 Secondary Data

The secondary data was collected through review of official documents and records from the park office in Nyika National Park and park headquarters in Lilongwe. In addition data was collected from Nyika Vwaza Association reports. Information gathered were the benefits distribution during Collaborative Management.

3.8 Data Analysis

Quantitative data from questionnaires were analysed using Software Package for social science (SPSS) version 25 and excel. The data from the questionnaire with information on all the three objectives were coded and then entered in the SPSS software for analysis. Descriptive statistics in SPSS were used to generate frequencies and percentages. Microsoft Office Excel was used to construct graphs. Chi-Square (goodness of fit) analysis to determine the significance of association among the variables at alpha level 0.05. The Chi-square goodness-of-fit test was chosen to analyze the quantitative data because it is specifically designed to determine whether the observed frequency distribution of categorical data differs significantly from an expected distribution(Field 2018)

Qualitative data from interviews and FGDs were analyzed thematically to identify recurring patterns and stakeholder perspectives. A manual thematic analysis was employed to analyse qualitative data collected through interviews and focus group discussions. This approach followed the six-phase framework proposed by (Braun and Clarke 2006), which includes

familiarization with the data, generation of initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. Transcripts were read multiple times to ensure a deep understanding of the content. Initial codes were identified by hand and grouped into broader themes based on patterns, similarities, and contrasts. This method was selected to allow for close engagement with the data and to ensure that the coding process remained grounded in the participants' lived experiences. Manual analysis was deemed appropriate given the manageable size of the dataset and the study's emphasis on contextual interpretation and reflexivity.

3.9. Ethical Considerations

The ethical clearance (Ref No: MZUNIREC/DOR/24/36) was sought from Mzuzu University Research Ethics committee (MZUNIREC). This study involved traveling to households around the park and interviewing people. In that case the required entry protocol was followed where the informed consent from community leaders of the jurisdiction participation in the study was entirely voluntary and participants of the study were fully informed about the study purpose, procedure and potential risks and benefits. Informed consent was sought verbally and in writing before data collection, ensuring that participants understood their rights to withdraw at any time without penalty.. On each interview a consent was sought from the respondents to participate in the study and they were assured of confidentiality on any information that they gave shall be used for the study purpose only.

Confidentiality and anonymity of respondents were strictly maintained by assigning unique codes to survey instruments and securely storing data. Sensitive topics were approached with care to avoid causing distress or discomfort.

Furthermore, the research adhered to the principles of respect, beneficence, and justice, ensuring that the community's cultural norms and values were respected throughout the data collection process.

3.10 Summary

Overall, the methodology enabled a holistic assessment of how Collaborative Management approaches benefit the socio-economic well-being of communities living near protected areas. This study employed a mixed-methods research design to assess the socio-economic benefits derived from Collaborative Management practices in communities surrounding a protected wildlife area. The approach combined both quantitative and qualitative techniques, allowing for a comprehensive understanding of local experiences, perceptions, and measurable outcomes of co-management interventions. The research was conducted in selected zones, where co-management have been implemented. These areas were chosen due to their active participation in Collaborative Management such as Zone Natural Resource Committees (ZNRCs) and Associations. A random sampling technique was used to select households for questionnaire surveys, ensuring balanced representation across gender, age, and village clusters. Additionally, purposive sampling was applied to identify key informants, including park officials, traditional leaders, and NVA members. Primary data were collected through semi structured questionnaires, Key Informant Interviews (KIIs), and Focus Group Discussions (FGDs). Secondary data were reviewed from relevant documents. Ethical clearance was sought from, MZUNIREC and content from traditional leaders and participants were obtained.

CHAPTER FOUR: RESULTS

4.1 Introduction

This chapter presents the results of the study. The results will give the overview of the socio-economic benefits of Collaborative Management approach to communities. It first provides respondents' social, economic and demographic characteristics followed by results on the three specific objectives. It provides findings on community perceptions towards the implementation of Collaborative Management approach in Wildlife conservation, contribution of Collaborative Management approach on socio economic status of people and the factors that motivate community to participate in conservation of Nyika National Park.

4.2 Demographic and Social-economic Characteristics of Participants

This section provides a summary of the demographic and social-economic characteristics of the respondents that were interviewed during the study. The study was conducted in all the three districts, eight TAs and ten zones around Nyika (Table 4). In Rumphi 161 (64.4%) respondents, chitipa 48(19.2%) respondents and Karonga 41(16.4%) were interviewed, Rumphi has a big number of people interviewed because a big part of the study area is in Rumphi. It is important to understand the demographic and socioeconomic characteristics of participants in the assessment of benefits of Collaborative Management in wildlife conservation surveys for several reasons. On the one hand, demographic data can ensure inclusive representation of the voices and perspectives of various demographic groups are represented, leading to more inclusive and equitable outcomes. On the other hand, Socio economic data can provide insights into the resources, preferences, and constraints of different groups, enable conservation efforts to be tailored to meet their specific needs and interests. It also help to identify gaps in awareness and knowledge about wildlife conservation and ensure that access to conservation activities, is equitable and inclusive.

Table 3 Demographic and social economic characteristics

a) Demographic			
		Frequency	**Percentage (%)**
Sex of respondent	Female	88	35.2
	Male	162	64.8
Age of respondent	18 – 25	12	4.8
	26 – 30	46	18.4
	31 – 40	81	32.4
	41-50	61	24.4
	50 and above	50	20
Highest education level	Primary	132	52.8
	Secondary	113	45.2
	Tertiary	2	0.8
	Never attended school	3	1.2
b) Social – Economic			
House hold size	1 – 2	33	13.2
	3 – 4	77	30.8
	5 – 6	77	30.8
	7 and above	63	25.2
Annual income	1, 000 - 20,000	7	2.8
	21,000 - 40,000	5	2
	41,000 - 60,000	16	6.4
	61,000 - 80,000	13	5.2
	81,000 - 100,000	71	28.4
	Above 100,000	138	55.2
Main occupation of respondent	Smallholder Farmer	224	89.6
	Semi-commercial farmer	8	3.2
	Bee Keeper	7	2.8
	Fisherman	7	2.8
	Artisan carpentry	1	0.4
	Others.	3	1.2
Type of crop grown	Tobacco and Maize	65	26.4
	Maize and other	38	15.2
	Maize, groundnuts	146	58.4
	Cotton/Maize/Cassava	1	0.4
Animals Kept	Cattle	22	8.8
	Goats	105	42.0
	Sheep	1	0.4
	Pig	23	9.2
	Poultry	84	33.6
	None	15	6.0
Membership in NRC	Yes	133	53.2
	No	117	46.8

A total of 250 individuals participated in this study. Results reveal that the majority of the respondents in this study were males (64.8%) as compared to (35.2%) females (Table 2). On age category, the majority of the respondents (95.2%) were in category 26 years above whilst (4.8%) respondents were in age category of 25 years and below. The study results further show that slightly over half of the respondents (52.8%) had attained formal education to the primary school level, (45.2%) secondary school, (0.8%) tertiary education and 3 never attended school.

On household size (75.8%) respondents had household size of 6 people below and (24.2%) had household of 7 above. All of respondents were permanent residents of their respective communities. On the main occupation of the respondents, Table 2 shows that (89.6%) of the study participants were smallholder farmers, followed by (3.2%) semi-commercial farmers. However, the least of the respondents were the beekeepers (2.8%), fishermen (2.8%), and other occupations (1.2%). The reason for the majority of people in the studied villages being engaged in farming activities is because of low illiteracy level, availability of suitable land, and inadequate alternative income generating activities. Such result tally with Tarimo and Olotu (2020) study that says that low education level provides low payment employment opportunities, hence the majority are farmers. Most of the respondents (67.6%) were residing within a 4km distance from the park boundary and (33%) were residing within 4-5km stretch. While 53.2% of the respondents belonged to various NRCs in study area 46.8% are not members. The survey targeted both NRC members and non-members to give the overview of the programme from different perspectives.

Data on types of food crops grown in the study area were also collected. The results show that majority are growing almost all crops: maize, tobacco, and other crops (58.4%), followed by (25.4%) who only grow maize and tobacco. On the livestock, most of the respondents are

keeping goats (42%) followed by poultry (33.6), pig (9.2%), cattle (8.8%), sheep (0.4) and 6% have no livestock.

4.3 Community Perception towards Collaborative Management

The results of the assessment reveal varying community perceptions towards the collaborative management approach around Nyika National Park, with responses reflecting both positive outcomes and persistent challenges. The first specific objective of the study was to assess community perception towards Collaborative Management approach. Perceptions refers to the way an individual observes, understands, interprets, and evaluates a referent object, action, experience, individual, policy, or outcome (Bennett 2016). Compared to the era before CM was introduced, nearly all the respondents expressed positive perceptions towards co-management stating that things had somehow improved following its introduction, with only a small percentage indicating the opposite. The study participants were asked on their perceptions of CM approach in terms of its ability to reduce poaching, ability to contribute towards social economic status of communities, CM suitability for Park Management and their level of satisfaction with the program.

4.3.1. Community perception on CM ability to reduce Poaching.

The result reveal that 94% of respondent feel Collaborative Management (CM) activities have the ability to reduce poaching, and 6% said CM activities cannot reduce poaching.

Reasons for CM approach ability to reduce poaching are shown in Figure 4 principally, respondents indicated that co-management has: (1) create social fence around the park where illegal activities are reduced (43.2%); (2) Provided local communities with legal access to prescribed resources to complement their daily needs (12%); (3) Provide room for income generating activities as alternative to poaching as a source of income (4%); (4) CM provide

civic education to the community that increase community understanding of value of wildlife(8.4%); (5) Promote participatory Law enforcement where community take part in enforcement activities(9.2%); (6) improved the relationship between communities and the park staff (6.4%) of respondents); and (7) create sense of ownership of the park to the communities as they are regarded as part and parcel of the park. 16 of the respondents don't know about CM (16.8%) (Figure 5)

Reasons for CM activities not able to reduce poaching, 6% of the respondents indicated that because the benefits are not enough to benefit all communities and the increased cases of wildlife damaging people's crops and other property.

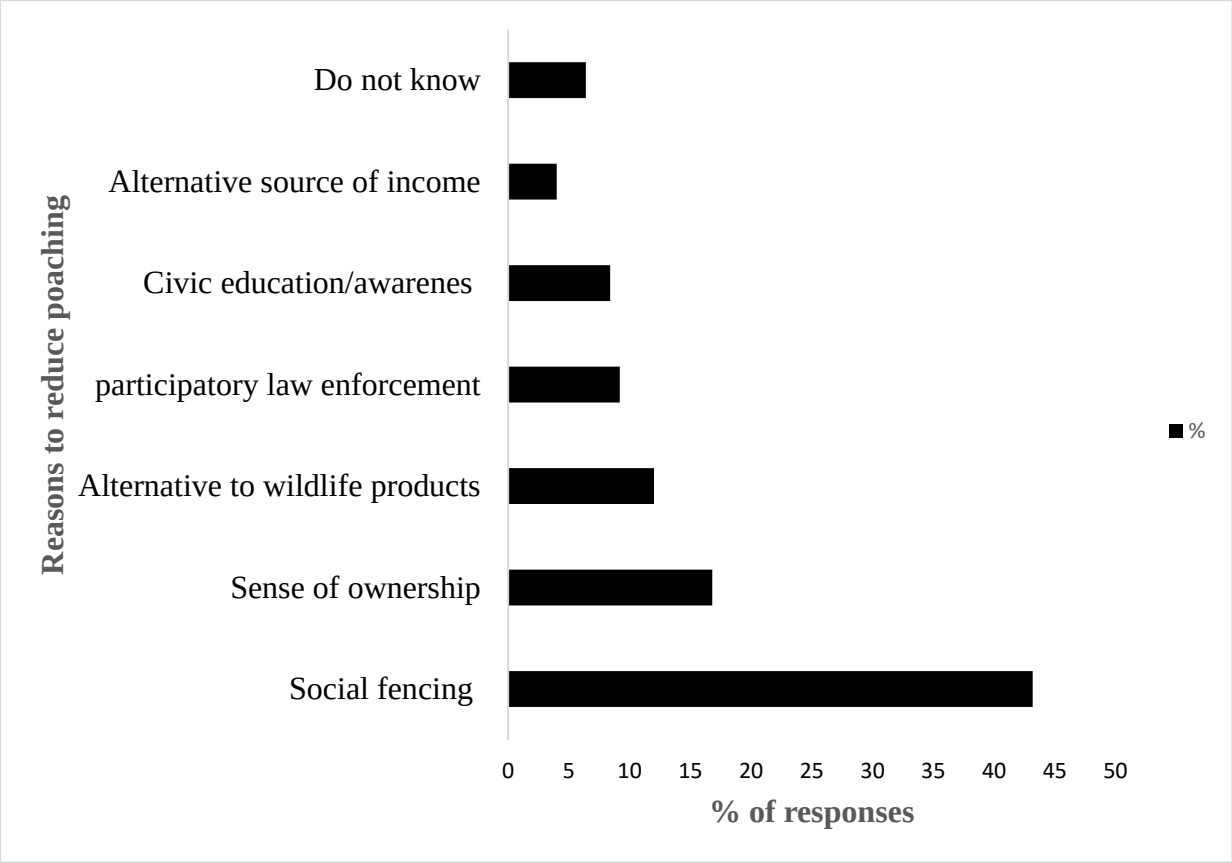

Figure 5 CM ability to reduce poaching

The results of key informant interviews also reveal that communities perceive CM as the best strategy for conservation and provides both environmental and socio- economic benefits to the local communities.

According to the traditional leaders during KII:

> "*Collaborative Management activities can contribute a lot towards reduction of poaching where it allows community to report on illegal activities happening in the area. The relationship with parks staff is good, communities are able to participate in law enforcement activities for economic and conservation gains (24.7.23)".*

The park manager during KII indicated that:

> *"There are many factors that contribute to reduction of poaching in the park but CM is one of the factors that contribute towards reduction of poaching through social fencing whereby communities make law enforcement easier by reporting whatever is happening in their area (27.7.23)".*

The park manager's remarks were complemented by annual reports on reports received from communities about illegal activities (Figure 6).

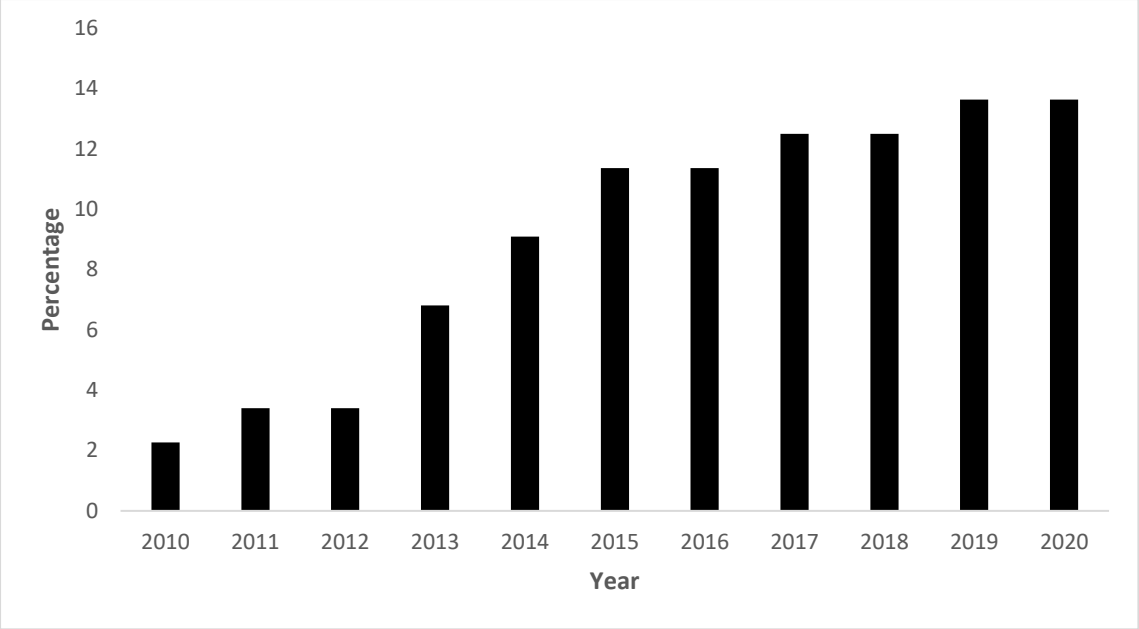

Figure 6 percentage of reports from the communities

4.3.2. Perception on CM ability to improve Social Economic status of communities

The results show that (93%) of respondent said that Collaborative Management activities can improve social economic status of communities around the park and (7%) said CM cannot contribute to social economic status of communities.

Reasons for CM approach ability to contribute to social economic status of communities are shown in Figure 7. The results show that (35%) of the respondents feel that CM promotes income generating activities through bee keeping, and juice making; RUP, (26%) of the respondents feel CM approach distributes development projects from revenue sharing scheme that assist in improvement of livelihood; (10%) of the respondents feel that CM promotes park conservation through involvement of community that promote ownership; (12%) of the respondents feel that CM promotes civic education which assist in improving peoples livelihood; (10%) of the respondents feel that CM provides employment opportunity to the community; (3%) of the respondents indicated that CM promotes tourism that generates money for the communities as well as country; 2% of the respondent revealed that CM allowed people

to follow rules and regulations and (2%) of the respondents mentioned that CM has no impact on community socio economic status. (Figure 7).

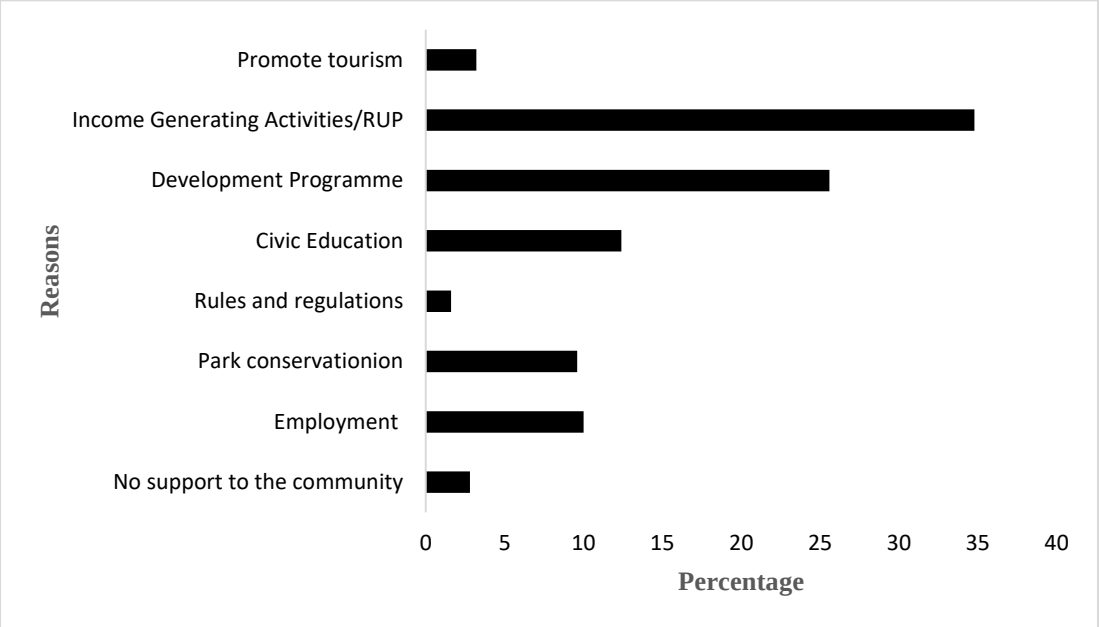

Figure 7 Reasons for CM contributions to socio economic status

According to the traditional leaders during the KII

> *"CM approach contributes a lot towards social economic status of communities around the park through employment opportunity, RUP communities are allowed to harvest resources from the park for food and income, and revenue sharing scheme that provide development projects like schools, clinics and other projects activities like livestock distribution and bee keeping. However, the benefits area not enough"25.7.23.*

"According Nyika Vwaza Association Chairperson during KII

*"*Communities have significantly benefited from the Resource Use Program (RUP), with the estimated annual economic value of harvested resources reaching up to K30 million. The revenue-sharing scheme has supported the construction of school blocks, maintenance of clinics, distribution of desks, and development of bridges." (6.8.23)

According to the park Manager during KII interview

> *"Communities are allowed to collect some resources inside the park for domestic household use for food and income. The resources harvested can be consumed at household level as food and they are also allowed to sale the surplus. Revenue sharing scheme contributes a lot towards education and health services in communities through provision of desks, school blocks, maintenance of clinic, and bridges maintenance (1.08.23)*

The results are also supported by the findings from FGD at Kazovo Zone where communities are benefiting from bee keeping and livestock distribution from the Nyika National Park project. The members of FGD accepted that there more benefits to people and has to be increased to reach many people in the community.

4.3.3. Perception on CM Program suitability in Park Management

The results show that (96%) of respondent's perception is that Collaborative Management approach is suitable for park management and 10 (4%) respondents feel CM is not a good approach for park management.

The results are almost the same with those from FDG and KII where communities perceive CM as a good approach of managing the park since it involves community and provides room for community participation in conservation activities.

Reasons for CM approach suitability for park management and conservation, the results show that (60%) respondent feel the approach encourages community participation in conservation; (9.6%) of respondents feel that the approach promotes sense of ownership; (8%) respondents perceive CM provides benefits to the community; (12.4%) respondents perceive CM promotes awareness for wildlife conservation; (0.8%) respondents perceive that the approach improves relationships between DNPW and Communities; (2.8%) respondents feel the approach

provides employment opportunity; and (2%) respondents feel the approach promotes tourism (Figure 8).

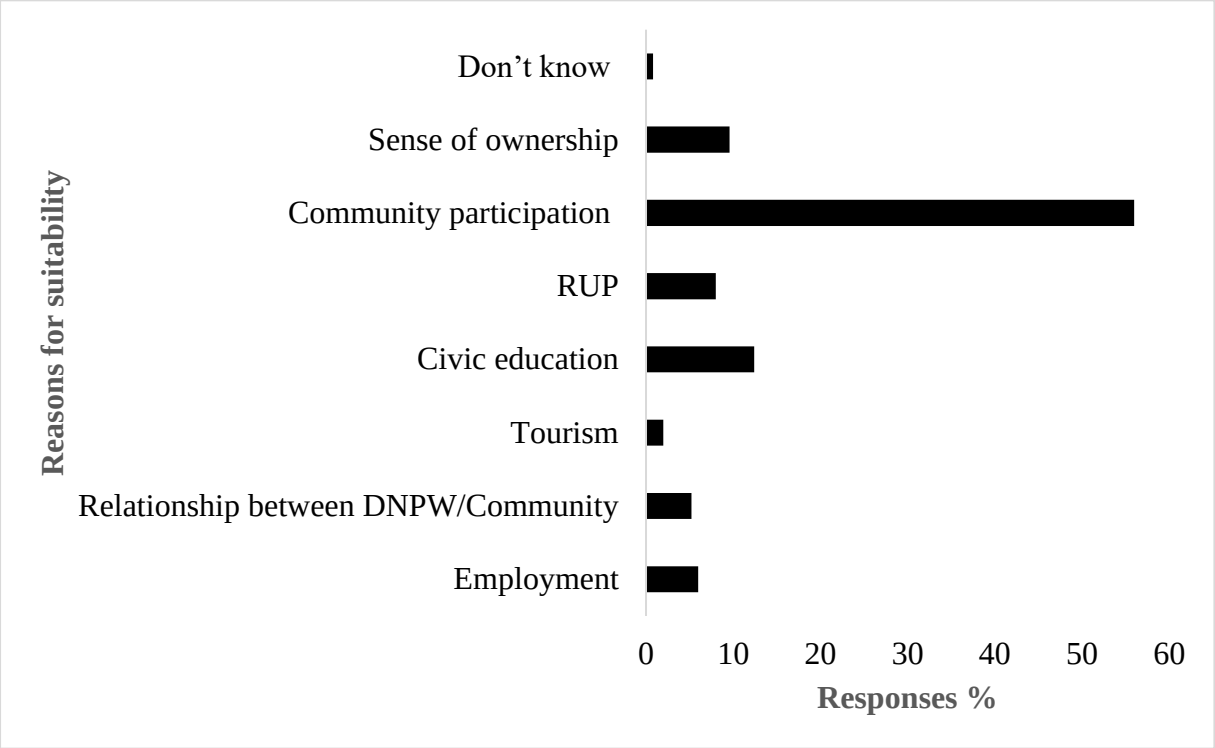

Figure 8 Reasons for CM suitability for park management

The results of key informant interviews suggest that communities perceive CM as the best strategy for conservation. The results from FDG and KII also indicate that:

"*CM is a good approach of managing the park since it provides a platform and room for stakeholder participation in conservation activities which was not there before".*

According to the traditional leaders during KII:

> "*Collaborative Management approach is a good approach because it involves communities in management of the park like communities are able to participate in law enforcement activities through reports, it also promotes awareness*

amongst communities and also communities are allowed to go inside the park to harvest some resources (29.07.23)".

4.3.4. Participants' level of satisfaction with Collaborative Management Approach

Likert scale of degree of goodness was used, in which 5 categories were used: completely satisfied, slightly satisfied, moderately satisfied, slightly unsatisfied and completely unsatisfied with the program. The results show that majority of respondents (83.2%) are completely satisfied, (10%) are slightly satisfied, (2%) moderately satisfied, (2%) slightly unsatisfied (3%) completely unsatisfied with the program (Figure 9).

Figure 9 Level of community satisfaction with CM

On the reason why communities are satisfied with CM the results show (20%) of the respondent are satisfied with CM activities because it promotes Community Sensitization; (18%) of the respondents feel CM promotes park conservation; (11%) of the respondents feel CM promotes community participation; (9%) of the respondent feel it promotes livelihood

programs and 6% of the respondent it provide development projects; (4%) of the respondent feel it provides employment opportunities; and (5%) of the respondents reduce poaching (Figure 10).

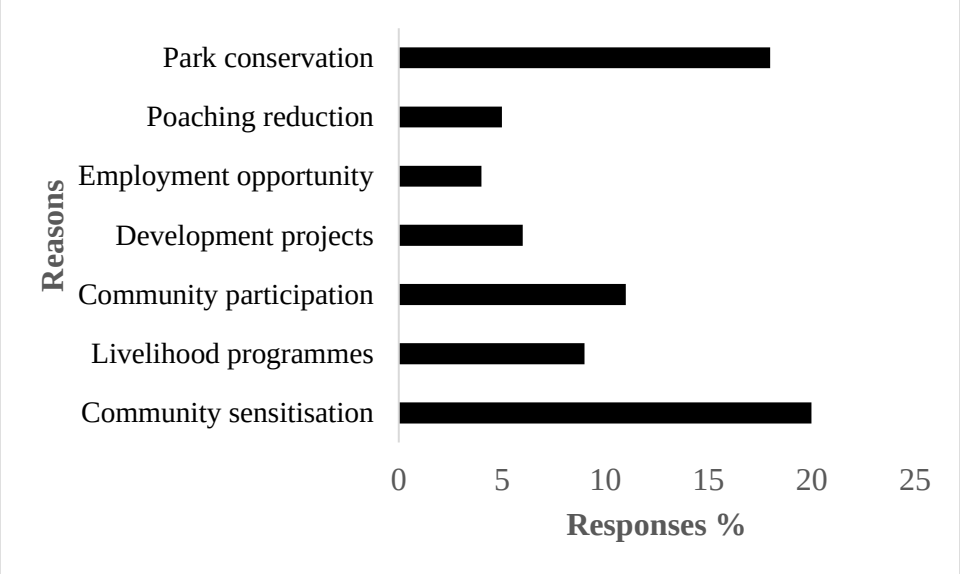

Figure 10 Reasons for community Satisfaction with CM

Some respondents are not satisfied with the program because of the following reasons: (11%) of the respondent feel resources/benefits are not enough for the communities, (10%) of the respondent mentioned unfair distribution of resources and (6%) of the respondent mentioned that slow response to problem animals reports (human wildlife conflict) (Figure 11).

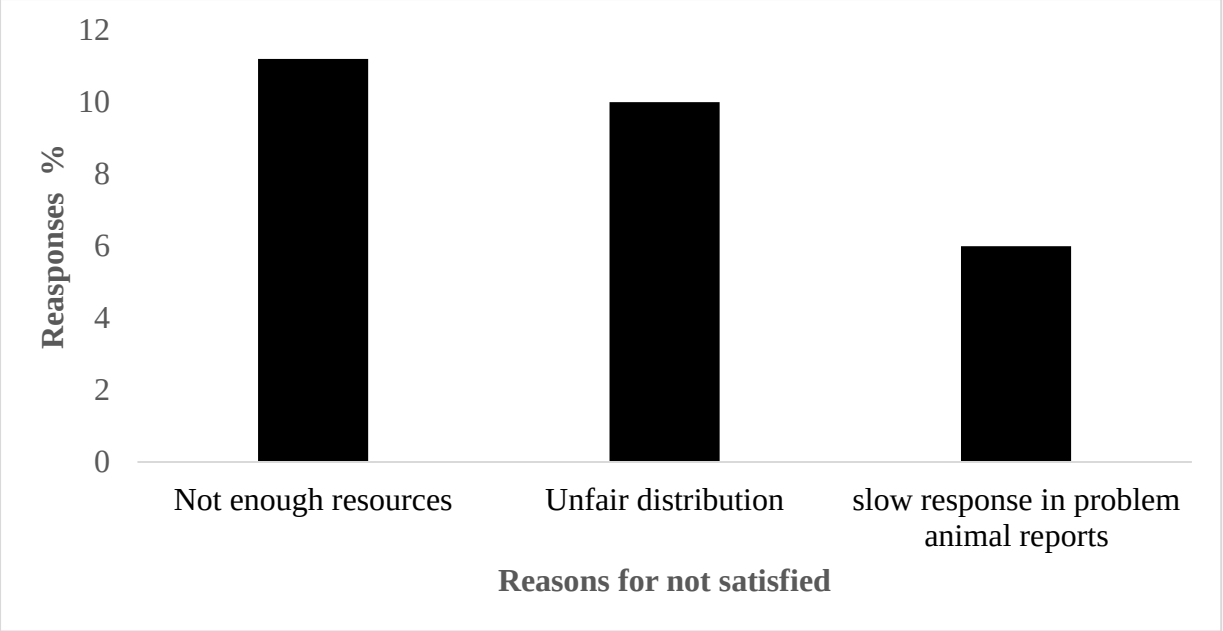

Figure 11 Reasons for not satisfied with CM

During FGD communities also lamented that the benefit are not enough and sometime only NRC are considered to receive benefit in some areas like Therere area.

4.4. Contribution of CM components on Socio-economic Status of Community.

The second objective of the study was to analyse Collaborative Management approach activities on socio economic status of community.

4.4.1 Revenue sharing scheme benefits

The results reveal that community benefit from revenue sharing scheme, s e (19.23%) of the respondent mentioned that through distribution of classroom desks, (40%) of the respondent mentioned that construction of school blocks, (2.56%) of the respondent mentioned that construction of teachers houses, (21.15%) of the respondent mentioned that livestock distribution, (3.21%) of the respondent mentioned that construction of bridges, (9.62%) of the respondent mentioned that through crop diversification (soya, groundnuts and cassava stem)

programme and (3.85%) of the respondent mentioned that they get timber for construction work (Figure 12).

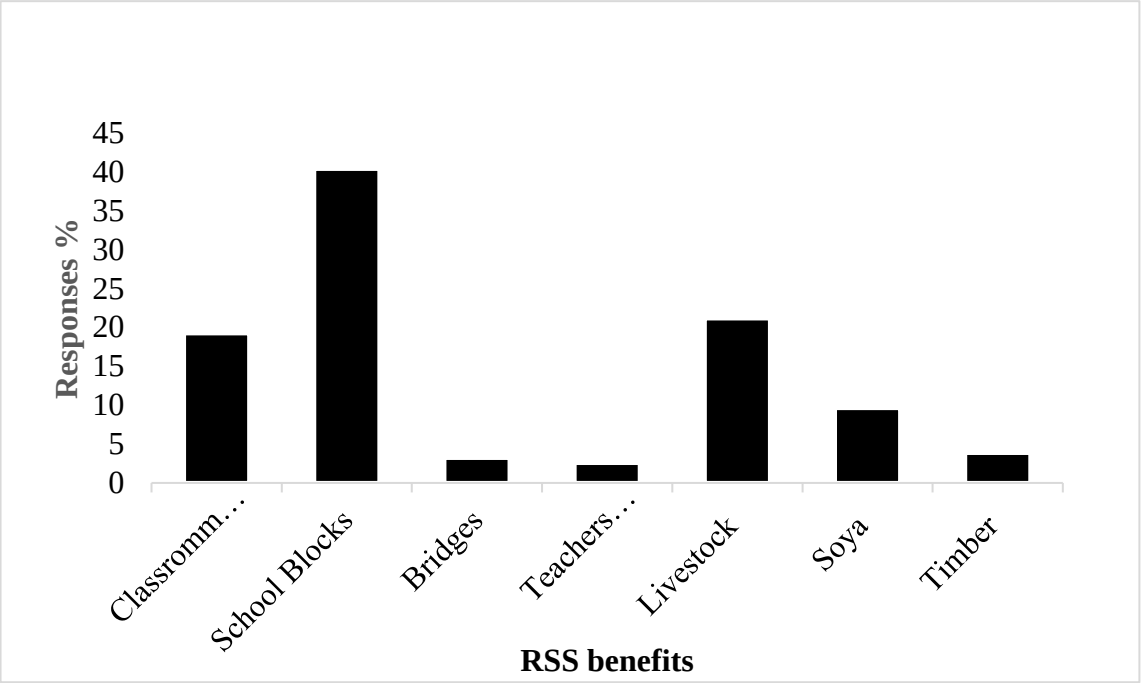

Figure 12 Benefits from RSS

Sectors benefitting from RSS

The results reveal that revenue sharing scheme benefited different sectors. The results revealed that (71%), of the respondent feel education sector (26 %,) of the respondent feel agriculture sector then (2%) of the respondent feel transport sector and (1%) of the respondent feel health sector (Figure 13).

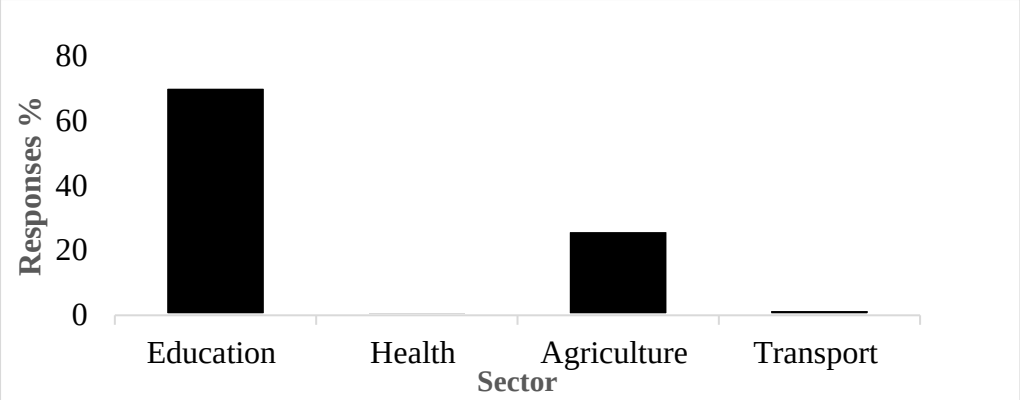

Figure 13 Sector benefiting from RSS

After review of NVA reports it was discovered that RSS has benefited the community with the following development projects were distributed to community in different zone during the period under study (Table 4)

Table 4 Development projects from RSS

No	Name of project and location
1.	Kamphenda - Construction of teacher's houses;
2.	Mphangala - Construction and renovation of teacher's houses and a clinic
3.	Mwazisi - Construction of a school block at Mswaya primary school
4.	Thazima - Construction of teacher's houses and a bridge (Kasasa/Fyolonga Bridge
5.	Chisimuka - Renovation of a culvert;
6.	Bowe - Construction of a HSA house
7.	Lake Kazuni - Construction of a school block at Kapyolambavi primary school
8.	Kazuni - Construction of teacher's houses at Chipho primary school
9.	Thunduwike - Construction of school blocks at Thunduwike CDSS and Kasangani P School
10.	Emcisweni - Construction of teacher's houses at Mtundula School
11.	Zaro -Construction of a school block at Zaro primary school
12.	Kawala - Maintenance of a school block at Nkhozo primary school
13.	Kazovu - Renovation of office block and construction of a school block at Lupalamizi
14.	Ng'onga - Construction of teachers houses at Lemba primary
15.	Mhuju - Construction of teachers houses at Kauka
16.	Luchezi - Construction of teacher's houses;
17.	Khwakwazi - Construction of teacher's houses;
18.	Fulirwa - Construction of a clinic;
19.	Sawi - Construction of teacher's houses;
20.	Mlale – Renovation of a school office
21.	Therere - Construction of a school block at Therere CDSS.
22.	Malambo - Construction of teacher's houses;
23.	Mphanda - Construction of teachers houses
24.	Distribution of desk to 6 schools in rumphi and 3 schools in chitipa
25.	Livestock distribution and crop diversification all zones in Rumphi and 2 zones in chitipa

4.4.2 Frequency of RSS program implementation in *communities*

The results reveal that revenue sharing scheme happened mostly on quarterly and annual basis. Almost all the benefits happen on both quarterly and annually depending on the need for the development project. 77% of respondents revealed that the benefits are mostly received annually and 23 % said they receive benefit on quarterly basis depending on availability of revenue (Figure 14). The time frame for the benefits in this study was from 2009 up to 2022.

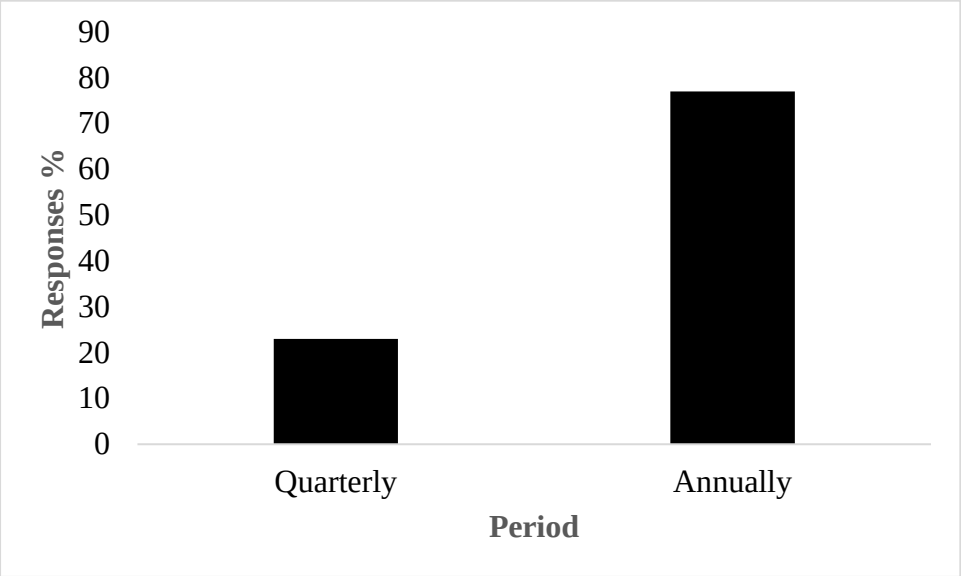

Figure 14 Frequency of RSS benefits

4.4.3. Main Beneficiary for Revenue Sharing scheme

From the results, 70% of the respondents revealed that the main beneficiary of the revenue sharing scheme is mostly community at large, 17% of the respondents revealed that it's at individual level and 13% of respondent revealed that it's at household level (Figure 15).

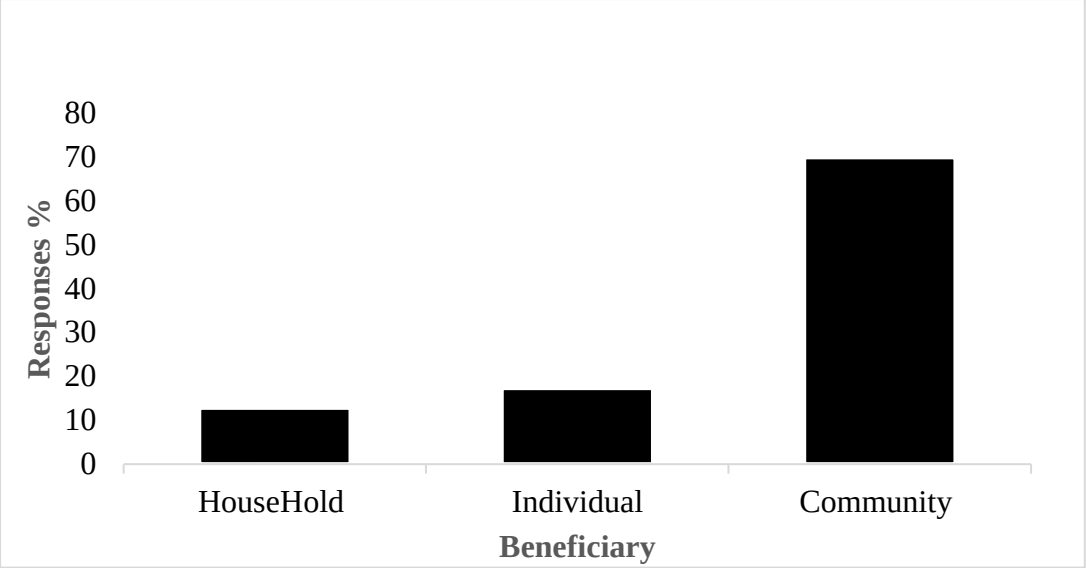

Figure 15 Main Beneficiary of RSS

4.4.4 RSS contribution on community social economic status

Likert scale of degree of goodness was used to assess the influence of RSS on social economic status of the community. In this assessment four categories were used: improved, reduced and not changed and don't know.

The results show that (66%) of the respondents feel that RSS programme has improved the socio economic status of communities ;(26.6%) respondents feel that RSS has not changed the socio economic status of communities; and (7%) respondents do not know RSS contribution (Table 5).

On how the RSS has improved socio-economic status, on the one hand, 69% of respondent revealed that RSS has improved the socio-economic status of communities by improving the relationship between DNPW and communities, community participation in conservation, compliance with Wildlife Laws, livelihood, income levels, access to good education and food availability. On the other hand, the results show that 27% of respondents feel RSS has not changed infrastructure and services like access to good roads and access to health services. In addition, some people 4% also indicated that they don't know RSS.

Table 5 RSS contribution towards socio economic status

Category	Improve	%	Not changed	%	Don't know	%
Relationship	77	31	0	0	1	0
Community participation in conservation	26	10	0	0	1	0
Access to Good Roads	0	0	31	12	1	0
Access to Health Services	0	0	36	14	2	1
Access to Good Education	10	4	0	0	1	0
Compliance With Wildlife Laws	15	6	0	0	1	0
Income generating activities	13	5	0	0	1	0
Food Availability	10	4	0	0	1	0
Livelihood improvement	22	9	0	0	1	0
Total	**173**	**69**	**67**	**27**	**10**	**4**

4.4.5 Level of Satisfaction with Revenue sharing scheme

Likert scale of degree of goodness was used, in which 5 categories were used: completely satisfied, slightly satisfied, moderately satisfied, slightly unsatisfied and completely unsatisfied with the program.

The results reveal that (83%) of respondents are completely satisfied, (7%) slightly satisfied, (7%) moderately satisfied, 1% slightly unsatisfied and 2% completely unsatisfied with the program (Figure 16). The results show that the majority of the respondents are satisfied with revenue sharing scheme.

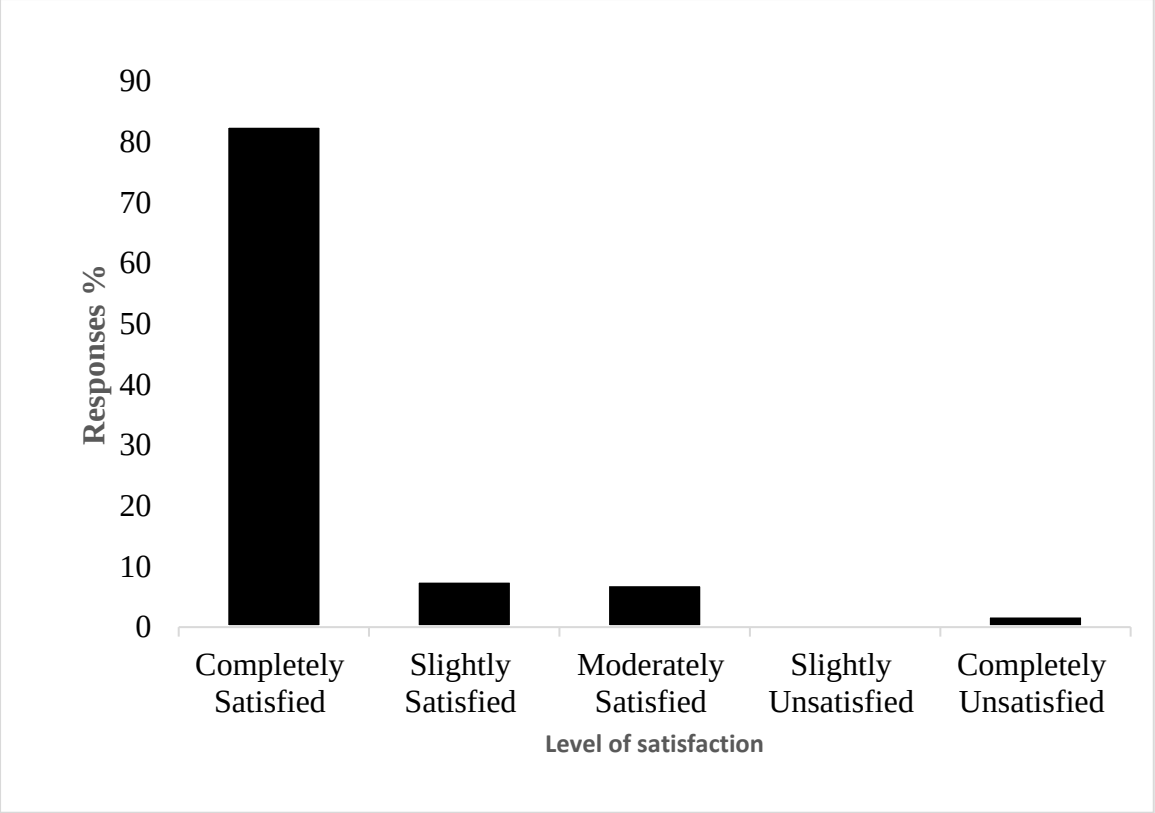

Figure 16 Level of satisfaction with RSS

4.4.6 Benefits from Resource Use Programme.

The results reveal that commonly harvested resources are fish, thatch grass, mushroom, honey, flying termites, wild fruits, reeds and traditional medicine (Figure 17). Communities are allowed to collect some resources from the park on permit system every day from 6 am to 6 pm. It was also revealed that some resources like mushroom, wild fruits, flying termites are seasonal and are only harvested when they are in season.

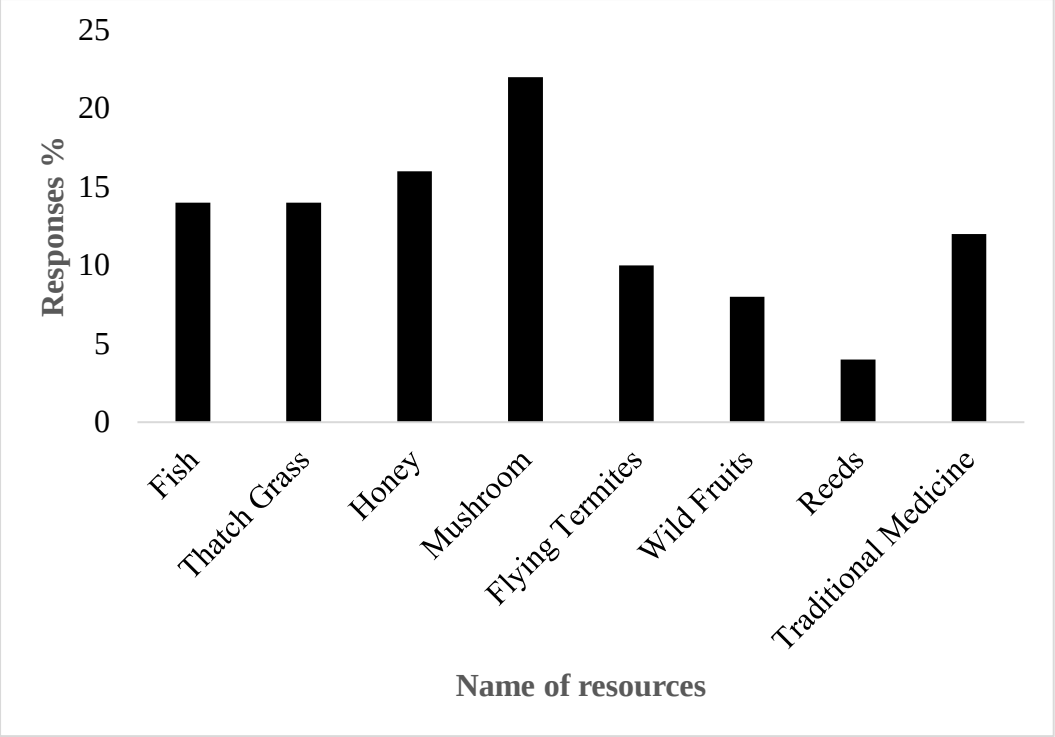

Figure 17 Name of Resources Harvested

The results reveal that community participation in RUP mostly is on daily, weekly, fortnightly, monthly, quarterly, and annually. The study reveal that 44% of respondent participate in RUP on annual basis, 13% quarterly, 14% monthly, 4% weekly and 25% they participate daily in RUP (Figure 18).

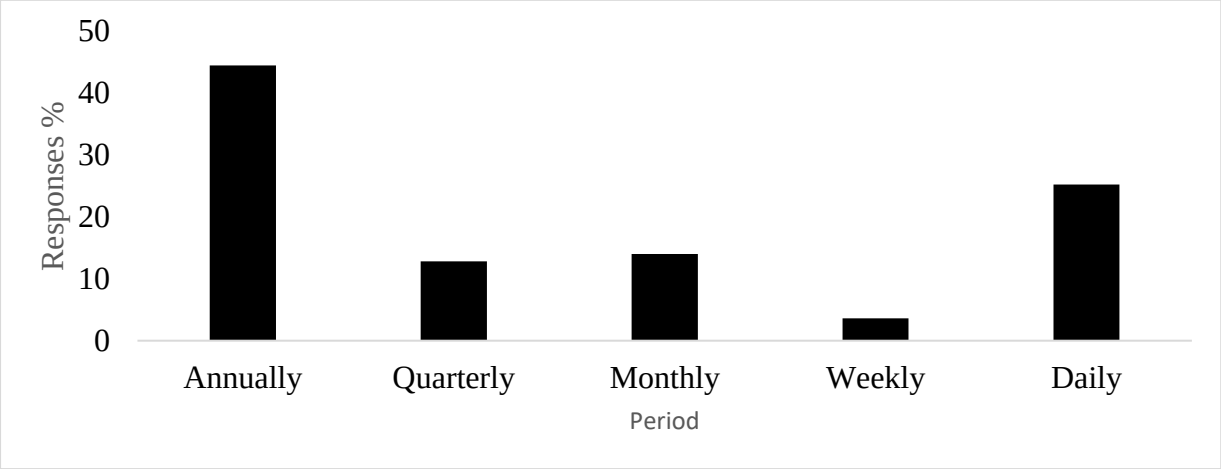

Figure 18 Community Participation in RUP

4.4.7 Main usage of Resources Harvested Resource Utilisation Programme

The results show that the main uses of the resources harvested are for food 45%, income 32%, medicine 10%, and construction material 13% (Figure 19). The results have also revealed that all resources are used as a source of income and 5 out of 8 are used for food. Thatch grass, reeds, traditional medicine for construction and medicine respectively.

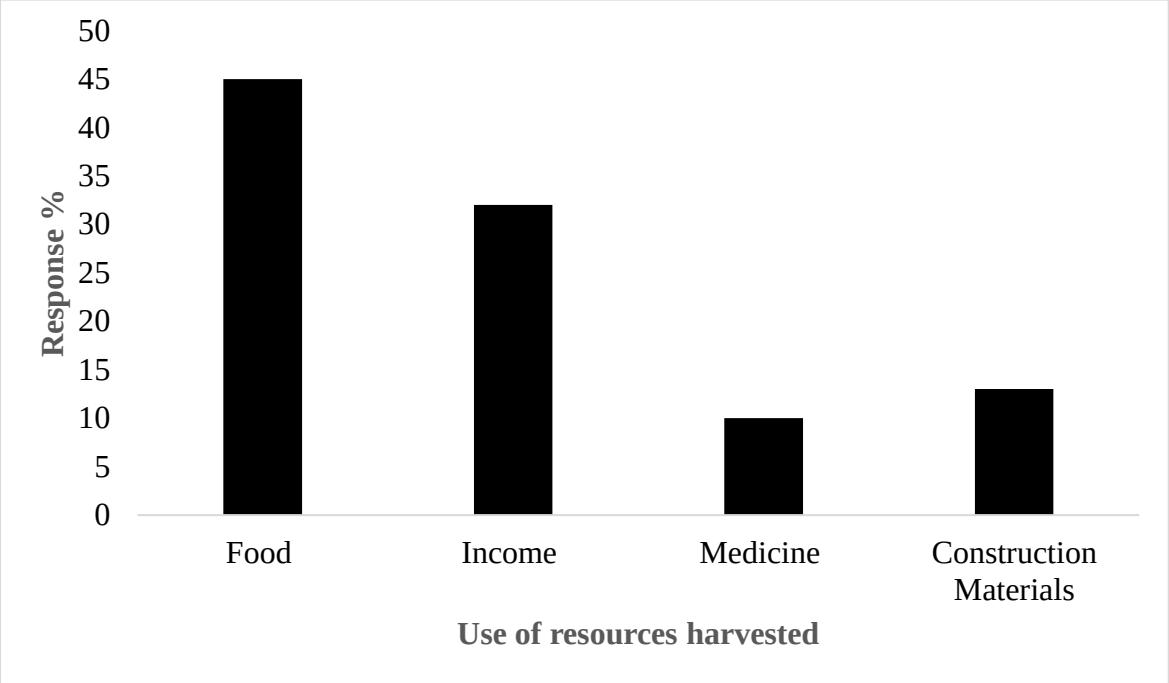

Figure 19 Main Usage of resources harvested

4.4.8 Main Beneficiary of RUP resource

The results show that the main beneficiary of the RUP are households 94% and individuals 6%. Most of the resources harvested are benefiting household than individuals.

4.4.9 *Contribution of Resource Use Programme on community Social economic status.*

To assess the contribution of RUP on community socio economic status Likert scale of degree of goodness was used, in which four categories were used: improved, reduced, and not changed and don't know. The results show that (51%) of respondents feel RUP has improved socio economic status, (13%) of respondents feel that RUP has reduced some illegal activities, (15%)

feel that RUP has not changed anything and (22%) of respondents don't know about RUP (Figure 20).

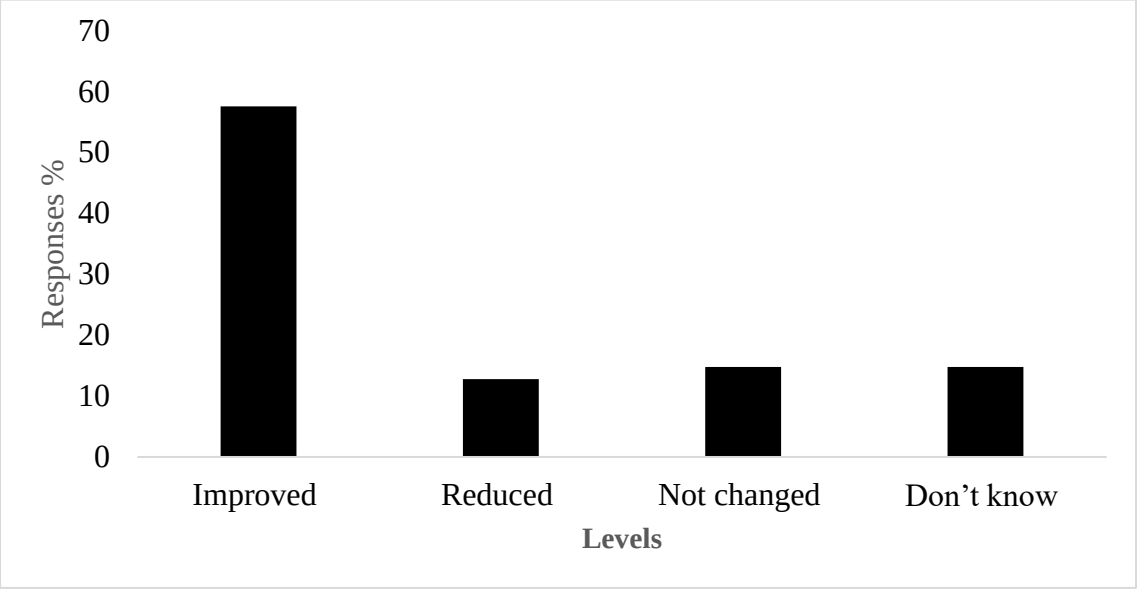

Figure 20 RUP contribution to socio economic status

The results show that RUP has improved the relationship between DNPW and community, income, livelihood, food availability, compliance with laws, access to education, and community participation in wildlife conservation. RUP has reduced deforestation and poaching. The results also show that RUP has not changed access to good health services and access roads (Table 6).

Table 6 Impact of RUP on Socio Economic status

Category	Improved		Reduced		Not Changed		Don't Know	
	F	%	f	%	f	%	f	%
Relationship with DNPW	18	7	0	0	0	0	4	2
Income	16	6	0	0	2	1	4	2
Livelihood	16	6	0	0	2	1	5	2
Food Availability	14	6	0	0	4	2	5	2
Compliance With Wildlife Laws	17	7	0	0	1	0	5	2
Access to Good Education	10	4	0	0	7	3	5	2
Access to Health Services	7	3	1	0	8	3	6	3
Access to Good Roads	5	2	0	0	11	4	6	2
Community participation	23	9	0	0	2	1	4	2
Deforestation	0	0	16	6	0	0	4	2
Poaching	0	0	15	6	0	0	5	2
	126		**32**		**37**		**53**	

RUP reports were reviewed and discovered that communities are benefiting a lot from resources harvested from the park. The reports indicated that annually community gain a total amount worth K60 million from resources collected from the park. In addition, the resources harvested are also used as food, medicine, and construction materials.

4.4.10 Level of satisfaction with RUP

To assess the level of community satisfaction with RUP, A Five Point Likert Scale degree of goodness was used to measure the level of satisfaction with RUP in which 5 categories were used: completely satisfied, slightly satisfied, moderately satisfied, slightly unsatisfied and completely unsatisfied (Figure 21).

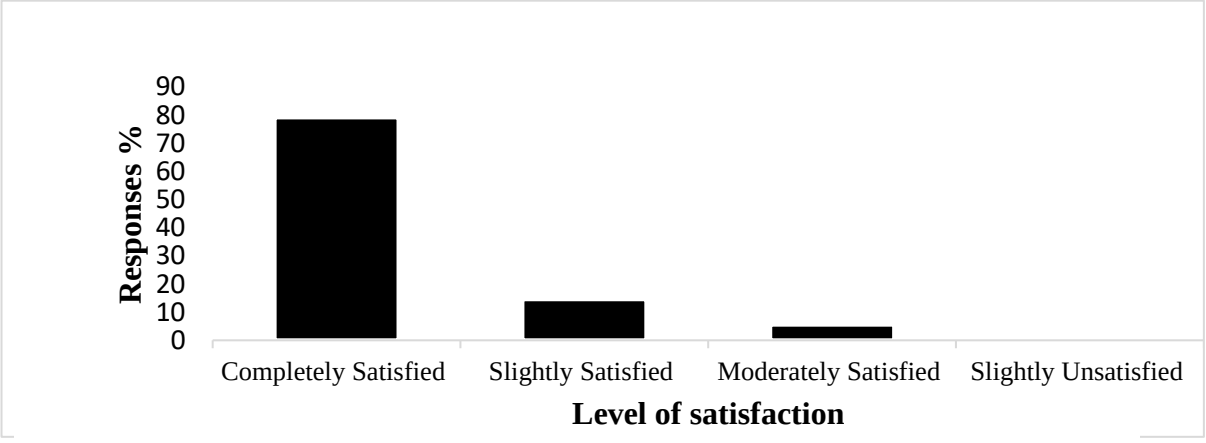

Figure 21 Level of satisfaction with RUP

The results show that, respondents level of satisfaction with the implementation of resource use programme under Collaborative Management approach in Nyika was assessed with findings indicating that majority of beneficiaries (79%) being completely satisfied followed by (15%) slightly satisfied whilst (5%) moderately satisfied, and (1%) were slightly unsatisfied, with the implementation of the program (Figure 20).

Reasons for respondents' unsatisfaction (slightly) with program implementation of the program**,** is that resources use programme is targeting few individuals especially NRC members.

According to results during FGD

'*'some women expressed concerns about unequal access to park-related employment opportunities''.*

4.4.11 CM contribution towards socio economic status of community

The study revealed that some CM activities contribute a lot towards socio economic status of communities. Factors such as participant's direct benefits attained from NNP, community participation in RUP, CM development project, Knowledge of NNP Purpose and RSS awareness programs were computed to see their effect on community's social-economic status.

Table 7 Hosmer and Lemeshow Test and Ominbus Test of model of coefficient

Step	Chi-square	df	Sig.
Omnibus Tests of Model Coefficients			
1	36.454	7	0.000006
Block	36.454	7	0.000006
Model	36.454	7	0.000006
Hosmer and Lemeshow Test			
1	1.754	5	0.882

The goodness of fit of the model was first described by the Omnibus Tests of Model Coefficients which gives an overall indication of how well the model performs as also referred to as 'goodness of fit' test (Pallant 2010). The model showed a good fit for the data, p = 0.000006 ($p<0.05$), and chi-square value of 36.454 with 75 degrees of freedom.

For the Hosmer-Lemeshow Goodness of Fit Test, the poor fit is indicated by a significant value less than 0**.**05. Therefore, to support the model, p values must be greater than 0**.**05 (Pallant 2010). The results in Table 5 shows that the Hosmer-Lemeshow Test supports the model with p=0.882 (p>0.05) and chi-square value 1.754 with 75 degrees of freedom (Table 7).

Results for the various predictor and contributory variables on CM activities contribution to social-economic status are shown in Table 4.5. The results reveal that Direct benefits from NNP (*p>0.002*), RUP participation (*p>0.041*), CM development project (*p>0.018*), were the CM activities that significantly influenced community socio-economic status. However, NRC membership (*p>0.066*), and knowledge, RSS (*p>0.059*), have no significant influence on socio economic status (Table 8)

Table 8 Variables that influence socio economic status of community

	S.E.	**Wald**	**Sig.**	**Exp (B)**	**95% C.I. for EXP(B)**	
					Lower	**Upper**
Direct benefits from NNP	1.828	10.000	**0.002***	324.331	9.009	11676.170
RUP participation	2.733	4.161	**0.041***	0.004	0.000	0.804
NRC membership	1.806	3.388	0.066	27.795	0.806	958.461
Knowledge of Park Purpose	2.213	0.290	0.590	3.290	0.043	251.796
RSS	1.860	0.695	0.405	4.712	0.123	180.386
CM development projects	1.742	5.621	**0.018***	62.232	2.046	1892.575
Constant	3.099	3.018	0.082	0.005		

* Significant at 5%

4.5. Motivational factors of community participation in CM Programme

4.5.1 Motivators of community participation in CM activities

The results show that motivators for community participation in Collaborative Management activities, include (1) passion for conservation of wildlife; (2) poverty reduction/income; (3) Resource Use programme which provides benefits and/or incentives; and (4) safeguarding their properties from animals like crops and houses in human wildlife conflict management (Table 7). Some of the benefits and/or incentives mentioned included employment or piece works in the reserve, tours to various PAs, and project activities like livestock pass-on programmes, tree planting and crop diversification. There is multiple entry to responses because some respondents were giving one or two responses to the activities.

The results also show that the programmes that community mostly participate are education programmes, law enforcement, problem animal control, RUP, projects, data collection and working with parks (Table 8).

Table 9 Motivators of Community participation in CM activities

Activities	Motivators of community participation in CM							
	Passion		Poverty		NTFP/RUP		Safeguard property	
	F	%	f	%	F	%	f	%
Education programs	59	28.2	68	32.5	56	26.8	26	12.4
Law enforcement	31	23.8	40	30.8	43	33.4	16	12.3
Problem animal control	40	27.0	48	32.4	45	30.4	15	10.1
RUP	51	26.6	61	31.8	53	27.6	27	14.1
Employment	26	24.3	33	30.8	37	34.6	11	10.3
Project Activities	26	28.3	19	20.7	36	39.1	11	12.0
Data collection	13	23.2	11	19.6	28	50	4	7.1

4.5.2 Community participation in CM programs

On one hand, the results reveal that all respondents participate in CM activities like education program 123(24%), Problem Animal Control 74 (14%), RUP 111(22%), employment 53(10%) and project activities 59(12%). On the other hand, the result reveal that some activities like Participatory law enforcement 13% and data collection 5% only NRC members are mostly involved (Table 9).

Table 10 who is involved in CM activities

CM activities	**Who in the community is mostly involved**							
	NRC Members		**Everyone**		**Half Population**		**Less than Half Population**	
	F	**%**	**f**	**%**	**f**	**%**	**f**	**%**
Education programs	0	0	123	24	0	0	0	0
Participatory Law enforcement	65	13	0	0	0	0	0	0
Problem animal control	0	0	74	14	0	0	0	0
RUP	0	0	111	22	0	0	0	0
Employment	0	0	53	10	0	0	0	0
Project Activities	0	0	59	12	0	0	0	0
Data collection	26	5	0	0	0	0	0	0
Total	**91**	**18**	**4 20**	**82**	**0**	**0**	**0**	**0**

4. 5. 3 Level of community participation in CM activities

To assess the level of participation by community to CM activities Likert scale of degree of goodness was used, in which 4 categories were used: low, moderate, high, never participated. The results show that, all respondents' level of participation in CM activities is high in all the listed activities (100%) (Table 10).

Table 11 Level of Participation in CM activities

	Level of participation in CM activities							
	Low		Moderate		High		Never	
	F	%	F	%	F	%	F	%
Education programs	0	0	0	0	56	22	0	0
Law enforcement	0	0	0	0	35	14	0	0
Problem animal control	0	0	0	0	40	16	0	0
RUP	0	0	0	0	51	21	0	0
Employment	0	0	0	0	29	11	0	0
Project Activities	0	0	0	0	25	10	0	0
Data collection	0	0	0	0	15	6	0	0

The results revealed that the level of participation in CM activities is high. However the results also revealed that many people participate in educational programme seconded by RUP activities then problem animal control.

4.6 Summary

This chapter was presenting the results of the study of socio economic benefits of Collaborative Management. The study results revealed that community around Nyika National parkl have positive perception on CM. they have positive perception that CM can contribute to socio economic status of community around Nyika National Park and it highlighted some of the motivational factors for community participation in CM activities. Despite the above positive pecrception some respondents expressed concerns on the way CM beenfits are distributed to community.

CHAPTER FIVE: DISCUSSION

5.1 Introduction

This chapter discusses the key findings from the assessment of the socio-economic benefits of the Collaborative Management (CM) approach to communities surrounding Nyika National Park. The discussion interprets the results in light of the study objectives and relevant literature, highlighting how CM has influenced community livelihoods, participation, and perceptions. Particular attention is given to community perceptions towards the implementation of Collaborative Management approach in Wildlife conservation, the ways in which CM has contributed to improving the socio-economic status of local communities, the factors motivating community participation. In addition how these elements align with or differ from other studies conducted in similar protected area settings. The insights from this discussion provide a deeper understanding of the effectiveness and sustainability of CM as a conservation and development strategy.

5.2 Community perception towards Collaborative Management approach

5.2.1 Community perception on CM ability to reduce Poaching.

The findings from figure 4 of the results have shown that Collaborative Management activities have the ability to reduce poaching, because the approach created social fencing around the park where communities take park in all conservation activities. Communities report any illegal activity to the park management for action. In addition, the approach involve community in all its operations including law enforcement, and awareness activities. The finding tally with (Steinmetz et al. 2014) study which state that the protected area without engaging communities, the protected area stands alone against poachers but a protected area which engage communities reduce pressure from poachers and might also help obstruct urban poachers. The study tally with (Manda et al. 2023) who state that co-management had created a positive

attitude towards conservation among the local communities bordering protected area. The findings are in agreement with the study by (Mogomotsi et al. 2020) which examined community perceptions in Botswana's Okavango Delta and showed that exclusionary policies led to negative attitudes and increased illegal hunting, whereas inclusive CM approaches can help reduce poaching by fostering legitimacy and ownership.

The finding in figure 4 revealed that the approach provides alternative source of income, since local communities have legal access to some resources in the park to complement their daily needs. Provision of income generating activities through RUP like beekeeping, basket making etc where they can sell and get money. The findings tally with study by (Tchakatumba et al. 2019) which states that resources harvested from the protected area have the ability to change people's attitude towards wildlife (Bwalya Umar & Kapembwa 2020). The benefits from conservation activities like RUP is one of the motivations for community participation in wildlife conservation of Nyika.

The findings indicated that CM could reduce poaching by provision of alternative to wildlife products like livestock production as alternative to poaching. CM components distribute livestock to community as a source of protein in order to reduce poaching. The finding tally with the study by (Van Velden et al. 2020) which state that people kill animal for meat so a strategy of combating poaching is the provision of livestock as alternatives of protein.

The findings also discovered that CM civic educate community which promote awareness on importance of wildlife conservation hence reduce poaching. The findings tally with the study by (Steinmetz et al., 2014) which states that community outreach builds awareness, concern and social pressure that constrain poachers from the park.

The findings indicated that CM promote participatory law enforcement by participating in law enforcement activities through reporting illegal activities and removing snares. The community collaboration and participation in management of the PAs reduce patrolling and management costs, where locals voluntarily act as local law enforcers, inhibiting and reducing outsiders' illegal activity in PAs. According to (Andrade & Rhodes 2012), the community can participate in law enforcement if included in the decision-making process, securing their livelihoods and natural resources that they rely upon. This can only be achieved if the local communities are involved from the beginning of every management decision. The involvement of local community in law enforcement brings them close to wildlife conservation effort, hence develop love for conservation. According to (Steinmetz et al. 2014) report indicated that conservationists in Asia tend to regard outreach and community-based conservation as nice enhancements for a protected area management ,

Despite the above findings that CM can contribute to reduction of poaching, a small percentage of house indicated that CM activities cannot reduce poaching, because the benefits are not enough to motivate a person to stop killing wild animals or cutting trees in or around the PA and support wildlife conservation. In addition, the increased cases of wildlife damaging people's crops and other property affect community participation in conservation activities. The result tally with (Mogomotsi et al. 2020) which state that the increasing levels of human-wildlife conflicts are challenging conservationists to promote wildlife conservation. The increased cases of human wildlife conflict results into people's negative attitudes towards wildlife and they believe that conservationists have more concerned about wildlife than human welfare. The benefits are not enough to cover needs for communities around Nyika as a result some people opt for poaching as alternative for compensation. The findings also tally with

(Bwalya Umar & Kapembwa 2020) that benefits are not enough to reach all communities to appreciate conservation.

5.2.2 Community Perception on CM ability to Improve Social Economic status

Unlike the findings by (Sakala and Moyo 2017) that the link between CBNRM and livelihoods has not been concretely demonstrated, the findings of this study reveal that Collaborative Management activities can contribute to social economic status of communities around the park. These findings tally with study by (Bennet and Dearden 2014) which states that participatory approach can contribute positively to socio economic development of the local communities.

The findings from figure 5 indicate that CM can contribute to social economic status of community through income generating activities like bee keeping and other harvested resources through RUP used for domestic use. This study tally with (Mandondo, et al. 2014) study which states that dependency on natural resource is high, with non-timber forest products (NTFPs) which is a source of food and income. The study also tally with (Zulu & Richardson 2013) study which states that natural resources are crucial for livelihood improvement where poorest households in rural communities rely significantly on indigenous vegetation and forests for additional resources, and sources of income as safety nets during times of hardship.

The findings also tally with (Bwalya Umar & Kapembwa 2020) study which states that Community conservation approaches to wildlife management usually have a strong economic rationale if local people participate in wildlife management, and economically benefit from this participation, then a win-win situation will arise whereby community welfare improves. (Mbise et al. 2021) which states that local communities benefited directly and indirectly from ecotourism and help and support through social services. All communities in the 5km stretch

are allowed to collect some resources from the park for food and for sale which contribute to improved livelihood of communities.

The findings also revealed that CM can contribute to socio economic status of community through development projects. Revenue sharing scheme under CM portion for community are used for community development, such as building schools, clinics, and infrastructure, livestock distribution and crop diversification which directly improve the quality of life. The findings collaborates with the study by (Mbise et al. 2021) which states that revenue accrued from conservation activities was used to support different development projects in adjacent communities such as the constructed classrooms, toilets, rehabilitated the Doctor and Teachers houses. The development project help community to have access to good infrastructure and food security that also improve their living standards. The study by (Tarimo & Olotu 2020) also indicated that community receives support for different projects from the benefits of the game reserve. The findings by (Sakala & Moyo 2017) indicate that the funds contribute more to poverty reduction however; these benefits do not result in immediate cash but just assist the community with various community projects.

Findings from the study also indicate that CM provides awareness through outreach programmes, workshops and meetings, where communities often gain access to training in skills in wildlife management, income generating activities, tourism, and business development. The awareness empowers them with skills to manage and sustain projects independently, leading to a stronger local economy and a more informed, skilled population for their livelihood (Steinmetz et al. 2014).

The findings from figure 5 also indicate that has led to an increased jobs opportunity by the community. CM approach promotes the system of employing locals in order ensure that local community living around the park should benefits from park activities. The findings tally with study by (Mbise et al. 2021) which states that local communities benefited directly and

indirectly from employment, and social services. Through tourism and management activities local communities are employed in order to encourage them to participate in wildlife conservation. The findings also tally with the study by (Tarimo & Olotu 2020) which states that the improvement of livelihood was due to the multiplier effects of tourism activities, employment, which had led to the growth of business, agricultural and livestock keeping practices. The community is directly employed in tourism sector and park activities but tourism also provide opportunity for community to sell their farm produce to the lodge and visitors.

The study by (Zuka & Zuka. 2016) also indicated that communities should benefit from wildlife conservation through employment and income-generating activities.

The findings also discovered that CM has contributed on socio economic status of community by improving people's compliance with the laws and regulations participation in conservation activities. Communities are able follow and participate in park activities because they understand and participation in management.

Despite the positive finding about CM contribution towards socio economic status in some areas, communities feel CM cannot contribute to socio economic status of the community because there is no tangible support from the park and sometimes it only benefits very few households i.e. those in the NRC in form of sitting allowances and employment. The benefits generated by CM activities are too little to make any significant impact in the socio economic status of communities, these observations agree with those made by Sakala & Moyo 2017). In addition, rules and regulations of the park restrict community access to some resources in the park like firewood which they used to collect freely before the Park establishment is also a reason why some communities feel CM cannot contribute to socio economic status. These finding tally with (Mbise et al. 2021) which states that resource access is restricted to the local people and have impacted and undermined the livelihood of locals.

5.2.3 Perception on CM Program suitability in Park Management

The findings suggest that Collaborative Management offers significant advantages for park management, particularly in enhancing community benefits and support for conservation. The finding tally with study by (Fawaeed & Daim 2018) which states the importance of the approach that involve local stakeholder in PA management is that it works as conflict resolution approach for smooth management. When there are disputes, the approach is used to resolve the issues amicably. This finding also tally with study quoted by(Manda et al. 2023) that states that local residents' attitudes towards protected areas are more likely to be more positive towards less strict PAs than strict ones.

The findings indicated that CM suitability for park management is that the approach promotes community participation and other stakeholders in the management of the park. Likewise Collaborative Management allow communities to take part in decision making and other activities towards park management so it provides room for stakeholder contribution towards management. (Sam et al. 2014) stated that community participation and involvement in the management and conservation of natural resources are vital instruments in environmental resources management. The findings also tally with the quote by (Manda et al. 2023) study which states that biodiversity within the Pendjari National Park was highly correlated with the effective involvement of local communities in the management strategy.

The findings indicated that CM is a good approach for park management, because communities are allowed to collected resources from the park for food, income and raw materials. These findings tally with the quote by (Manda et al. 2023) which states that Although access to basic resources by the bordering communities is not in itself a panacea for effective conservation but, many other studies have suggested that local communities are likely to value and support conservation work if such initiatives address their basic needs which is in in line with CM

approach. According to Gordon-Cumming and Mearns 2021 states that meaningful community participation is core to the long-term success of protected areas

Some respondents also indicated that CM improved relationships between DNPW and Communities since they are part of management team hence CM provide a free platform for holistic problem solving. The result tally with the study by (Manda et al. 2023) which indicate that positive perceptions expressed by communities may be related to their increased access to valuable resources, involvement in biodiversity conservation, and social development programmes initiated in the area through the co-management arrangement.

The findings discovered that the approach that is very good because it provides job opportunities to the communities although at a smaller percentage but it contributes a lot towards people's attitude and promote community participation in conservation. The finding tally with (Mbise et al. 2021) which states that wildlife tourism has led to an increase in jobs in the community and is often one of the most highly acclaimed economic impacts of wildlife tourism in communities.

The finding in figure 7 that CM is a good approach because it encourages sense of ownership. When communities have a voice in conservation decisions, they feel a stronger sense of ownership over natural resources management and able to support conservation of the park. The findings tally with (Oldekop et al. 2016) study which said Co-management can contribute a lot to meet conservation objectives in an ecosystems. The approach has gained a lot of support in conservation because communities feel they are park and parcel of the team. The finding tally with (Bwalya Umar & Kapembwa 2020) study which states that Community conservation has gained wide acceptance among wildlife conservationists as a preferred approach to managing the diverse and abundant African wildlife found in protected areas on the continent.

5.2.4 Participants perception on level of satisfaction with CM Approach

The findings in figure show that local communities are satisfied with CM implementation, because it promotes Community Sensitization. Communities feel CM is one of the approaches that use inclusive strategy whereby communities are taken on board. The finding tally with (Manda et al. 2023) which states that local residents' attitudes towards protected areas are more likely to be more positive towards less strict PAs than strict ones. The approach community sensitisation through meetings and outreach programme to promote public awareness on wildlife conservation(GOM 2018). The finding tally with (Steinmetz et al. 2014) study which states that the application social psychology to conservation try to simultaneously raise awareness, build motivation, offer opportunities and increase local people's control of the future of their environment.

The findings in figure 9 also indicated that the reason for community satisfaction with CM approach is that it promotes good relationship. Collaborative Management is a joint management approach where communities in this case are involved in management of the park. Ccommunity members are actively involved in decision-making, with their voices being respected and considered in many activities (Borrini-Feyerabend et al. 2004). This empowerment builds trust and a sense of ownership, fostering a positive view of the approach. The findings figure 9 discover that Communities are satisfied with the approach because it provides livelihood programs to the communities like bee keeping RUP, development programs, and employment opportunities. The findings tally with study by (Manda et al. 2023) which states that co management can bring hope for socio economic status of communities.

The findings also indicated that communities are satisfied because of the new rules and regulations for wildlife conservation is inclusive that it provides room for community participation in wildlife conservation issues.

Despite the findings in figure 9 that communities are satisfied with CM approach, the findings in figure 10 revealed that some participants are not satisfied with Collaborative Management activities and its implementation. This is because the/benefits shared are not enough to cover all community around the park. The finding tally with (Sakala & Moyo 2017) which states that the benefits generated by were too little to make any significant impact on individual households and community. The reason for not satisfied with CM is the unfair distribution of benefit to communities and slow response to problem animal reports from the communities. The finding tally with study by (Bwalya Umar & Kapembwa 2020) that states that unfair distribution of resources; and slow response to problem animals (human wildlife conflict), when animals go out of the protected area DNPW staff do not respond fast to safeguard peoples life and property. The results are also in agreement with study by (Gordon-Cumming & Mearns 2021) which revealed that community residents perceived there was little meaningful participation and benefits were poorly communicated and unfairly distributed. Some local communities indicated that it only benefits few households i.e. those in the NRC members and revenue shared mainly target community development projects and not individual households. Some respondents suggested that the benefits should be directed to the individual households so that they can have means of supporting their families especially revenue sharing scheme, these result tally with a study as quoted by (Sakala and Moyo 2017). The findings are also in agreement with (Solomon et al. 2011) study which highlight that individual benefits tend to have a greater impact on people's attitudes than community-level benefits.

Sometimes communities feel side-lined and view the approach as merely paperwork, as in most cases decision-making is top-down or dominated by government agencies (DNPW).

5.3. Contribution of CM components on socio economic status of community

5.3.1 Revenue Sharing Scheme contribution on socio economic status of community

The second objective of the study was to analyse contribution of Collaborative Management approach on socio economic status of community. It was analysed based on the CM activities like revenue sharing scheme; Resources use programme.

The findings in figure 11 indicated that sharing scheme provides tangible benefits to them through developmental projects such as construction and rehabilitation of school blocks, teacher's houses, clinics, bridges, provision of classroom desks, income generating projects like bee keeping, livestock distribution, and crop diversification (soya, groundnuts and cassava stem) through distribution of seed on pass on programme. The findings tally with the study by (MacKenzie 2012) which states that revenue sharing provides local communities with tangible benefits from conservation, thus promoting positive attitudes toward the park and improve the quality of life and offset the potential costs of living near wildlife area. The study also indicated that the development projects from RSS have a multiplier effect where it also provides job opportunity to the communities in the area while improving the welfare of the communities. The findings tally with (Sakala & Moyo 2017) which states that a teacher's house, school, bridges, health post was constructed, school rehabilitated, and classroom block was under construction using revenue from conservation.

The findings also indicate that CM activities like revenue sharing significantly improve livelihood of the local community through employment during development projects and access to education by provision of school blocks and desks. The findings tally with (Oldekop et al. 2016) study that states that CM can deliver greater benefits to local communities around protected areas because, by strengthening tenure rights and decision-making processes, it can result in increased and more equitably shared economic benefits.

The study also found that funds from RSS are used to improve community infrastructure, including, health clinics, and schools. This infrastructure not only enhances the quality of life but also creates a basis for future economic activities, such as tourism services.

The findings also reveal that RSS provide a steady income source for communities, which can reduce poverty levels. These funds are often reinvested in community projects, like beekeeping, crop diversification and livestock production, giving local people a dependable revenue stream that may otherwise be unavailable in rural or remote areas. The income from the projects also reduces overdependence on activities that may negatively affect wildlife.

The findings in figure 12 revealed that the sector that benefit most in RSS is education sector, where school blocks were constructed and rehabilitated. In addition, classroom desks were distributed to different schools in the border zone around the protected area. This assist learners to have access to good education and learning environment. Access to education increases literacy rates and equips younger generations with skills that improve job prospects and entrepreneurial opportunities, helping break the cycle of poverty in the long term.

Findings in figure 12 also indicated that RSS has benefited agriculture sector in terms of distribution of livestock and seed to the communities. This help improve people's livelihood in terms of food and income. Livestock and crop were distributed to community on pass on in order to allow many people benefit from the programme.

Despite that the programme has benefitted different sector finding revealed that the programme has failed to provide access to better road/transport and health services through construction and rehabilitation of bridges and clinics. The study discovered that there are very few clinics and bridges which have been maintained and rehabilitated since CM started. These findings tally with those made by (Sakala & Moyo 2017) and revenues generated from the park had decreased because animal population has decreased which affect number of visitor to the park.

The findings in figure 14 revealed that revenue sharing scheme funds are used for development projects within the border zone at community level not individual, as a result these benefits from CM were not felt by individuals in the area. This tally with study by (Sakala & Moyo 2017) which states that the benefits only target community at large not individuals which has no direct benefits on individual livelihood. This is evidenced by the nature of development project targeting community not individual or household. However, a small percentage of communities indicated that it benefits individuals and at the household (Figure 14). At household level the community revealed that they are mostly employed as labourers for any developmental project and are provided with raw materials which earn them some money for daily livelihood. The development project also improves their living standards like school blocks and desks which promote school attendance by children. Clinics will improve people health since the communities will have access to good socio amenities. The result tally with the study by (Sakala & Moyo 2017) which states that communities provide labour for construction or rehabilitation of schools, heath post, and teacher houses with funding from conservation activities.

Communities also indicated that benefits from revenue sharing scheme are mostly provided on quarterly and annually, depending on the area and need of the development project. However, the school blocks, bridges and teachers' houses construction only happen annually because they need a lot of money to be implemented and are big projects. The findings revealed that maintenance of school blocks is one of the highest benefits received from revenue sharing scheme seconded by livestock distribution then desks. It has revealed that maintenance is the highest rather than construction of new structure because the revenue is not enough to construct a new building. This is evidenced by the amount of money allocated to community project.

On the use of funds from RSS, it was revealed during KII by the chairperson of NVA that 30% of the funds is used for administration, 35% for resource protection and 35% for community projects.

Communities also revealed that development projects distribution is not spread around the park. Very few areas have received the projects, because the money is not enough; the area is too big for the revenue generated. The findings tally with (Kipkeu et al. 2014) study which states that the funds generated were too little to make any significant impact in the developmental projects.

The finding in table 3 revealed that revenue sharing scheme has improved the relationship between DNPW and communities around the park, promote community participation in conservation, community compliance with Wildlife Laws, livelihood status and income levels through livelihood initiatives, access to good education and food availability. The observation also tally with the study quoted by (Sakala & Moyo 2017) that states that local communities participate and support activities that they see bring them clear tangible and preferable benefits in terms of products or income.

The findings in table 3 also discovered that CM approach has not changed access to good roads because many roads are in a bad shape and very few roads have been maintained or constructed using revenue sharing scheme funds because it requires a lot of money which CM activities cannot manage. In addition, access to health services has not changed because very few clinics have been rehabilitated only two clinics have been constructed and one rehabilitated. RSS only target small projects that any big project like road construction and hospitals are avoided. The finding also tally with (Sakala & Moyo 2017) which state that the development project from revenue only target small projects which is difficult to produce significant impact to people.

Finding also indicated that some people don't know the contribution of CM on socio economic status of community because they do not see the benefits. The finding tally with the study by(Bwalya Umar & Kapembwa 2020) which states that communities are not benefiting from wildlife management, but incurred costs due to their proximity to wild animals and the national park.

The findings in figure 15 indicated that community are satisfied with revenue sharing scheme implementation because of its contribution towards socio economic status of the communities. Revenue-sharing have a substantial influence on the socio-economic status of communities living near the protected areas, which positively impact livelihoods, education, infrastructure, and community well-being(Franco et al. 2021).

The findings also indicated that some communities are not satisfied with RSS implementation because it is targeting specific area and mostly targeting small projects: like maintenance, rehabilitation of already constructed structures and unfair distribution of projects favouring one side. The findings tally with (Sakala & Moyo 2017) which states that he communities complained that programme only targets small projects like maintenance of classroom or cements provision yet the communities need big projects like road construction, drilling boreholes and distribution of food items. The findings also tally with (Ward et al. 2018) study which states that community wanted to get big community projects for example to maintain the roads for transporting their agricultural products and to have also some water for drinking for their health. The benefits are not achieving community needs in other words because the procedure and funds are not enough for big projects.

5.3.2 Resource Use Program benefits to communities (Resources harvested)

Findings in Figure 16 revealed that commonly harvested resources are: fish, thatch grass, mushroom, honey, flying termites, wild fruits, reeds and traditional medicine. Resources harvested from the park like honey have high economic value that can help community to pay fees, buy food and clothes. Most of the resources harvested are used for domestic use. The findings agree with (Bwalya Umar & Kapembwa 2020) which states that community admitted to harvesting wildlife resources for subsistence purposes.

Findings also discovered that communities participate in RUP on annual, quarterly, monthly, fortnight, weekly and daily depending on the resources they are harvesting (Figure 17). It has been indicated that mostly people participate in RUP annually because seasonal resources are harvested mostly than other resources. Seconded by daily participation because they harvest resources for daily consumption. It has been revealed that different resources are harvested at different period depending on season and availability of that resource. In addition, some resources like mushroom, fish, wild fruits, flying termites are seasonal and are only harvested when they are in season.

Findings on the use of resources harvested that mostly is used for domestic use as food, income, construction and medicine. The finding agree with the study by (Bwalya Umar & Kapembwa 2020) which states that Households harvested resources that they used for house construction and repair, as sources of household energy from within the boundaries of the national park, which is against state regulations. It has also been revealed that almost all resources are used for income and 5 out of 8 are used for food except for thatch grass, reeds, traditional medicine are used for construction and medicine respectively.

The findings in figure 19 also show that RUP is mostly benefitting households because most of the resources harvested are used by household members for food, income, traditional medicine and construction. Despite these findings some observation indicated that RUP

beneficiaries are at individual because some resources can be sold or consumed by individual. Most of the resources harvested are benefiting household than individuals because the resources harvested are usually used at household level like fish as relish at home, honey as food and source of income for the family.

The findings also revealed that RUP has contributed a lot towards the improved relationship between DNPW and communities. For example, members of staff from DNPW are free to visit any community member without being attacked by communities like the way it was before CM approach.

The findings also observed that the approach has improved community participation in conservation. Unlike during the fence and fine approach in conservation it was government centred but CM has tried to bring all stakeholder together including community as a key partner in conservation. these findings tally with study by(Sam et al. 2014) that states that Conservation practices are changing from the traditional management approach with emphasis on managing natural resources in a way that ensures greater flow to all stakeholders, especially local community members.

The findings also revealed that RUP has improved compliance with the laws. With RUP community are becoming more supportive because they are involved in conservation. This has caused the reduction in breaking the rules and regulations of conservation because people complying due to awareness. The findings tally with (Zuka & Zuka. 2016) study which states that benefits from wildlife can change communities' antagonism to conservation.

The findings also revealed that RUP has improved livelihood and income levels because community have access to some resources inside the park which can be sold and used at home. The finding tally with results by (Ward et al. 2018) which indicate that CM recognized the need to promote involvement and empowerment of rural communities by linking their economic and social development to Natural Resources Management. The findings also revealed that RUP

has improved food availability, and improved access to good education. Community is able to collect resources from the park which are used as food and sales. The money from the sales of those resources is also used to buy food and pay school fees for children that ease the burden of school fees and other issues. The findings are in agreement with (Bwalya Umar & Kapembwa 2020) (Zeng et al. 2023).

5.3.4 Level of satisfaction with RUP

Communities' level of satisfaction with the implementation of resource use programme under Collaborative Management approach in Nyika was assessed with findings in figure 21 indicating that community are completely satisfied with RUP implementation. Communities are satisfied with the programme because it provides access to harvest some resources used for food and as source of income. The resources are used for food, income, traditional medicine and construction which further enhance livelihood status. The findings tally with study by (Manda et al. 2023) that indicated that co-management has improved access by local communities to NTFPs thereby enabling them to meet their daily needs. Unlike the previous approach of conserving wildlife approach where the communities were denied access to valuable resources in the park.

Further the finding show that some communities are not satisfied with the programme because of the restriction to access some resources from the park like firewood. The findings are in agreement with study by (Mbise et al. 2021) which states that the restrictions of resource access, costs associated with living closer to the park boundaries, and poor involvement of locals in conservation activities contributed to more negative attitudes toward conservation activities. In addition, findings indicated that the programme sometimes only targeting few individuals especially NRC members. This study also observed that households past conservation interventions experience like unfulfilled promises has contributed to the response of not appreciating RUP benefits.

5.3.5 CM activities that contribution to social economic status

CM activities contribution towards community socio-economic status were determined using chi square. Factors such as participant's direct benefits attained from NNP, community participation in RUP, CM ability/influence to reduce poaching, knowledge of NNP Purpose and RSS programs were computed to see their effect on community's social-economic status. The findings in table 5 show the good fit of the model with significant value of P=*0.882 (p>0.05*) and chi-square value 1.754 with 75 degrees of freedom.

The findings for the various predictor and contributory variables on CM activities contribution to social-economic status (Table 6). The findings revealed that Direct benefits from NNP like employment opportunity etc (*p>0.002*), RUP participation (*p>0.041*), CM development projects (*p>0.018*), were CM activities that significantly influenced community social-economic status. However, NRC membership (*p>0.066*), and knowledge of park purpose *(p>0.590),* RSS (*p>0.405*), have no significant influence on socio economic status. The findings are in agreement with the findings of (Oldekop et al. 2016b) which states that co-management approaches where communities are empowered to contribute to decision-making are more likely to meet socio economic goals.

5.4 Motivational factors for Community Participation in CM Programmes

5.4.1 Motivational factors for Community Participation

The findings in table 7 revealed the four motivational factors for communities to participate in Collaborative Management activities, namely (1) passion for conservation of wildlife; (2) poverty reduction; (3) Resource Use programme which provides benefits and/or incentives; and (4) safeguarding their properties from wild animals like crops and houses in human wildlife conflict control.

This finding revealed that communities participate in CM activities out of passion for conservation of wildlife. This is because it is a lifesaving machine which is a sign that people

do value PAs for non-economic reasons, such as ecosystem services, for the benefit of future generations. This could also be due to intensified awareness and adequate conservation education given to the local communities which resulted in much appreciation of wildlife. The findings tally with the study by (Tarimo & Olotu 2020) which states that the decrease in community participation could be associated with the low level of education and insufficient knowledge of planning and implementation of various natural resource management activities.

The second factors is that communities participate in CM is because of economic incentives that assist in poverty alleviation in their homes. CM activities provide some incentives to the community which contribute a lot towards poverty alleviation such as employment, livelihood initiatives etc. They participate in bee keeping activities where they get food and money from the initiative. Most of the time communities are employed as labourers in many development activities in the park which earn them some money for their homes. The study tally with (Mugizi et al. 2017) study which states that communities' participation has always been benefits sharing, where local communities use shared benefits as a precondition to participate in tourism activities. It has also been revealed that the socio-economic activity involved in by an individual influences his/her participation in especially if the activity generates incomes to sustain the family's welfare. In addition, respondent revealed that benefits and/or incentives mentioned included some members are employed as labour or piece work, tours to various PAs, and project activities like livestock pass-on programmes, tree planting and crop diversification are also the factors for community participation.

The third factor is Resource Use programme which provides access to some wildlife resources. They participate in CM activities because they are allowed to collect some resources from the park through RUP which provide incentives for day-to-day life. The study tally with (Andrade

& Rhodes 2012) which state that the exploitation of certain natural resources inside PAs on a sustainable basis often improves the living conditions of local populations and, at the same time, can reduce conflicts between locals and PA authorities.

Fourth factor is to safeguard their property from problem animals. They participate in problem animal control activities in order to reduce human wildlife conflicts such as damage to crops or livestock predation. This can reduce the negative perceptions towards conservation and promote cooperation.

Activities like participatory law enforcement and data collection only NRC members participate because they are trained, and they know how to conduct law enforcement activities and data collection. In law enforcement they are employed as village scout or sometimes act as informants. In data collection, they work as enumerators and assistant researchers during field data collection.

5.4.2. Community participation in CM activities

The study reveals that the level of community participation in CM activities is high in all the listed activities. This attributed intensified awareness campaigns conducted by Department of National Parks and Wildlife. According to (Tarimo and Olotu 2020) study, local community participation in wildlife conservation and management is known to have existed for many years, however, the factors that influence community to participate are diverse. The local community's involvement in conservation activities to experience a sense of benefit sharing.

5.5 Summary

This chapter interprets and contextualizes the findings of the study on the socio-economic benefits of the collaborative management approach implemented around Nyika National Park.

Key findings reveal that collaborative management has had positive impacts on local communities, particularly through the creation of employment opportunities, improved access to natural resources through RUP, contribute to socio economic status of communities and enhanced community participation in wildlife conservation.

However, the chapter also highlights several challenges. These include unequal benefit distribution, limited capacity of local institutions, and lack of transparency in revenue sharing. Some community members remain marginalized from the activities and decision-making processes, reducing the inclusivity of the approach.

The discussion engages with previous studies on co-management and community conservation, showing that while the Nyika model aligns with global trends promoting participatory conservation, localized implementation gaps persist. The study confirms that collaborative management can be a viable tool for achieving conservation and development goals, but stresses the need for adaptive management, stronger governance structures, and continued awareness at the grassroots level.

In conclusion, the chapter argues that while collaborative management around Nyika National Park offers tangible socio-economic benefits, its effectiveness depends heavily on the quality of stakeholder engagement, equitable benefit sharing, and long-term institutional support.

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the conclusions that addresses the objectives of the study and recommendations made on major findings highlighted in the previous chapters.

6.1. Conclusion

This study set out to assess the socio-economic benefits derived from the collaborative management approach implemented around Nyika National Park, with a focus on how this model has influenced the livelihoods and well-being of surrounding communities. Drawing on both qualitative and quantitative data, the research has provided a comprehensive understanding of the opportunities, challenges, and impacts associated with co-management efforts in the context of protected area governance. The study has demonstrated that Collaborative Management approach has generated the socio-economic benefits to communities around Nyika National Park based on the findings it can be concluded that:

The findings from the first objective demonstrated that Communities surrounding Nyika National Park have positive perceptions towards CM approach. Positive perception on its ability to reduce poaching, perception on contribution to socio economic status of communities and positive perception that it is the good approach for park management. However a small percentage have negative perception of the approach because the benefits are not enough to all members and the distribution only target specific areas and groups.

The findings from the second objective demonstrated that CM components can contribute to improvement of socio-economic status of the communities. The following are some of the benefits from the approach: direct benefits attained from NNP, community participation in RUP, CM development project, Knowledge of NNP Purpose and RSS programmes.

The study findings from the third objective revealed that the motivational factors for community participation in Collaborative Management activities are: (1) passion for conservation of wildlife; (2) economic benefits and poverty reduction/income; (3) Resource Use programme which provides benefits and/or incentives; and (4) safeguarding their properties from animals like crops and houses in human wildlife conflict management

In summary, while collaborative management around Nyika National Park has demonstrated potential to deliver meaningful socio-economic benefits to local communities, its long-term success hinges on strengthening institutional frameworks, ensuring equitable benefit distribution, and fostering genuine community participation. By addressing existing challenges and reinforcing inclusive governance practices, this approach can serve as a model for balancing conservation goals with the development needs of communities living adjacent to protected areas.

6.2. Recommendation

The study was conducted to assess the socio-economic benefits of CM approach to communities around Nyika National Park. Despite that CM benefits can contribute towards the improvement of socio-economic status of community the approach has some limitations. There were some areas where improvements need to be done. Based on the findings of the study, the following are the recommendations.

- The approach should be strengthened in terms benefit sharing where community members should have equal chances of benefitting from the programme;
- The park should intensify on awareness campaigns to strengthened the understanding of the communities and other stakeholders on CM benefits that contribute to improved socio-economic status of the communities

- The revenue sharing should also target individuals not community at large only in order to motivate many individuals' participation in wildlife conservation;
- Increase economic benefit to community for support of wildlife conservation in transparent and accountable manner.
- Monitor socio economic impacts of the approach and the park to the community and reinforce both economic and cultural motivators.
- Build capacity through training for communities around the protected areas.

6.3. Areas of Further Study

Further studies should focus on evaluation of the Collaborative Management approach on how community participate in conservation of wildlife resources in Malawi. This study primarily focused on tangible socio-economic benefits however, intangible benefit**s** were not comprehensively explored and warrant further investigation.

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APPENDIX A: ETHICAL CLEARANCE FROM MZUNIREC

MZUZU UNIVERSITY

DIRECTORATE OF RESEARCH

Mzuzu University
Private Bag 201
Luwinga
Mzuzu 2
MALAWI
TEL: 01 320 722
FAX: 01 320 648

MZUZU UNIVERSITY RESEARCH ETHICS COMMITTEE (MZUNIREC)

Ref No: MZUNIREC/DOR/24/36 **24/05/2024.**

Maisa Chulu Kataya,
Mzuzu University,
P/Bag 201,
Luwinga,
Mzuzu 2.

Email: maisachulu@gmail.com

Dear Maisa,

RESEARCH ETHICS AND REGULATORY APPROVAL AND PERMIT FOR PROTOCOL REF NO: MZUNIREC/DOR/24/36: ASSESSMENT OF SOCIO-ECONOMIC BENEFITS OF COLLABORATIVE MANAGEMENT APPROACH IN NYIKA NATIONAL PARK, NOTHERN MALAWI.

Having satisfied all the relevant ethical and regulatory requirements, I am pleased to inform you that the above referred research protocol has officially been approved. You are now permitted to proceed with its implementation. Should there be any amendments to the approved protocol in the course of implementing it, you shall be required to seek approval of such amendments before implementation of the same.

This approval is valid for one year from the date of issuance of this approval. If the study goes beyond one year, an annual approval for continuation shall be required to be sought from the Mzuzu University Research Ethics Committee (MZUNIREC) in a format that is available at the Secretariat. Once the study is finalised, you are required to furnish the Committee with a final report of the study. The Committee reserves the right to carry out compliance inspection of this approved protocol at any time as may be deemed by it. As such, you are expected to properly maintain all study documents including consent forms.

Wishing you a successful implementation of your study.

Committee Address:
Secretariat, Mzuzu University Research Ethics Committee, P/Bag 201, Luwinga, Mzuzu 2; E-mail address: mzunirec@mzuni.ac.mw

Yours Sincerely,

Gift Mbwele

SENIOR RESEARCH ETHICS ADMINISTRATOR

For: CHAIRMAN OF MZUNIREC

Committee Address:
Secretariat, Mzuzu University Research Ethics Committee, P/Bag 201, Luwinga, Mzuzu 2; E-mail address: mzunirec@mzuni.ac.mw

APPENDIX B: CONSENT FORMS

Mzuzu University Research Ethics Committee (MZUNIREC)

Informed Consent Form for Research on "assessment of socio-economic benefits of Collaborative Management approach to communities around Nyika National Park"

Introduction

My Name is Maisa Chulu Kataya a student from Mzuzu University pursuing masters in transformative community development. I am doing an academic study on assessing socio-economic benefits of Collaborative Management approach to communities around Nyika National Park. This consent form may contain words that you do not understand. Please ask me to stop as we go through the information and I will take time to explain. If you have questions later , you can ask them of me or of another researcher.

Purpose of the research

This research aims to the main aim of the study is to assess socio-economic benefits of Collaborative Management approach to communities around Nyika National Park.

Type of Research Intervention

This research will involve your participation in a group discussion and/or individual interview.

Participant Selection

You are being invited to take part in this research because you are staying around the park (border zone) which means you're part and parcel of Collaborative Management approach implemented in Nyika National Park

Voluntary Participation

Your participation in this research is entirely voluntary. It is your choice whether to participate or not. If you choose not to participate nothing will change. You may skip any question and move on to the next question.

Duration

The research will be conducted for a period of 2 months in total. The collection for Face-to-face interviews with respondents will take a maximum of 30 minutes and focus group discussions will take a maximum of 45 minutes.

Risks

You do not have to answer any question or take part in the discussion/interview/survey if you feel the question(s) are too personal or if talking about them makes you uncomfortable.)

Reimbursements

You will not be provided any incentive to take part in the research.

Sharing the Results

The knowledge that we get from this research will be shared with you and your community before it is made widely available to the public. Following , we will publish the results so other interested people may learn from the research.

Who to Contact;

If you have any questions , you can ask them now or later. If you wish to ask questions later , you may contact: Maisa Chulu Kataya , Mzuzu University , P/Bag 201 , Mzuzu 2 , Cell: +265999 205 910.

This proposal has been reviewed and approved by Mzuzu University Research Ethics Committee (MZUNIREC) which is a committee whose task it is to make sure that research

participants are protected from harm. If you wish to find about more about the Committee , contact Mr. Gift Mbwele , Mzuzu University Research Ethics (MZUNIREC) Administrator , Mzuzu University , P/Bag 201 , Luwinga , Mzuzu 2 , Phone: 0999404008/0888641486

Do you have any questions?

Part II: Certificate of Consent

I have been invited to participate in research about **"**assessment of socio-economic benefits of Collaborative Management approach to communities around Nyika National Park**"**.

I have read the foregoing information , or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study

Print Name of Participant_____

Signature of Participant _____

Date _____

Day/month/year

Witness [1]

I have witnessed the accurate reading of the consent form to the potential participant , and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.

[1] A literate witness must sign (if possible, this person should be selected by the participant and should have no connection to the research team). Participants who are illiterate should include their thumb print as well.

Print name of witness_____ **Thumb print of participant** 

Signature of witness _____

Date _____

Day/month/year

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant , and to the best of my ability made sure that the participant understands the research project. I confirm the participant was given an opportunity to ask questions about the study , and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent , and the consent has been given freely and voluntarily.

Signature of Researcher /person taking the consent_____

Date _____

CHICHEWA VERSION

Mzuzu University Research Ethics Committee (MZUNIREC)

Kufufusa phindu lotukula miyoyo ya anthu akumidzi wozungulira Nkhalango ya Nyika kuchokera mumgwirizano waanthu akumidzi ndi boma samalira zachilengedwe.

Chiyambi

Dzina langa ndine Maisa Chulu Kataya , ndachokera kusukulu ya ukachenjede ya Mzuzu university ndipo ndikuchita maphuziro anga kumeneko. Ndabwera ndicholinga chofuna kuzapanga kafukufuku okhuza phindu lotukula miyoyo ya anthu akumidzi wozungulira Nkhalango ya Nyika kuchokera mumgwirizano waanthu akumidzi ndi boma posamalira zachilengedwe

Pamene ndiziwelenga pepholangali mwinapapezeka mawu ena okuti akuvutani kumvetsetsa ndikukupephani kuti mukhale omasuka kufunsa komaso kundiyimitsa kuti ndifotokozere monveka bwino lomwe , muthaso kufunsa anthu ena omwe ndabweranawowa.

Cholinga chakafukufuku

Cholinga cha kafukufuku amaneyu tikufuna Kufufusa phindu lotukula miyoyo ya anthu akumidzi wozungulira Nkhalango ya Nyika kuchokera mumgwirizano waanthu akumidzi ndi boma posamalira zachilengedwe. Kafukufukuyu akuchitika ngati mbali imodzi yokwanilitsa maphuziro anga akusukulu ya ukachenjede.

Ndondomeko ya kafukufuku

Pamene tikupanga kafukufuku ameneyu tikupephani kuti mukhale magulu kuti mafuso muziyakhira pamodzi pamene tikucheza nanu komaso tikupephani kuti aliyese ticheze naye payekhapayekha ngati munthu.

Kasankhidwe ka otenga mbali

Mwasankhidwa kuti mutenge nawo mbali mukafukufuku ameneyu chifukwa mudali nawo mmodzi mwa anthu omwe amakhala mmbali mwa nkhalango yanyika komanso mbali imdzi ya mgwilizano wosamalira zachilengedwe.

Kutenga mbali ndi ufulu wanu

Muli ndi ufulu otenga nawo mbali mukafukufuku ameneyu komanso muli ndi ufulu kusatenga nawo mbali. Muliso ndi ufulu osiya mafuso ena osayankha ngati mukuwona kuti mafusowo simumasuka kuyakha ndipo simukakamizidwa kuti muyankhe.

Zachinsisi

Mukutsimikizilidwa kuti zimene mutagawane nafe pakafukufuku ameneyu zikhala za chinsinsi ndipo zisungidwa mwaukadaulo wachinsinsi ndipo sizikapelekedwa kwa munthu aliyese. Zomwe mutagawane nafe pakafukufuku ameneyu zikagwira ntchito yokhayo imene iliyokhuza kafukufuku yekhayu basi kupatula pamenepa tizapeleke zotsatira kwa anthu osiyanasiyana komaso kuika pamasamba a internet kuti anthu ena amayiko ena athe kuwona nawo , koma ngakhale izi zilichomwechi palibedi dzina olo limodzi la munthu limene lizatchuledwe ndipo izi ndikutsimikiza.

Nthawi yopangira kafukufuku

Kafukufuku ameneyu apangidwa kwa pafupifupi miyezi 2. Kucheza kwathu ndi munthu tizitenga mphindi 30 ndipo kucheza kwapagulu kuzititengera mphindi zosaposera 45.

Dziwani izi

Dziwani kuti Muli ndi ufulu onse kusankha kusayankha mafuso ena ngati mukuwona kuti mafusowo simukutakasukanawo ndipo kuyakha mafuso otero simukondweranako.

Malipiro

Mukuziwitsidwa kuti kutengapo mbali kwanu pakafukufuku ameneyu ndikwaulele ndipo simulandira kalikose.

Zotsatira zakafukufuku

Zotsatira za kafukufuku ameneyu zizakhala zosabisa ndipo zizapelekedwa kwa anthu ose omwe angazasangalatsidwe. Komaso zotsatirazi zizayikidwa pamasambaa internet kuti dziko lose lizakhale ndimwayi opeza nawo zotsatira zimenezi.

Mafuso kapena ndemanga

Ngati muli ndi mafuso kapena ndemanga mutha kuthandizika polumikizana ndiine Maisa Chulu Kataya panambalaiyi +265999 205910 komanso powalembera uthenga kalata ku Mzuzu University , P/Bag 201 , Mzuzu 2.

Kafukufuku ameneyu wawunikilidwa bwino wavomelezedwa ndibungwe lowona zakafukufuku ndikuteteza anthu otenga nawo mbali pakafukufukuku ku sukulu yaukachenjede ya Mzuni la Mzuzu University Research Ethics Committee (MZUNIREC). Ngati mukufuna kudziwa zambiri mutha kutero poyankhurana ndi Mr. Gift Mbwele , Mzuzu University Research Ethics (MZUNIREC) Administrator , Mzuzu University , P/Bag 201 , Luwinga , Mzuzu 2 , Phone: 0999404008/0888641486

Pali funso kapena ndemenga pazimene ndawelengazi?

Gawo lachiwiri: Chiphaso chovomeleza
Ndapephedwa kutenga nawo mbali pakafukufuku Kufufusa phindu lotukula miyoyo ya anthu akumidzi wozungulira Nkhalango ya Nyika kuchokera mumgwirizano waanthu akumidzi ndi boma samalira zachilengedwe.

Ndikutsimikiza kuti ndawelenga/andiwelengera zose zokhuza kafukufuku ameneyu. Ndili ndi ufulu ofusa mafuso pamene sindikuvetsetsa komaso ndauzidwa kuti mafuso onse amene ndiyakhe akhale kuti ndikuyankha kuchokera pansi pantima. Ndipo ndikuvomera kutenga nawo mbali mwa ufulu wanga komaso popambacholandira china chilichose.

Dzina_____
Sayinani_____
Tsiku_____ Dindani chala chanu apa

Mboni[2]
Ndikutsimikiza kuti ndachitira umboni kuwelengedwa/kuwelenga kwandondomeko za kafukufuku ameneyu ndipo otenga mbaliyu anali ndipo alindiufulu ofusa mafuso. Ndikutsimikizanso kuti otenga mbaliyu alindiufulu ose osankha kutenga nawo mbali kapena ayi.

Dzina la mboni_____
Sayinani_____
Tsiku_____ Dindani chala chanu apa

Uthenga kuchokera kwa ofufuza
Ndikutsimikiza kuti ndawelenga monveka bwino uthenga okhuza kafukufuku ameneyu kwa onse omwe akutenga nawo mbali ndipo anvetsetsa. Ndikutsimikizanso kuti otenga mbali anali ndipo ali ndiufulu onse ofusa mafuso okhuza kafukufuku amneneyu ndipo mafuso onse ayakhidwa mokhutira ofunsawo. Ndiponso ndikutsimikiza kuti otenga mbali sanakakamizidwe kutenga mbali kapena kusayina chinthu chimene sanavesetse ndipo atsimikizikidwa kuti kutenga mbali pakafukufuku ameneyu ndi kwaulele.
Dzina_____
Sayinani_____
Tsiku_____

[2]Mboni ikuyenera kusayina (ngati pangakhale zotheka mboni imeneyi ikuyenera kukhala munthu wadera osati anthu akafukufuku). Mboni zimene zimavutika kulemba zikuyenera kudinda ndi chala chovika mu inki

APPENDIX C: HOUSEHOLD SURVEY QUESTIONNAIRE

ASSESSMENT OF SOCIO ECONOMIC BENEFITS OF COLLABORATIVE MANAGEMENT APPROACH IN NYIKA NATIONAL PARK.

A. IDENTIFICATION OF RESPONDENT

Village/*Mudz*i …… NRC ……

ZNRC…… T/A/*Mfumu yaikulu*……

District/*Boma* ……

B. RESPONDENT DATA	
1. Age of respondent *Zaka za woyankha*	1=18-25 , 2=26-30 3=31-40 4=41-50 5=50 above
2. Sex of respondent. *Mwamuna/mkazi*	1 = Female/ *Mkazi* 2 = Male/ *Mwamuna*
3. Position of respondent in community/ *Udindo wa woyankha*	1= Community leader 2= Traditional leader 3= Z/NRC member 4=Community member 5= community policing 6=Other/*zina* , specify_____
3. What is your household size Kukula kwa banja lanu	1=`1-2 2=3-4 3=5-6 4= ≥7
4. What is your main occupation of respondent *Chochita cha oyankha*	1=Smallholder farmer; 2=Semi-commercial farmer 3= Bee keeper 3=Wage laborer/worker 4=Fisherman 5=Artisan/carpentry 6=Business person 7=None/p*alibe* 8= *other* specify) .....
5. What types of crops do you grow? *Mumalima mbewu zanji*	1. Tobacco only 2. Tobacco and Maize 3. Maize and other 4. Rice Maize and others 5. Maize groundnuts and others 6. Cotton Maize cassava and other
6. What livestock do you keep? *Muli ndi ziweto zanji*	1. Cattle 2. Goats

	3. Sheep 4. Pigs 5. Poultry 6. All
7. What is your highest level of education? *Maphunziro anu munafikanawopati?*	1= Primary 2= Secondary 3= Tertiary/ *ukachenjede* 4= Adult Literacy classes/ 5= Never attended school , 6= Other/*zina*……
8. What are your sources of income? *Njira zopezera ndalama*	1 Farming 2 Business 3 Employment 4 Casual work 5 Pottery 6 Beer brewing 7 Carpentry 8 Tinsmith 9 Remittance 10 Wildlife based enterprise 11 Other (specify) …….
9. Annual income in Malawi Kwacha (tick Level) Mumapeza ndalama zingati pachaka	1=1 ,000- 5 ,000. 2= 6000- 10 ,000.3=11 ,000-15 ,000 4=16 ,000- 20 ,000. 5=21 ,000-30 ,000 6=31 ,000-40 ,000. 7=41 ,000-50 ,000 8=51 ,000-60 ,000. 9=61 ,000-70 ,000 10=71 ,000-80 ,000 11=81 ,000-90 ,000 12=91000-100 ,000 13=> 100 , 000
10. Are you a permanent resident of this community? *Kodi ndinu mkhala kale waderalino?*	1 = Yes *Eya* 2 = No *Ayi*
11. How long have you lived around or close to Nyika National Park? *Mwakhala nthawi yayitali bwanji pa malo ano.*	1. 1- 3 year 2. 4 - 6 years 3. 7 - 10 years 4. ≥ 10 years
12. Are you a member of any wildlife conservation committee in this area *Kodi ndinu membala wa komiti yosamala zachilengedwe muderamwanu?*	1 =Yes *Eya* 2 = No *Ayi*
If yes , Please specify your role *Udindo wanu*	
13. Distance to the park from the area *Mtunda kuchoka ku park kufika kwanuko*	1 = <1km 2 = 1km 3 = 2km 4 = 3-4km 5 = 4-5km

C. COMMUNITY PERCEPTIONS TOWARDS COLLABORATIVE MANAGEMENT	
1. Are you satisfied with the Collaborative Management approach for the Park? *Muli okhutisidwa ndikubwera Kwa pologaramuyi?*	1 = completely satisfied 2= slightly satisfied 3= moderately satisfied 4= slightly unsatisfied 5= completely unsatisfied
2. From your answer above , please explain how? *Chonde fotokozani malingana ndiyankho lanu kuunso la mmwambamu*	
3. Can this approach reduced poaching from the protected area? *Kodi pologaramuyi ingathetse kuphedwa kwa nyama*	1 = Yes/*Eya.* 2 = No. *Ayi*
4. If yes to the answer above , how? *Chonde fotokozani malingana ndiyankho lanu kufunso la mmwambamu*	
5. Do you think CM can contribute to socio economic status of communities? *Kodi pologaramuyi ingathandizire kusintha miyoyo yanthu mderali*	1=Yes 2=No
6. Explain your answer *Fotokozani malingana ndiyankho lanu kufunso la mmwambamu*	
7. Do you think the approach is a good way of managing the park *Mukuganiza pologaramuyi ndiyabwino posamalira zachilengedwe za Nyika*	1 Yes 2 No
8. If yes or No why? *Pelekani chifukwa*	
9. If not can you suggest ways of improving the approach implementation to make it effective *Ngat ayi Perekani njila yabwino yosamalira zachilengedwe*	
10. Why do you think people are still poaching from Nyika *Mukuganiza kuti ndichifukwa chani anthu akuphabe nyama mu nyika*	

D. CONTRIBUTION OF COLLABORATIVE MANAGEMENT APPROACH ON SOCIO ECONOMIC STATUS OF COMMUNITY	
Do you know the purpose of the park? *Kodi mukudziwa cholinga cha nkhalango ya Nyika*	1=Yes/eya 2 = No/ayi
If yes , Explain *Ngati mukudziwa longosolani cholingacho*	
Do you find the park beneficial? *Kodi nkhalangoyi ndiyofunika/*	1=Yes/eya 2 = No/ayi
Do you use Nyika National Park? Kodi mumagwilitsa ntchito nkhalangoyi	1 =Yes/eya 2 = No/ayi
How frequent do you use Nyika National Park? *Kodi mumagwilitsa ntchito kangati*	1=Daily 2= once a week 3= every fortnight 4= one a month
What economic benefits do you get from Nyika National park? *Ndiphindu lanji lokupatsani ndalama lomwe mumapeza kuchokera ku nkhalangoyi*	
What socio benefits do you get from Nyika National park? *Ndiphindu lanji losintha moyo wathu lomwe mumapeza kuchokera ku nkhalangoyi*	
What are your feelings towards the presence of the park in your area? *Maganizo anu ndiotani ndikupezeka kwa park mdera lanu*	1. Happy 2. Neutral 3. Not Happy 4. Don't know
How do you assess the relationship between DNPW and the border communities? *Mgwilizano pakati pa DNPW ndi anthu akumidzi uli bwanji mukuona kwanu*	1. Good 2. Fair 3. Poor 4. Don't know
Do you know anything about Collaborative Management approach of the park? *Mukudziwa chilihose chokhudzana ndi mgwilizano pakati pa anthu ndi DNPW*	1=yes/Eya 2=No/ayi
If yes how did you know about the CM? *Munamva kwa ndani*	1. National Parks and Wildlife officials 2. Local leaders

	3. Zone committee members 4. Neighbours 5. Participation
What does CMA means? CMA *Chikutanthauza chani*	

i. CM Resource Utilization Program

Have you ever participated in Resource use Programme? *Munatenga mbali pankhani yokolora zinthu mu nkhalango*? 1=Yes/eya. 2= No/ayi

Type of Resource *Dzina zokolora*	**Frequency *kangati* 1 = Daily 2 = Weekly 3 = Fortnightly 4 = Monthly 5 = Quarterly 6 = Annually**	**Quantity *kuchuluka***	**Main usage *ntchito yake* 1 = Food /*chakudya* 2 = Income /*ndalama* 3 = Medicine/*mankhwala* 4=construction/*kumangira***	**Who benefits *amapindula ndani* 1 = household/banja 2 = Individual/*munthu***

Are you satisfied with this Resource Use Program?*mukukhutitsidwa ndi pologalamuyi*

1) Completely satisfied/*Ndikukhutitsidwa kwambiri*
2) Slightly satisfied/*ndikukhutitsidwa*
3) Moderately satisfied. *Ndikukhutitsidwa pang'ono*
4) Slightly unsatisfied. *Sindikukhutitsidwa*
5) Completely unsatisfied *siikuyenda bwino*

Assessment of RUP influence on the following at community level *ikuthandiza bwanji pazinthu pamoyo wa munthu*

Category	Improved	Reduced	Not changed	Don't know
Relationship between DNPW and communities/*ubale*				
Income/*ndalama*				
Livelihood/ *umoyo*				
Food availability/*chakudya*				
Compliance with wildlife laws/*kutsatira malamulo*				
Access to good education/*mwayi wa maphuiziro*				
Access to health services/*zaumoyo*				
Access to good roads/*misewu*				
community participation in conservation/*kutengapo mbali*				
Deforestation/*kudula mitengo*				
Poaching/*kupha nyama*				

ii. Revenue sharing scheme

Do you know the revenue sharing scheme with DNPW? *Mukuidziwa nkhani yogawana ndalama? 1=Yes/ eya 2= No/ayi*

Where did you hear it from? *Munamva kwa ndani*

1= NRC
2= DNPW
3= NVA
4= T/A Chiefs
5= ADC

Do you have community awareness on revenue sharing scheme*? Munayamba mwakhalapo ndi mkumano wa nkhani za ndalama*?1=Yes/eya 2= No/ayi

If yes , who facilitates these meetings?*anapangitsa mkumano umenewu ndani*

1= NRC
2= DNPW
3= NVA
4= T/A Chiefs
5= ADC

Please specify any benefited from the revenue sharing scheme

Type of benefit *Phindu lanji*	**Development sector 1= Education/sukulu**	**Who benefited** **1 = household *nyumba*** **2 = Individual *munthu*** **3= Community *pamudzi/gulu***	**Frequency** **1= weekly/pasabata** **2= fortnightly *masabata awili*** **3= monthly *pamwezi***

	2= Health/zaumoyo 3= Agriculture/ulimi 4 =Transport *mayendedwe*		**4= quarterly *pamiyezi itatu* 5= annually *pachaka* 6 = once every 2 years *zaka ziwili***

Are you satisfied with this program?*mukukhutidwa ndi pologalamu imeneyi*

1) Completely satisfied/*Ndikukhutitsidwa kwambiri*
2) Slightly satisfied/*ndikukhutitsidwa*
3) Moderately satisfied. *Ndikukhutitsidwa pang'ono*
4) Slightly unsatisfied. *Sindikukhutitsidwa*
5) Completely unsatisfied *sindikukhutitsidwa/siikuyenda bwino*

Assessment of Revenue sharing scheme influence on the following at community level

	Improved	**Reduced**	**Not changed**	**Don't know**
Relationship between DNPW and communities/*ubale*				
Income/*ndalama*				
Livelihood/ *umoyo*				
Food availability/*chakudya*				
Compliance with wildlife laws/*kutsatira malamulo aza nyama*				
Access to good education/*mwayi wa maphuiziro*				
Access to health services/*zaumoyo*				
Access to good roads/*misewu*				
community participation in conservation/*kutengapo mbali*				
Deforestation/*kudula mitengo*				
Poaching/*kupha nyama*				

G. GENERAL OBSERVATION

What are the advantages to CMA being implemented in the area? *Fotokozani ubwino wa mgwilizanowu*

What are the major challenges to CMA being implemented in the area? *Folokozani mavuto omwe mwakumana nawo pa pologalamuyi*

E. Motivational for community participation in Collaborative Management Approach					
Activity	**Being implemented in the area** **1= Yes** **2= No**	**Who in the community is mostly involved** **1= NRC members** **2 = Everyone** **3 = Half Population** **3 = Less than half** **4 = More than half**	**Frequency of program** **1 = Weekly** **2 = Fortnightly** **3 = Monthly** **4 = Quarterly** **5 = Once every year** **6 = Never**	**Level Respondent's participation** **1 = Low** **2 = Moderate** **3 = High** **4 = Never**	**What factors motivates you to participate (or not) in the programme.**
Education programs in this area?					
Law enforcement / safeguarding					
Problem animal control					
Resource Use Programme					
Employment (please specify)					
Project Activities					
Data collection					

What are the possible solutions to the challenges identified? *Mukuganiza kuti tingapange bwanji kuthana ndi mavutowa?*

APPENDIX D: CHECKLIST FOR FOCUS GROUP DISCUSSION

FOCUS GROUP DISCUSSION

Introduction

Thank you very much for accepting to be part of the survey. This survey was designed to assess the socio-economic benefits of Collaborative Management to the communities around Nyika National Park. The results of the survey will help to measure the effectiveness of the approach in wildlife management and for decision making. In addition the survey will assist to know if the surrounding areas are aware about the Collaborative Management approach of wildlife and the impacts of the approach on economic and social aspects.

This survey will be conducted in the zones around Nyika National park , with a specific focus on the areas where Collaborative Management is implemented. The main targets of the survey are the communities located in areas within a strip of 5 Km from the boundary of Nyika.

A. INTERVIEWER DETAILS

Name:	
Mobile Number:	
Department:	

B. LOCATION DETAILS

District:	
Name of Protected Area:	
Traditional Authority:	
Village:	

C. FOCUS GROUP DISCUSSION CATEGORY (Please , tick as appropriate).

Men's Group	☐
Women's Group	☐
Youth Group	☐

Question 1: Have you ever heard about Collaborative Management in Nyika National Park?

_____
_____

Question 2: If yes what does Collaborative Management means?

_____
_____

Questions 3: Is the Collaborative Management approach of wildlife conservation important in this area? If yes how?

_____
_____

Question 4: Why is Collaborative Management important /not important in this area.

Why important	Why not important

Question 5: Is the approach benefiting the communities or the Department of Parks and Wildlife (Nyika)?

_____
_____

Question 6: What are the socio and economic benefits of CMA to communities around Nyika?

Socio Benefits	**Economic Benefits**

Question 7: what are the impacts of CMA on socio economic status of people around Nyika?

_____

_____

Question 8: If the approach is not beneficial to the communities , what can be done to make it beneficial?

_____

_____

Question 9: Are you satisfied the way CMA is being implemented?

_____

Question 10: Do you participate in CMA activities? If yes how?

_____

Question 11: What factors motivate you to participate or not to participate in CMA activities

_____

Question 12: Any other comments

_____

APPENDIX E: KEY INFORMANT INTERVIEW ON ASSESSMENT OF SOCIO-ECONOMIC BENEFITS OF COLLABORATIVE MANAGEMENT APPROACH TO COMMUNITIES AROUND NYIKA NATIONAL PARK.

KEY INFORMANT INTERVIEW

GENERAL INFORMATION

Name of interviewer	
Position/title	
Role in CMA	
Time interview started: …… end…….	

1) **Role in CMA and implementation experiences**

- What do understand by the Collaborative Management Approach in wildlife conservation?
- What is your role in CMA?
- Are you involved in CM approach
- How are you involved?
- What make people to participate in CM approach of Nyika National Park
- What activities are implemented in CM approach?
- What activities are you involved in?
- Any other activities?

2) **Experiences in Collaborative Management Approach:**

- Is the approach implemented as planned?
- What are the benefits for CM approach to communities around Nyika National Park?
- What impact does CM benefits have on socio economic status of communities

3) **Assessing key outcomes and impact of CM approach**

- What aspects of the CM approach are very useful in reducing poaching?
- What do you think is the most significant change that has taken place around Nyika National Park since CM started?
- How has the approach influenced your relationship with communities/DNPW?
- What factors contributed to the participation of community in wildlife conservation?
- What benefits of CM contributed to socio economic status of communities and how?
- What have you learnt in the course of implementing of Collaborative Management approach?
- What are the greatest problems/challenges that you face when implementing CMA?