

TOURISM DEVELOPMENT, RURAL LIVELIHOODS, AND CONSERVATION IN
THE OKAVANGO DELTA, BOTSWANA

A Dissertation

by

JOSEPH ELIZERI MBAIWA

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

August 2008

Major Subject: Recreation, Park and Tourism Sciences

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ABSTRACT

Tourism Development, Rural Livelihoods, and Conservation in the Okavango Delta,
Botswana. (August 2008)

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This study analyzed changes in livelihoods before and after tourism development at Khwai, Mababe and Sankoyo villages in the Okavango Delta. Specifically, it analyzed how people interacted with species like giraffe (*Giraffa camelopardalis*), sable antelope (*Hippotragus niger*) and thatching grass (*Cymbopogon excavatus*) before and after tourism development. This analysis was expected to measure the effectiveness of tourism development as a tool to improve livelihoods and conservation. The concept of social capital, sustainable livelihoods framework and the Community-Based Natural Resource Management (CBNRM) paradigm informed the study. Qualitative and quantitative data were gathered through field-based research, using tools of participant observation, semi-structured interviews, and key informant interviews. Results indicate that local customs and institutions at Khwai, Mababe and Sankoyo ensured the conservation of resources in pre-colonial Botswana. However, British colonial rule (1885-1966) affected traditional institutions of resource use hence the beginning of resource decline. The British colonial rule and the first 15-20 years after Botswana's

independence from British rule saw an increase in resource degradation. Results also indicate that since CBNRM began in the 1990s, tourism development has positive and negative effects on rural livelihoods. On the positive side, tourism development in some ways is achieving its goals of improved livelihoods and conservation. Residents' attitudes towards tourism development and conservation have also become positive compared to a decade ago when these communities were not involved in tourism development. On the negative side, tourism is emerging as the single livelihood option causing either a decline or abandonment of traditional options like hunting and gathering and agricultural production. Reliance on tourism alone as a livelihood option is risky in the event of a global social, economic and political instability especially in countries where most tourists that visit the Okavango originate or in Botswana itself. There is need, therefore, for communities to diversify into domestic tourism and small-scale enterprises. On the overall, tourism development through CBNRM indicates that it is a viable tool to achieve improved livelihoods and conservation in the Okavango Delta.

DEDICATION

With all my love to my dearest two sons, Michael and Thabo.

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1. INTRODUCTION

1.1 Introduction

Tourism is one of the most rapidly growing industries in the world (WTO, 2003; Campbell, 1999). Especially after, World War II, tourism expanded to become one of the main sources of income in many countries (Edwards, 2004). In Botswana, tourism was almost non-existent at the time of the country's independence from British rule in 1966. However, by 2007, tourism had grown to become the second largest economic sector after diamond production in terms of contribution to gross domestic product which stands at 9.7 per cent (World Travel & Tourism Council, 2007). The Okavango Delta in northwestern Botswana is one of the main tourist attractions in the country. Since the 1990s, the Okavango Delta has been a popular international wildlife-based tourism destination (Kgathi et al, 2004).

International tourism destinations particularly those rich in biodiversity have in recent years caught attention of the global environmental movement because of resource degradation. Like most developing countries, Botswana particularly the Okavango Delta has several environmental problems considered a national concern by the Botswana Government. According to the National Conservation Strategy now the Department of Environmental Affairs since 2006, these concerns include the following: the growing

This dissertation follows the style of *Tourism Management*.

pressure on water resources; the degradation of rangeland pasture resources; the depletion of wood resources; overuse or exploitation of some rangeland products; pollution of air, water, soil and vegetation resources; and wildlife depletion (Government of Botswana, 1990). The Department of Environmental Affairs argues that human factors are the main cause of environmental problems in Botswana. This may be partly so when considering the failure by government to control (e.g. through culling) the ever-increasing elephant population in northern Botswana is blamed for the destruction of wood resources (Darkoh & Mbaiwa, 2005).

The degradation of natural resources in the Okavango Delta is a critical issue among conservationists and natural resource management scholars. Darkoh & Mbaiwa (2005) argue that the Okavango Delta is among the most threatened of all ecosystems in Botswana. This is because the Okavango Delta is a major source of livelihood for people living in the area. The Okavango Delta is important to livelihoods mainly because of the rich natural resources they possess, particularly the permanent water supply, wildlife, fish, reeds and thatching grass. Interest in conservation and adaptive management of wetlands has increased in recent years as pressures on these ecosystems have also increased (Finlayson & Rea, 1999; Wigham et al, 1993; Darkoh & Mbaiwa, 2005). As such, general analysis and reviews over the past two decades have identified a suite of pressures tropical wetlands face (see e.g. Finlayson & Moser, 1992; Wigham et al, 1993; Finlayson & Rea, 1999). Finlayson & Rea (1999) have contended that to prevent further loss or degradation of wetlands, it is necessary to address the underlying causes of such pressures, which include poverty. According to Chambers (1987) poverty is a factor in

resource degradation because the poor tend to over harvest environmental resources in order to survive. Poverty alleviation and conservation are both fundamental to policy agendas of developing countries even if they do not enjoy similar levels of commitment (Agrawal & Redford, 2006).

Resource competition, land use conflicts and poverty are some of the causes of resource degradation in the Okavango Delta (Darkoh & Mbaiwa, 2005). Most of the people in the Okavango Delta live in what the United Nations has defined as human poverty (Fidzani et al, 1999; Kgathi et al, 2004). Human poverty is a composite measure of life span, health, knowledge, economic provisioning, and degree of social inclusion (UNDP, 2005). Poverty has created conditions for over-harvesting of natural resources by the local people living in the Okavango Delta. Resource degradation in the Okavango Delta can be ameliorated partly through the achievement of household livelihood security (Arntzen et al, 2003; Thakadu, 2005; Kgathi et al, 2004). Livelihoods determine the use of natural resources. That is, if people's livelihoods are better as is the case when tourism income is more in a community, pressure on the collection of rangeland resources are reduced as people would be enabled to buy food than use wild resources. As such, changes in livelihoods may affect resource use in the Okavango Delta. Therefore, interactions between local people and the use of various species to improve livelihoods as well as the effectiveness of tourism development to achieve conservation and secure livelihoods are the primary focus in this study.

Wildlife resources such as giraffe (*Giraffa camelopardalis*), sable antelope (*Hippotragus niger*), thatching grass (*Cymbopogon excavatus*) and other natural

resources have a long history of sustaining livelihoods of traditional societies in the Okavango Delta. The use of different species by local communities is dynamic and has changed over time. For example, *Cymbopogon excavatus*, also called thatching grass or *mokamakama* in local Tswana language, is extensively used in the Okavango Delta by local people (Bolaane, 2004). *Cymbopogon excavatus* is traditionally harvested by local people to thatch huts they live in. In recent years, local people have also harvested this grass species to sell it to tourism operators for the thatching of lodges, as is the case with Khwai residents (Bolaane, 2004). Changes in the use of thatching grass before and after tourism development in the Okavango have not been adequately studied. Giraffe and sable antelope are also threatened and are declining species in the Okavango Delta (CSO, 2005). Traditionally, these species were hunted for meat and their skins were used in households as sleeping mats and clothing (Campbell, 1995).

In modern Botswana, the sable antelope and giraffe have among other animals, become important commodities for photographic and safari hunting tourism activities. The interactions between local people and species like giraffes and sable antelope and changes in utilization brought by tourism development have not been adequately researched. As a result, the effectiveness of tourism to achieve the conservation of sable antelope, giraffes, thatching grass or other species and to improve livelihoods in the Okavango Delta is not fully researched. In addition, local attitudes towards tourism development and conservation in the Okavango Delta have not been adequately studied. Some studies (e.g. Arntzen et al, 2003, 2007; Kgathi et al, 2004; Thakadu, 2005) partly address attitudes towards wildlife conservation in general terms but they fail to measure

community attitudes towards particular species. Attitudes are used as an indicator of whether people are likely to accept tourism development and resource conservation (Fiallo & Jacobson, 1995; Infield, 1988; Mordi, 1991; Parry & Campbell, 1992; Walpole & Goodwin, 2001; Sekhar, 2003).

Tourism development may also cause both positive and negative livelihood changes in destination areas (Andriotis, 2003). The literature on community development (e.g. Albrecht, 2004) has shown that whenever a dominant economic sector, such as tourism, is introduced in a society, there are often changes in the traditional economic base. Livelihood changes at a household and community levels in the Okavango Delta, are, however, not fully understood. This is because existing research (e.g. Magole & Gojamang, 2005; Mbaiwa, 2005) place emphasis on tourism growth, with measurement of indicators like infrastructure development, numbers of tourists, government revenues, and jobs created by the tourism industry. These studies (e.g. Magole & Gojamang, 2005; Mbaiwa, 2005) have focused on enclave tourism with little attention on community-based tourism development. Since the 1990s, remote communities in rich biodiversity areas like the Okavango Delta have become involved in wildlife-based tourism through the Community-Based Natural Resource Management (CBNRM) program. The rural communities participate in tourism activities such establishment of lodges, campsites, game viewing, dug-out canoe safaris and sell crafts as baskets to tourists. Communities also form joint venture partnerships with safari companies where they sub-lease their concession areas for photographic and safari hunting tourism purposes. Communities also sell community wildlife quotas to safari

companies. While communities have been involved in tourism development through the CBNRM program for almost a decade in the Okavango Delta, research has not established the effects of community-based tourism on livelihoods and conservation.

This study, therefore, aimed at analyzing changes in livelihoods and people's interactions with species, such as giraffe, sable antelope and thatching grass, before and after the advent of tourism in the Okavango Delta. The goal was to analyze the effectiveness of tourism in achieving improved livelihoods and conservation. The Community-Based Natural Resource Management (CBNRM) paradigm was useful for analyzing attitudes towards conservation and tourism development. Social capital was used to analyze effects of tourism development on biodiversity conservation. A framework of "sustainable livelihoods" was useful in analyzing changes in livelihoods caused by tourism development. Results of this study will contribute to an understanding of interactions between local people and natural resources and to attempts of achieving improved livelihoods and conservation in developing countries.

1.2 Community-based natural resource management paradigm

There is controversy of whether Community-Based Natural Resource Management (CBNRM) is a paradigm shift or a program. In this study, CBNRM is treated as both a paradigm shift and as a program. As a paradigm shift, CBNRM is best described by participatory and community-based approaches which are currently being heralded as the panacea to natural resource management initiatives worldwide (Twyman, 2000). In eastern and southern Africa, these participatory approaches began in the late 1980s through

the implementation of Community-Based Natural Resource Management (CBNRM). Advocates of CBNRM (e.g. Murphree, 1993; Leach *et al*, 1999; Tsing, *et al* 1999; Twyman, 2000; Mwenya, *et al*, 1991) argue that the paradigm aims at achieving conservation and rural economic development through local community participation in natural resource management and tourism development.

The CBNRM paradigm is built upon common property theory. Common property theory argues that common pool resources can be utilized sustainably provided certain principles are applied. According to Ostrom (1990) and Bromley (1992), these principles include the autonomy and the recognition of the community as an institution, proprietorship and tenurial rights, rights to make the rules and viable mechanisms to enforce them, and ongoing incentives in the form of benefits that exceed costs. The CBNRM paradigm in Botswana is based on the understanding of these principles. That is, central to the CBNRM paradigm is the theory and assumptions underlying the political decentralization of natural resources.

Decentralization of natural resource management implies a process of redistribution of power and the transfer of responsibilities from the central government to rural communities in resource management (Boggs, 2000). This is a shift from the so-called top down to a bottom-up approach in natural resource management. The CBNRM paradigm is thus a reform of the conventional “protectionist conservation philosophy” and “top down” approaches to development, and it is based on common property theory, which discourages open access resource use but rather promotes resource use rights for local communities. The assumption is that the decentralization of natural resources to

local communities will not only increase local power and control over resources but it will also improve resident attitudes towards the sustainable natural resource utilization. More than improving attitudes, decentralization can also strengthen local institutions for resource management. That is, it has the potential to increase trust between community members and the ability local groups to form networks with government and the private sector, particularly tourism companies to form joint venture partnerships to positively benefit from tourism development.

In Botswana, the centralized and privatized control of natural resource use began during the British colonial rule of the country (1885-1966). In the Okavango Delta, the centralization of natural resources displaced local people, like the Basarwa from their hunting and gathering areas when Moremi Game Reserve was proclaimed in 1963 (Bolaane, 2004). The loss of access to land, rights to hunt and gather by Basarwa communities in Moremi Game Reserve and Chobe National Park resulted in the development of negative attitudes by local communities towards conservation (Mbaiwa, 2005). Displacement of Khwai residents from Moremi Game Reserve affected their institutions since they no longer had power to decide or use resources found in the reserve (Bolaane, 2004; Taylor, 2000). This problem also occurred in other parts of Botswana like the Kalahari (Mordi, 1991; Hitchcock, 1995) even after self-government from British rule in 1966 and became characterized by illegal hunting and over utilization of wildlife resources (Mordi, 1991; Hitchcock, 1995). The problem continued after the British because the new Botswana leaders partly modified or simply adopted the old British colonial policies and program for natural resource management (Mbaiwa,

2002). Boggs (2000) notes that the centralized and privatized control of resources was strengthened by Garrett Hardin's widely cited 1968 theory of "The Tragedy of the Commons" (Hardin, 1968). Hardin argued that common ownership of resources cannot succeed, as the innate human desire to maximize individual benefits will inevitably cause the over utilization of common resources leading to the ultimate resource degradation. Thus, the 1970s and 1980s resulted in traditional approaches to nature protection declared by governments and conservationists as insufficient and ineffective at protecting biodiversity in Africa (Gibson & Marks, 1995). According to Gibson & Marks, local communities were excluded from resource management in favor of centralization and privatization of resources—this exclusion was associated as well with escalation of hunting by the people who had been displaced from the Delta. Their hunting was legalized and labeled as poaching. Subsistence hunting was labeled poaching or illegal because it did not conform to conventional approaches of wildlife use particularly preservation promoted by the national government at that time.

The CBNRM paradigm is somehow a direct challenge to Hardin's theory of the "Tragedy of the Commons" and the centralization of resources. CBNRM argues that the management of resources by the central government have experienced frequent and chronic declines in the past several decades (Boggs, 2000). As a result, the decentralization of resources to local communities has the potential to promote conservation and rural development. Conservationists and scholars perceive the decentralization of natural resources as a remedy to the chronic wildlife decline resulting from the central government's failure in resource management.

Local institutions where local people have a role to play in resource management and derive benefits from such resources around them is essential for CBNRM to achieve its goals. As such, CBNRM is based on the premise that local populations have a greater interest in the sustainable use of natural resources around them more than centralized or distant government or private management institutions (Tsing *et al*, 1999; Twyman, 2000). This means CBNRM credits the local institutions and people with having a greater understanding of, as well as vested interest in, their local environment hence they are seen as more able to effectively manage natural resources through local or traditional practices (Leach *et al*, 1999; Tsing *et al*, 1999; Twyman, 2000). CBNRM assumes that once rural communities participate in natural resource utilization and derive economic benefits, this will cultivate the spirit of ownership and the development of positive attitudes towards resource use will ultimately lead them to use natural resources found around them sustainably (Tsing *et al*, 1999; Twyman, 2000; Leach *et al*, 1999).

The CBNRM paradigm like any other development model has its own critics. Its critics note the following weaknesses about it: the lack of a clear criteria by which to conclude whether CBNRM projects are sustainable and successful in meeting conservation and development targets (Western *et al*, 1994); marginalization of minority groups (Taylor 2000); inaccurate assumptions about communities and poorly conceived focus on community level organization (Agrawal & Gibson, 1999); and inappropriate management strategies (Fortman *et al*, 2001). Critics also note that there is a tendency by “policy receivers” who are the intended beneficiaries to be treated passively by “policy givers” (Twyman, 2000); and that CBNRM projects heavily rely on expatriate expertise

(Pimbert & Pretty, 1995; Twyman, 2000). Campbell et al (2000) allege that much of the literature on CBNRM is falsely optimistic and high expectations have not been achieved, as a result, in Southern Africa villages are largely not benefiting from CBNRM. Lowry (1994) argues that the devolution of rights to communities is insufficient without equal attention to how rights are distributed. On the other hand, Leach et al (1999) argue that the devolution of rights is related to the weak understanding of institutional arrangements impeding on CBNRM. Studies above barely addressed the issue of local attitudes towards tourism development and conservation in CBNRM areas.

Despite all the above criticisms, CBNRM provides a suitable model on which analysis on the effects of tourism development on rural livelihoods, conservation and local attitudes towards conservation and tourism in community controlled tourism areas. Unlike in other developing countries where community development and conservation program are carried out in protected areas, CBNRM in Botswana is not carried out in national parks. It is carried out in demarcated wildlife areas allocated to communities for wildlife-based tourism development. Newmark & Hough (2000:590) argue that CBNRM differs from the normal community conservation and development program in that, instead of offering development services in exchange for conservation, it devolves management responsibility for natural resources like wildlife to local communities. Newmark & Hough argue that the success of CBNRM depends on local communities seeing more value in managing their wildlife on along-term sustainable basis than in pursuing short-term exploitation or alternative land uses.

As a program, CBNRM is implemented in various countries of Eastern and Southern Africa where the different programs are called by different names. For example, in Zimbabwe it is called the Communal Area Management Program for Indigenous Resources (CAMPFIRE); the Luangwa Integrated Rural Development Project (LIRD) and the Administrative Design for Game Management Areas (ADMAGE) in Zambia, the Living in a Finite Environment (LIFE) program in Namibia; the Tchuma Tchato “Our Wealth” in Mozambique; the Conservation of Biodiversity Resource Areas Program (COBRA) in Kenya; the Ujirani Mwana “Good Neighborliness” in Tanzania; and in Botswana, it is called the CBNRM program (Mbaiwa, 2005). Theoretically, CBNRM principles of conservation and rural livelihoods in different countries are the same. However, the success rate or performance of CBNRM differs from one project to the other and from one country to another. In addition, different programs focus on different products. For example, some programs focus on forest conservation, as is the case in South Africa’s Eastern Cape. In Botswana some programs focus on rangeland products collection like devil claw in the Kalahari area. This study focuses on wildlife-based tourism which uses resources such as wildlife species, land, and forests to promote community-based tourism in the Okavango Delta.

1.2.1 CBNRM implementation in Botswana and the Okavango Delta

There are two main policies that facilitated the adoption and implementation of CBNRM in the Okavango Delta and in Botswana as a whole, these are: the Wildlife Conservation Policy of 1986 and the Tourism Policy of 1990. These policies laid the

foundation for CBNRM in that they both called for increased opportunities for local communities in resource management and to benefit from natural resources through tourism development. Through the Wildlife Conservation Policy of 1986, land in wildlife areas was sub-divided into small land units known as Controlled Hunting Areas (CHAs) for tourism and conservation purposes. The Tourism Policy of 1990 allows local communities to participate in tourism development through the CBNRM program. However, as shown in Table 1.1, there are other legislative measures and acts that have come to shape the development of CBNRM in Botswana.

Table 1.1: Key legislation, policies, acts and regulations on CBNRM

Year	Legislation, Policy, Act	Comments
1986	Wildlife Conservation Policy	Called for demarcation of wildlife areas into Wildlife Management Areas and Controlled Hunting Areas
1990	Tourism Policy	Called for local community participation in tourism
1999	Joint Venture Guidelines, revised in 2002	Provides guidelines for joint venture partnerships between communities and tourism companies
2003	National Strategy for Poverty Reduction	CBNRM recognized as one of the methods to be used to reduce poverty in wildlife areas
2003	The National Ecotourism Strategy	A strategy to guide communities living in wildlife areas to become involved in ecotourism development
2006	Agricultural Resources (Utilization of Rangeland Products) Regulations	Provides a checklist of some of the declining rangeland products in the country (e.g. thatching grass). It also provides methods that communities can apply to achieve conservation at harvesting
2007	CBNRM Policy	CBNRM policy accepted in parliament making CBNRM an official program.

As pointed out earlier, the implementation of CBNRM in the Okavango Delta led to the demarcation of the wetland into small land units known as Controlled Hunting Areas (CHAs). CHAs are leased to local communities to enable them participation in conservation and tourism development. Most of the CHAs in the Okavango Delta are

zoned around existing settlements and Moremi Game Reserve. In the Okavango, CHAs are given codes named as NGs (Ngamiland) for identification purposes. For example, the people of Khwai have been allocated NG/18 and 19 (Fig 1.1), Mababe is allocated NG/43 and Sankoyo is allocated NG/33 and 34.

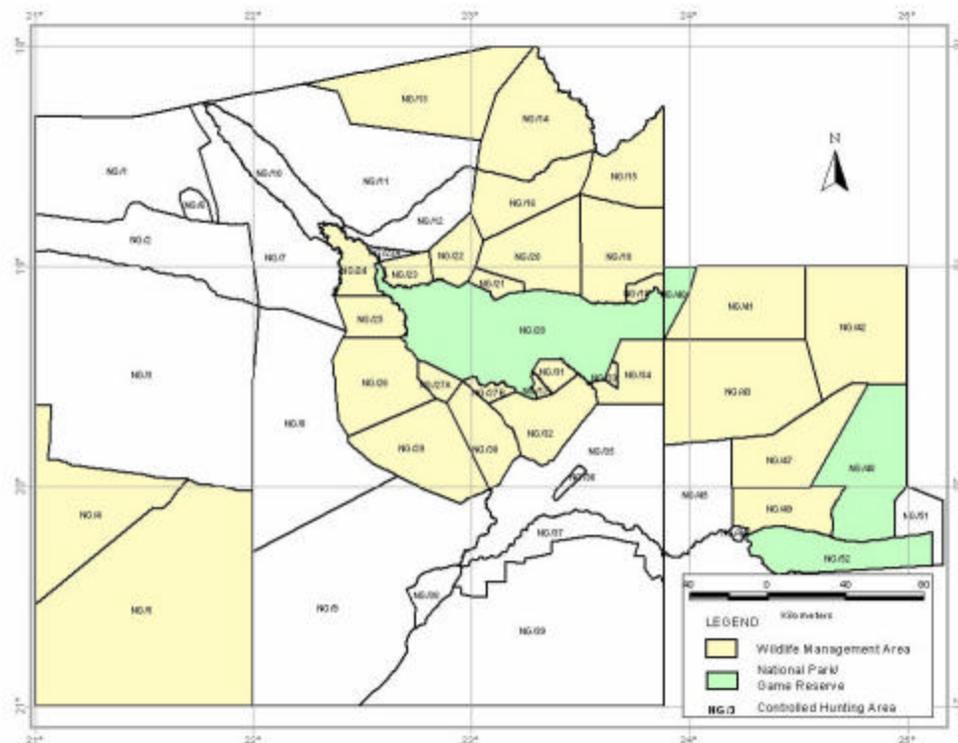


Figure 1.1 Map of Controlled Hunting Areas in the Okavango Delta

CBNRM operates in an environment characterized by collective action at a community level. CBNRM activities are communal in nature. For example, CBNRM activities at Khwai, Mababe and Sankoyo include the sale of wildlife quota and leasing of their community concession areas to safari companies. CBNRM communities thus derive income from these activities which they re-invest into other tourism projects as is

the case with Santawana Lodge, use to create employment opportunities and provide social services to their people. Table 1.2 shows some of the CBNRM activities in the three villages, concession areas (i.e. CHAs) leased out to Khwai, Mababe and Sankoyo as well as the size of each concession area.

Table 1.2 CBNRM activities in the Okavango Delta

Village	CHA and size	Type of Land Use	Community Activities in CHAs
Sankoyo	NG 33 and NG 34 (870 km ²)	Hunting & photographic	Land rentals, Sale of wildlife quota Operating campsite (i.e. Kazikini) Operating a lodge (e.g. Santawani Lodge), Sale of subsistence hunting quota, Sale of meat
Khwai	NG 18 and 19 (1,995 km ²)	Hunting & photographic	Land rentals, Sale of wildlife quota Operating campsite, Sale of subsistence hunting quota, Sale of meat
Mababe	NG 41 (2,181 km ²)	Hunting & photographic	Land rentals, Sale of wildlife quota Operating campsite, Sale of subsistence hunting quota, Sale of meat

CBNRM activities in the Okavango Delta in communities such as Khwai, Mababe and Sankoyo are carried out largely through Joint Venture Partnerships (JVPs). Communities prefer JVPs because tourism development is a new economic activity for them hence they lack the necessary entrepreneurship skills and experience in managing tourism enterprises. To overcome this limitation, these villages prefer Joint Venture Partnerships (JVPs) with safari companies who happen to have the necessary skills to manage a tourism enterprise. For example, Sankoyo and Mababe's partner is Johan Calitz Hunting Safaris while that of Khwai Village is Greg Butler Safaris. The

partnerships agreement involves the subleasing of hunting and photographic rights in their CHAs. As result, they receive annual land rentals from these companies. The villages also sell an annual wildlife quota to safari hunting companies, operate campsites, and sell meat to their communities.

Communities involved in CBNRM such as those of Khwai, Mababe and Sankoyo have local institutions known as Community-Based Organizations (CBOs). CBOs are headed by an elected Board of Trustees composed of 10 members. The Board of Trustees is the supreme governing body of CBOs. CBOs are guided by a constitution which specifies, *inter alia*, the memberships and duties of the trusts, powers of the Boards of Trustees, nature of meetings, and resource governance and sanctions of the trusts. Constitutions of CBOs indicate that all residents of a particular community over 18 years of age are allowed active participation in the activities of the CBOs. CBOs membership has powers to elect representatives to the Board of Trustees or to be elected into the Board. The Board of Trustees conducts and manages all the affairs of the Trust on behalf of its members. These affairs include signing of legal documents such as leases and contracts with safari companies, and maintaining a close contact with the trust lawyers. It also keeps trust records, financial accounts and reports and makes presentations of these records to the general membership at the annual general meetings. The establishment of the CBOs among other issues indicates an organized institutional arrangement aimed at involving local people in resource management and tourism in the Okavango Delta.

The overview of CBNRM development, process and structure, and activities in the Okavango Delta discussed in this section thus provides a suitable case on which the key question of this research is based. That is, the implementation of CBNRM in the Okavango Delta provides the necessary atmosphere to analyze the effectiveness of tourism development achieve improved livelihoods, conservation and local attitudes towards tourism and conservation in the Okavango Delta.

1.3 Objectives

The goal was to analyze the effectiveness of tourism development in achieving improved livelihoods and conservation. Specific objectives were to:

- a) analyze the effects of tourism development on rural livelihoods;
- b) assess local residents' perceptions towards tourism development and the conservation of sable antelope, giraffe and thatching grass;
- c) analyze effects of tourism development on resource use and the conservation of sable antelope, giraffe and thatching grass.

1.4 Study area

The Okavango Delta located in north-western Botswana (Figure 1.2). The Okavango Delta is formed by the inflow of the Okavango River whose two main

tributaries (the Cuito and Cubango Rivers) originate in the Angolan Highlands. The Okavango River flow across Namibia's Caprivi Strip and finally drains into north-western Botswana to form a wetland known as the Okavango Delta.

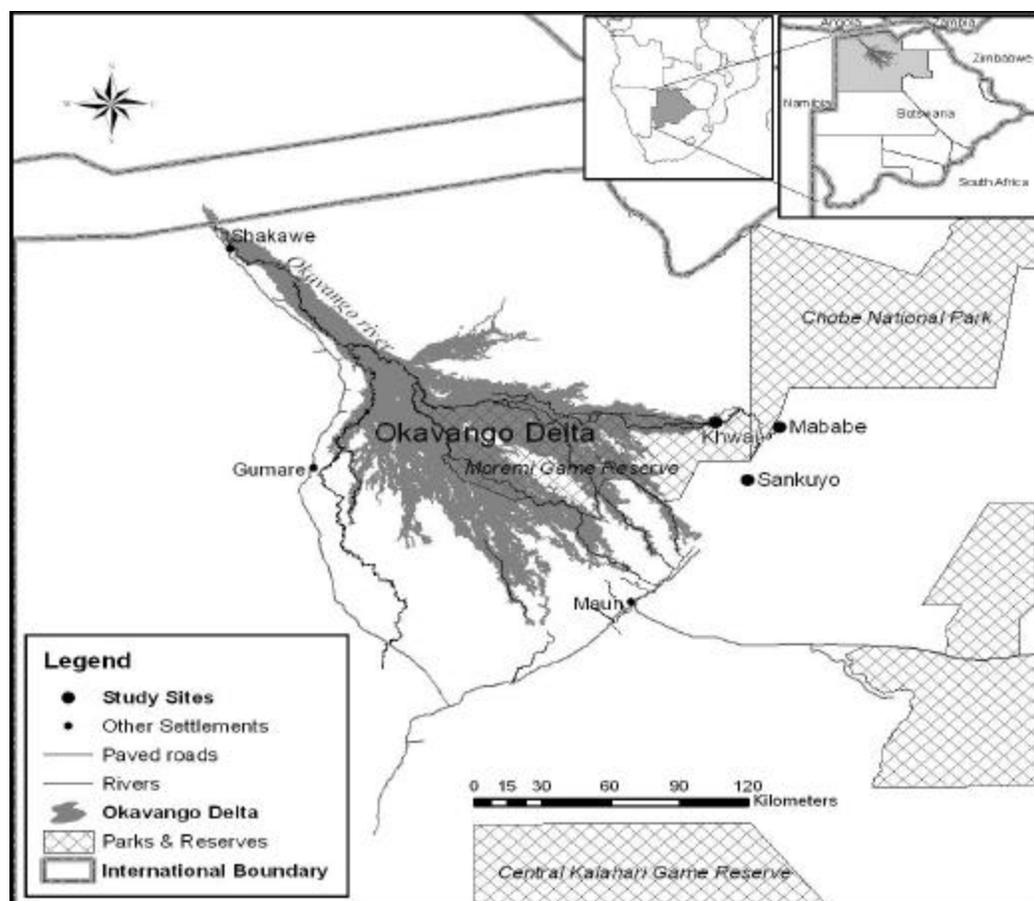


Figure 1.2 Map of the Okavango Delta showing Khwai, Mababe and Sankuyo

The Okavango Delta is characterized by a conical and triangular shaped alluvial fan and covers an area of about 16, 000 square kilometers (Tlou, 1985). The geological formation of the Okavango Delta is a result of the active uplift (upwelling) associated with the African Superswell (Gumbricht & McCarthy, 2002). The upwelling caused the

flow of the Okavango River to split into several channels that form many islands, lakes and lagoons. Like the Nile in Egypt, the Okavango River and its Delta sustain life in an otherwise inhospitable environment. An oasis in what would otherwise be semi-desert, the Okavango Delta is characterized by large amounts of open water and grasslands, which sustain human life, and a variety of flora and fauna. For instance, there are 2000 to 3000 plant species, over 162 arachnid species, more than 20 species of large herbivores, over 450 bird species (Monna, 1999), and more than 80 fish species (Kolding, 1996). As a result of its rich fauna and flora, the Okavango Delta became a Wetland of International importance in 1997.

The Okavango Delta is a major source of livelihoods for the rural communities who have lived in the area for hundreds of years. Over 95 per cent of the 124,714 people who live in the Okavango Delta directly or indirectly rely on natural resources found in the wetland to sustain their livelihoods (NWDC, 2003). Due to its rich wildlife diversity, wilderness nature, permanent water resources, rich grasslands and forests, the Okavango Delta has become one of the key international tourism destinations in Botswana.

The rich fauna and flora of the Okavango Delta makes it one the most threatened of all ecosystems in Botswana (Darkoh & Mbaiwa, 2005). Communities living in the Okavango Delta and relying on it to sustain their livelihoods partly contributes to this threat. The Okavango Delta, is therefore, a suitable site to investigate whether tourism can be used as a tool to achieve conservation and improved livelihoods.

The villages of Sankoyo, Khwai, and Mababe were selected as study sites (see Fig 1.2). The village of Sankoyo is located on the northeastern fringes of the Okavango

Delta. It has a population of 372 people (CSO, 2002). In 1996, Sankoyo established the Sankoyo Tshwaragano Management Trust (STMT) to coordinate community-based tourism activities. The government of Botswana allocated land to the people of Sankoyo to be used for photographic and hunting purposes. Khwai village is located on the southeastern fringes of the Okavango Delta and Moremi Game Reserve. Moremi Game Reserve borders the village in the south and Chobe National Park in the north. The majority of the people of Khwai (population 360) are Basarwa or the so-called “Bushmen”. However, other ethnic groups have since settled in the village, this including Batawana, Basubiya and other Basarwa from different clans. Mababe (population 290) is also located on the southeastern fringes of the Okavango Delta between Moremi Game Reserve and Chobe National Park. The people of Mababe are Basarwa and they have also lived a nomadic life of hunting and gathering until the last two or three decades.

The villages of Khwai, Mababe and Sankoyo were purposively selected for several factors. Firstly, I assumed that measuring the effectiveness of tourism development in achieving livelihoods and conservation, analyzing changes in livelihoods options as well as analyzing changes in attitudes towards conservation and tourism development would require study sites where a long-term (at least ten years) ethnographic data set is available. I have long-term ethnographic data for the three villages dating back to 1998 at the University of Botswana. I have also closely observed and conducted several surveys in these villages in the last decade as part of my research duties at the Harry Oppenheimer Okavango Research Centre, University of Botswana. In

this regard, I have observed changes caused by tourism in the villages for the last decade. That is, the CBNRM program was not yet implemented at Khwai and Mababe in 1998. It was only three years old at Sankoyo. The availability of longitudinal data therefore, justified continuing the study to track changes associated with tourism development in the last decade.

Secondly, Sankoyo was the first village to have a CBNRM program in the Okavango Delta in 1995. It is also recognized by several studies (e.g. Arntzen 2003, 2007; Thakadu et al, 2005) as one of the villages where CBNRM has a significant impact on livelihoods. In this regard, data from Sankoyo were analyzed to determine whether there are any similarities or differences with data from Khwai and Mababe. In other words, Sankoyo epitomizes some of the best solutions to challenges of livelihoods, tourism development, resource use and conservation in CBNRM areas.

Thirdly, Khwai was chosen because it epitomizes the challenges and interactions between livelihoods, tourism and resource use. For decades, Khwai has been the center of resource conflicts between local communities and tourism companies especially with the three lodges found in the area, conflict between the Department of Wildlife and National Parks and the national government which suggested the relocation of the village to Mababe and Sankoyo areas (Mbaiwa, 2005). All these conflicts are a result of the fact that Khwai is located in a wildlife-rich site suitable for tourism development and wildlife conservation desired by government and tourism operators. In 1998, one of the Sociologists working with the Khwai community remarked, “Khwai village is sitting on a diamond”, meaning that the village is located in a relatively better area in terms of

abundance of wildlife and tourism potential. In addition, until 2006, Khwai was the center of resource conflicts between government and tourism operators on the one hand and the community on the other hence government threats of re-locating of Khwai to Mababe or Sankoyo areas. Because of Khwai's advantage over the other two villages in terms of the tourism potential and seemingly contentious location and the prolonged resource conflicts, it was appropriate to select the community for this study.

1.5 **Significance of the study**

This study is considered significant because of the following reasons:

- (a) Results in this study enhance our understanding of the interrelations between conservation goals, tourism development and rural livelihoods.
- (b) Results also provide data that explains how and under what conditions tourism leads to changes in local livelihoods and how this affect conservation and the use of species in a destination area.
- (c) Results also provide data that explain the effectiveness of tourism as a tool to improve rural livelihoods and conservation.
- (d) Results provide insights into challenges of CBNRM particularly those relating to sustainability of tourism as a tool to achieve improved livelihoods and conservation.

1.6 **Limitations of the study**

The limitations of this study include the following:

- (a) The lack of a control community. A control community would have increased the validity of the study in understanding the effectiveness of tourism development as a tool to achieve improved livelihoods and conservation. However, a control community will be considered in future studies.
- (b) Financial constraints were the greatest limitation for this study. For example, the study could not sample control communities or engaged the services of research assistants for a longer period of time due to limited funds.
- (c) Time was another main constraint in this study. I had to complete the study within the specified scholarship dates (i.e. within 4 years).

1.7 **Organization of the dissertation**

Section 1 is the introduction. The section describes the problem under investigation, i.e. to analyze the effectiveness of tourism development to achieve improved livelihoods and conservation. The section also provides the objectives of the study, description of the study area, the significance of the study, limitations of the study and the organization of the dissertation. Section 2 addresses the first objective of this

study which is to analyze the effectiveness of tourism development to improve rural livelihoods. Section 3 addresses the second objective of this study which is to analyze local attitudes towards tourism development and conservation. Particular attention was paid to the conservation of sable antelope, giraffe and thatching grass. Section 4 addresses the third and last objective of this study which is to analyze the effectiveness of tourism development to achieve conservation particularly sable antelope, giraffe and thatching grass. The last section, that is, section 5 provides a conclusion of the study.

2. EFFECTS OF TOURISM DEVELOPMENT ON RURAL LIVELIHOODS IN THE OKAVANGO DELTA, BOTSWANA

2.1 Introduction

Since the 1980s, integrated conservation and development projects (ICDPs) have sought to reconcile biodiversity conservation with economic development (Herrold-Menzies, 2006). Newmark & Hough (2000) note that the main objective of ICDPs is to link conservation of biological diversity within a protected area to social and economic development outside the protected areas. The ICDP approach evolved in recognition of the fact that protected areas cannot be effectively managed as isolated biological regions without the incorporation of the human dimension. As such, ICDPs represent an approach that links protected areas with rural development and encourages sustainable resource use as part of a multiple land use strategy. Bookbinder et al (1998) argue for two conditions that must be met to ensure the successful integration of biodiversity conservation and rural economic development. These are: a) the identification of economic incentives that provide immediate benefits to local people, and, b) the identification of economic incentives that are appropriate in space and time to the scale of threats to biodiversity.

In recent years, ICDPs have come under heavy criticism. Some conservationists point to their failure to achieve fundamental objectives of conservation and economic development. For example, critics question the effectiveness of ICDPs to improve prospects for conservation in and around protected areas (Brandon, 1998; Oates, 1999; Terborgh, 1999). Rabinowitz (1999) argues that “politically correct” approaches to

conservation like ICDPs channel away significant portions of available funding, yet produce minimal results in terms for biodiversity conservation. As a result, the critics argue, conservationists should place renewed emphasis on authoritarian protection of national parks and other protected areas to safeguard critically threatened habitats worldwide. Wilshusen et al (1999) have countered these ideas. They suggest that much of the criticisms are simplistic because conclusions are made in isolation of the political, social, and economic factors of particular areas.

Criticisms of ICDPs are somewhat tangential in a study of the CBNRM program in Botswana. This is because ICDPs focus on national parks and community involvement in resource management in protected areas. In contrast, the CBNRM program in Botswana focuses on specially demarcated wildlife areas known as Controlled Hunting Areas (CHAs) and allocated to local communities for wildlife-based tourism purposes. Newmark & Hough (2000:590) argue that CBNRM differs from the normal ICDP approach in that, instead of offering development services in exchange for conservation, it devolves management responsibility for natural resources like wildlife to local communities. Newmark and Hough argue that the success of CBNRM depends on local communities seeing more value in managing their wildlife on a long-term sustainable basis than in pursuing short-term exploitation or alternative land uses.

The Okavango Delta in northwestern Botswana has a high ecological integrity but it is threatened wetland Resource competition, land use conflicts and poverty are some of the causes of resource degradation in the Okavango Delta (Arntzen, 2006; Darkoh & Mbaiwa, 2005). Studies (e.g. Fidzani et al, 1999; NWDC, 2003; Kgathi et al,

2004) have found that most of the people in the Okavango Delta live in what the United Nations has defined as “human poverty.” Human poverty is a composite measure of life span, health, knowledge, economic provisioning, and degree of social inclusion (UNDP, 2005). Poverty has created conditions for over harvesting of natural resources by the local people in the Okavango Delta. Resource degradation in the Okavango Delta can be ameliorated partly through the achievement of household livelihood security (Arntzen et al, 2003; Thakadu, 2005; Kgathi et al, 2004). Livelihoods determine the use of natural resources. As such, changes in livelihoods may affect resource use in the Okavango Delta. The CBNRM program aims at achieving biodiversity conservation and rural development (Mbaiwa, 2005; Thakadu, 2005). However, tourism research (e.g. Arntzen et al, 2003; Kgathi et al, 2004; Thakadu, 2005) in the Okavango Delta has not adequately shown the extent to which tourism development in CBNRM areas has improved livelihoods. That is, the impacts of tourism and the economic benefits from CBNRM to the improvement of rural livelihoods have not been adequately measured in the Okavango Delta.

Improved livelihoods in the Okavango Delta can be measured using the sustainable livelihoods framework. A livelihood perspective helps identify a wide range of impacts – direct and indirect, positive and negative-that matter to local people (Ashley, 2000). Niehof (2004:322) argues “livelihood is a multi-faceted concept, being what people do and what they accomplish by doing it, referring to outcomes as well as activities.” As a result, what people do in tourism development (e.g. joint venture partnerships, land rentals, leasing of their land, investment in lodges, campsites etc)

through the CBNRM program in the Okavango Delta, what they accomplish from their participation in CBNRM projects and the outcomes in terms of improved livelihoods can be analyzed using the sustainable livelihoods framework. This study, therefore, use the sustainable livelihoods framework to analyze the effects of tourism development to achieve improved livelihoods in the Okavango Delta, Botswana.

The following research questions guided the field research:

- a) what are the livelihoods changes caused by tourism development;
- b) which livelihood options declined or emerged as a result of tourism development;
- c) what are the costs and benefits in livelihood options produced by tourism development; and,
- d) How is tourism development improving rural livelihoods?

2.2 The sustainable livelihoods framework

The sustainable livelihoods framework recently became central to the discourse on poverty alleviation, rural development and environmental management (Ellis, 2000; Scoones, 1998). The livelihood framework has its origins in the work of Chambers & Conway (1992). Since then, it has appealed to both researchers and development

practitioners involved in poverty eradication. According to Chambers & Conway (1992:7) “a livelihood comprises the capabilities (stores, resources, claims, and access) and activities required for a means of living.” Ellis (2000: 19) also points out that “a livelihood comprises the assets (natural, physical, human, financial and social capital), the activities, and the access to these (mediated by institutions and social relations) that together determine the living gained by the individual or household”. Chambers & Conway (1992:5) note, “a livelihood in its simplest sense is a means of gaining a living”.

The sustainable livelihoods framework is considered a suitable tool for analysis of livelihoods in this study because it links the broader socio-economic components of household assets, livelihood activities, outcomes of livelihoods activities, and factors mediating access to livelihood activities (Scoones, 1998; Ellis, 2000; Farrington et al, 2004). Activities are strategies or various ways in which households generate their livelihoods (Ellis, 2000; Kgathi et al, 2007). The sustainable livelihoods framework therefore seeks an accurate understanding of people’s assets and capital endowments and the processes and conversion of these into desirable livelihood outcome (Mubangizi, 2003). The sustainable livelihoods framework shows how in different contexts and through different strategies, people support themselves through access to a range of resources or assets (natural, economic, human and social capitals), (Chambers & Conway, 1992; Scoones, 1998; D’Haese & Kirsten, 2003). The means of achieving sustainable livelihoods are usually diverse and can be based on natural resource or non-natural resource (Ellis, 2000; Chambers & Conway, 1992). Kgathi et al (2007) argue that natural resource based activities in the Okavango Delta can be arable farming, livestock

farming, collection of rangeland products, basket making, fishing and community-based tourism. Kgathi et al also note that non-natural resource based activities include formal employment, rural trade and social protection programs. Figure 2.1 shows the simplified version of the sustainable livelihoods framework. The figure shows the assets and strategies and activities that are used to achieve desirable outcomes (in this study outcomes can be improved livelihoods or well being). In this study, the sustainable livelihoods framework should demonstrate how communities of Khwai, Mababe and Sankoyo collectively use natural resources, their knowledge and skills through tourism development to achieve commonly shared goals of improved livelihoods in their respective villages.

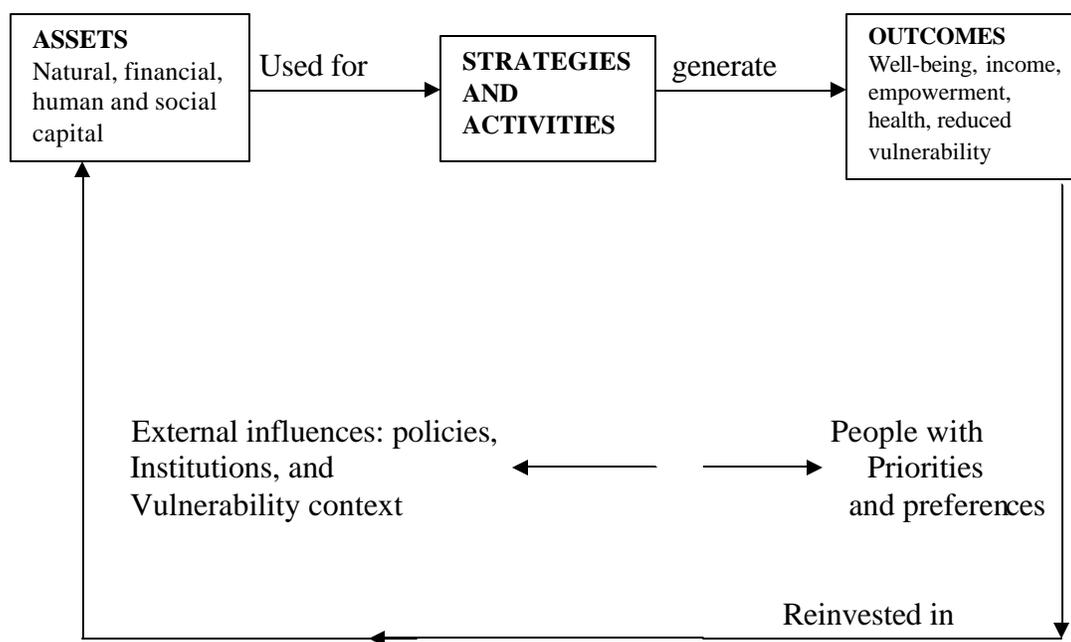


Figure 2.1 Sustainable Livelihoods Framework
Source: Ashley (2000)

As shown in Figure 2.1, assets and resources are inputs to a livelihood system and they are the immediate means needed for generating livelihood (Niehof, 2004). Scoones (1998) argues that assets and resources may be seen as the capital base from which different productive streams are derived and from which livelihoods are constructed. Development practitioners use sustainable livelihood frameworks to identify entry points for understanding root causes of poverty and potential interventions for improving people's lives (Scoones, 1998). The sustainable livelihoods framework thus brings together the notions of well-being, security and capability, through in-depth analysis of existing poverty (wealth), vulnerability and resilience, as well as natural resource sustainability (Bhandari & Grant, 2007). Bhandari & Grant argue that the concept of livelihood security (referring to the sustainable livelihoods framework) emerged in response to the question of whether people's lives become better or worse at family and community levels. Livelihood security is defined as the adequate and sustainable access to income and other resources to enable households to meet basic needs (Frankenberger et al, 2002). Frankenberger et al argue that basic needs includes adequate access to food, potable water, health facilities, educational opportunities, housing, and time for community participation and social integration. Sustainability is the ability to cope with and recover from stress and shock, while maintaining or enhancing capabilities and assets (Chambers & Conway, 1992; Scoones, 1998). Sustainability is thus a function of how assets and capabilities are utilized, maintained and enhanced so as to preserve livelihoods (Scoones, 1998). The sustainable livelihoods framework can be applied at a range of different scales, from individuals to households,

villages, regions, or even nations. At each level, potential outcomes for sustainable livelihoods can be assessed (Scoones, 1998). Here, the framework focuses on the individual, household, and community levels to provide a broad understanding of the effects of tourism development on livelihoods in the Okavango Delta.

Some theorists argue that social capital is one of the necessary conditions for sustainable livelihoods. Szreter (2000) defines social capital as the relationships between people that enable productive outcomes. Social capital is determined by the level of building mutual trust, constructing shared futures, strengthening collective identity, working together and forming groups (Flora & Flora, 2003). Social capital is an important asset that determines the ability of individuals and community members to agree to have formal and informal institutions to enable them achieve better outcomes. Scoones (1998) argues that central to the sustainable livelihoods framework is the analysis of a range of informal and formal organization and institutional factors. In the case of tourism development at a community level in the Okavango Delta, Community Based Organizations can be described as formal community institutions.

In dealing with livelihoods, the diversification of income sources is a key factor in sustainability because it influences the well-being of households (D'Haese & Kirsten, 2003). By engaging in diversified activities, people can be more resilient in the face of downturns or economic shocks. People diversify their livelihoods for a variety of reasons. Sometimes the main motivation is survival; at other times it is to save and accumulate resources, or to improve their standard of living (D'Haese & Kirsten, 2003). In the Okavango, the motivation for communities to engage in CBNRM includes all of

these reasons. CBNRM in Botswana represents an opportunity for people to diversify their livelihood strategies while also achieving development and conservation goals.

2.3 Methods

This study made use of longitudinal data on livelihoods available at Khwai, Khwai, and Mababe since 1998. The availability of this data made it easy to analyze livelihood changes caused by tourism development in the last 10 years. For this dissertation, data was collected between June to December 2007 through ethnographic observation and household interviews. A total of 30 households were randomly sampled in each village for a total of 90 households. This represents 48.4% of all households in the three villages (Table 2.1).

Table 2.1 Household samples in the study area

Villages	Household Sample	Total households	Total Village Population
Sankoyo	30	76	372
Khwai	30	56	360
Mababe	30	57	290
Totals	90	186	1022

A household list in each of the villages kept at Community Trust was used to randomly pick the first 30 households for interviews. That is, names were cut and put in a box and the first 30 households from repeated draws were eligible for interviews. A sample of 30 in each of the three villages proved appropriate in that by the time 30 households were all interviewed, the questions about effects of tourism development resulted in relatively little new information. Male heads of household were interviewed.

If absent, the spouse was selected. If neither were available, any household member 18 years or older (and thus considered an adult in Botswana) was interviewed.

In determining livelihood changes, households were asked to provide a list of all the livelihood activities that household members did to earn a living before tourism development in the Okavango Delta. Indicators used to achieve this objective included, but not limited to the following: hunting and gathering, crop and livestock farming, fishing, and rangeland products collection. Households were also asked to make a list of all the tourism influenced livelihood activities they adopted after tourism development in the area. Indicators that were used to measure the effects of tourism development on livelihoods included but not limited to: household and community income from tourism, employment opportunities for households in tourism enterprises, livelihood diversity within a community, tourism infrastructure development, the provision of social services to community members, and reinvestment of tourism revenues.

Household data was supplemented by data from unstructured interviews with key informants, including biologists, community leaders (village chief, Village Development Committee (VDC) chairpersons, Board of Trustees chairpersons, decision makers in government). In depth interviews with key informants were essential for gaining long-term knowledge on livelihood changes in each of the villages and how tourism development has made a difference. Interviews progressed in a conversational style. That is, even though an open-ended questionnaire was designed and used, its main purpose was to guide discussions during the interview and keep it focused. This method was advantageous in that it allowed respondents to talk at length about particular topics.

Focus group discussions were also conducted with the VDC and Board of Trustee in each village to further understand these changes. Focus groups were generally composed of three to five people depending on those members of the VDC and Board of Trustee which were found present in the villages at the time of data collection.

Discussions in focus groups were unstructured in nature. The open-ended questions focused on livelihoods which communities did before tourism development; present livelihoods options and how they are affected by tourism development; and, how participants assumed to be the effects of tourism development to improve livelihoods in their communities. Secondary data sources in the form of published and unpublished literature on effects of tourism development on livelihoods in the Okavango Delta was used. This involved the retrieval of unpublished reports from libraries and documentation centers in Botswana. Secondary sources utilized included research reports; policy documents and journal articles on tourism and wildlife management, annual reports of the CBNRM projects at Khwai, Mababe and Sankoyo, and theses and dissertations on tourism in the Okavango Delta. Interview data from households, key informants and group discussions was summarized into specific themes and patterns based on the effects of tourism on livelihoods in their households and community. Themes and patterns were also made for livelihoods before and after tourism development in the study villages and in the Okavango Delta.

Answers to the following questions are provided in the results section below:

- a) What are the livelihoods changes caused by tourism development?

- b) What are the trade-offs in livelihoods options caused by tourism development?

- c) How effective does tourism development improve rural livelihoods?

2.4 Results and discussion

2.4.1 Livelihoods before tourism development

Results from focused groups, household interviews and informal interviews with key informants at Khwai and Mababe indicate that historical, households sustained their livelihoods by hunting and gathering of rangeland products. Men hunted the different animals while women collected berries, tubers and frogs. In other words the people of Khwai and Mababe maintained hunting and gathering economic live styles. However, key informants pointed out that crop production was adopted from other ethnic groups in last two or three decades. That is, the Basarwa of Khwai and Mababe interacted with other ethnic groups like Batwana, Bayei, Bakgalagadi and Bambukushu adopted some of these groups' economic activities including crop and livestock farming.

The people of Sankoyo who are largely Bayei noted that cattle and crop farming supplemented by subsistence hunting sustained their livelihoods before tourism development in their village. This indicates that Bayei had a diversified economy. They farmed, raised domestic animals, fished, hunted and supplemented their diet with wild plants (Tlou, 1985). They also practiced floodplain crop cultivation, which involves ploughing within the floodplains of the rivers to utilize the moisture within the deposited

alluvial soils. Bayei had cattle, rearing mainly fowl, dogs and goats. Cattle were used for drought power when ploughing, they are milked, sold them once in a while to get some income, killed in special ceremonies like weddings or funerals and used to pay dowry. From interviews, results show that common livelihood activities in the three villages include subsistence crop and livestock farming, subsistence hunting and the collection of rangeland products.

2.4.2 Livelihood changes caused by tourism development

To determine current livelihood options at a household level, households were asked to list livelihood activities they currently practice. Results in Table 2 show the livelihood activities mentioned by household representatives. Results indicate that hunting, gathering, crop and livestock farming which were identified to have been the main livelihood activities before tourism development were drastically affected by tourism development. Subsistence hunting was altogether never mentioned by any household as a livelihood activity since it has been abandoned in favor of the wildlife quota system sold to safari hunters. In a scale of 1 to 8 (1 being the main livelihood activity that occupies first position and 8 being the livelihood activity no longer being practiced in the household), the collection of rangeland products was ranked to 8th position in all three villages. This suggests that none of the 90 (1000.0%) households considered the collection of rangeland products an important source of livelihood in their households. This suggests that all households no longer collect rangeland as a livelihood

option. The collection of rangeland products like berries, tubers, wild fruits and insects is no longer an important livelihood activity in all three villages.

Table 2.2 List and ranking of livelihoods activities by households*

Livelihood Activity	1 st Position	2 nd Position	3 rd Position	8 th Position
Livestock Farming	0	0	3 (3.3%)	87(96.7%)
Dryland Crop farming	3 (3.3%)	10 (11.1%)	2 (2.2%)	74 (82.2%)
Basket marking	2 (2.2%)	2 (2.2%)	9 (10.0%)	74 (82.2%)
Fishing	2 (2.2%)	2 (2.2%)	0	77 (85.6%)
Remittances	2 (2.2%)	7 (7.8%)	1 (1.1%)	80 (88.9%)
Grass Cutting	2 (2.2%)	15 (16.7%)	3 (3.3%)	68 (75.6%)
Government Handouts	7 (7.8%)	3 (3.3%)	2 (2.2%)	76 (84.4%)
CBNRM	58 (64.4%)	23 (25.6%)	5 (5.6%)	4 (4.4%)
Employment in other Tourism enterprises	7 (7.8%)	5 (5.6%)	1(1.1%)	77 (85.6%)
Employment in other agencies	9 (10.0%)	3 (3.3%)	0	78 (86.7%)
Employment in Drought Relief Projects	0	2 (2.2%)	0	88 (97.8%)
Beer Brewing	2 (2.2%)	3 (3.3%)	1 (1.1%)	83 (92.2%)
Collection of rangeland products	0	0	0	90 (100.0%)
Semausu (Tuckshop)	1 (1.1%)	0	0	88 (97.8%)
Subsistence Hunting	0	0	0	0

* This table shows 1st – 3rd position of importance and the 8th or last position ranked.

Table 2.2 shows that the majority (96.7%) of the households in these three villages do not consider livestock farming as an important livelihood activity in their homes. Interviews in the three villages indicate that there are several factors that contribute to the decline of livestock production in the area, these include the following: the Okavango Delta having been zoned as a livestock free area in 1989 to enable wildlife-based tourism development in the area; the zonation of the Okavango Delta into Wildlife Management Areas and Controlled Hunting Areas to facilitated tourism

development; the erection of the Buffalo Fence which did not allow livestock inside the fence where the three communities are located. In this regard, the Okavango Delta has become an isolated zone kept for wildlife conservation and tourism development.

In relation to crop production, results in Table 2.2 indicate that 82.2% of the households noted that they no longer practice crop farming. In all the three villages, households noted that bigger crop fields have been abandoned due to wildlife damage of crops and the lack of interest in crop farming especially by young people. The Eco-tourism Support Services and Ecosurv Consultants (2005:60) argue that at Mababe “most of the fields have been left fallow for several years and since the introduction of CBNRM, villagers no longer respect arable farming anymore as a socio-economic activity because CBNRM offers more financially viable and less labor intensive socio-economic options, such as employment in the tourism sector”. The consultants (2005:61) also note that in one of the village meetings, “there was a strong argument that crop farming is not even a worth exploring option because most people have lost interest and therefore talking about it is a waste of time”.

As shown in Table 2.2, 58 (64.4%) of the household respondents ranked CBNRM to first position in meeting their daily household needs, 23 (25.6%) ranked it to second position, 5 (5.6%) ranked it to third position and only 4 (4.4%) noted that it does not have any impact in their households. In this regard, CBNRM has become the main livelihood option that meets household needs in these three villages. Some of the tourism influenced livelihoods that were identified in this study at a household level include: the collection and sale of thatching grass to safari companies for thatching lodges and

camp; the production and sale of crafts especially baskets and other wood carving and beads to passing tourists; employment opportunities in both CBNRM projects, companies that lease their community areas and to other safari companies in the Delta. These results suggest that tourism development is emerging as the single most important livelihood option in many households in the three villages. As a result, there is either a decline or an abandonment of traditional livelihood options such as subsistence hunting, the collection of rangeland products, crop and livestock farming to tourism influenced livelihoods options. The change in livelihoods at Khwai, Mababe and Sankoyo confirms claims by Harrison (1992) who argues that when there is modernization in a society, there is a shift from agriculture to industry and the central role of money in the ecology.

At a community level, tourism development activities at Khwai, Mababe and Sankoyo were found to include the sale of wildlife quota and leasing of their community concession areas to safari companies. Table 2.3 shows some of the community concession areas (i.e. CHAs) and their size for the three villages. The table also shows the type of land use allowed in each CHA and the community tourism activities.

Table 2.3 CBNRM activities in the Okavango Delta

Village	CHA and size	Type of Land Use	Community Activities in CHAs
Sankoyo	NG 33 and NG 34 (870 km ²)	Hunting & photographic	Land rentals, Sale of wildlife quota Operating campsite (i.e. Kazikini) Operating a lodge (e.g. Santawani Lodge) Sale of subsistence hunting quota, Sale of meat
Khwai	NG 18 and 19 (1,995 km ²)	Hunting & photographic	Land rentals, Sale of wildlife quota, Operating campsite, Sale of subsistence hunting quota, Sale of meat
Mababe	NG 41 (2,181 km ²)	Hunting & photographic	Land rentals, Sale of wildlife quota Operating campsite, Sale of subsistence hunting quota, Sale of meat

Tourism activities carried out by the three communities are largely through Joint Venture Partnerships (JVPs). Communities prefer JVPs because tourism development is a new economic activity for them hence they lack the necessary entrepreneurship skills and experience in managing tourism enterprises, while safari companies that have the necessary skills to manage a tourism enterprise. Sankoyo and Mababe's partner is Johan Calitz Hunting Safaris while that of Khwai Village is Greg Butler Safaris. The partnerships agreement involves the subleasing of hunting and photographic rights in their CHAs. As result, they receive annual land rentals from these companies. The villages also sell an annual wildlife quota to safari hunting companies, operate campsites, and sell meat to their communities.

Flora & Flora (2003) and Grootaert (2001) argue that trust and networking are essential social capital indicators that can be used to determine outcomes in projects. Therefore, the ability of Khwai, Mababe and Sankoyo communities to work with the Department of Wildlife and National Parks on wildlife quotas, Tawana Land Board on leasing of land and JVPs on tourism enterprises shows enhanced social capital that enables them derive tourism benefits from natural resources.

2.4.3 Shifts in livelihood options caused by tourism development

The implementation of tourism development through the CBNRM program at Khwai, Sankoyo and Mababe is causing shifts in livelihoods options from traditional ones to those influenced by tourism development. Table 2.4 shows shifts in livelihood

activities at Khwai, Mababe and Sankoyo villages following the advent of tourism development.

Table 2.4 Shifts in livelihood activities following the advent of tourism

Decrease	Increase
1. Special Game Licenses suspended	1. Hunting Quota system introduced under CBNRM
2. Subsistence hunting either reduced or abandoned	2. Commercial hunting and photographic tourism has become the main livelihood option
3. Collection of rangelands products (gathering) either reduced or abandoned	3. Employment and income generation from CBNRM and other tourism enterprises.
4. Livestock and crop farming areas either minimized or abandoned	4. Area now reserved for wildlife conservation and tourism development
5. Little interest on collecting local foods (e.g. berries, frogs, tubers etc)	5. Generation of income to afford modern western foods (e.g. rice, macaroni, spaghetti, potatoes etc)
6. Floodplain crop and livestock farming either reduced or abandoned	6. Income from CBNRM enterprises
7. Unrestricted harvesting of thatching grass	7. Controlled and commercialization of thatching grass

These results indicate that tourism related livelihoods options have replaced many traditional livelihood activities especially subsistence hunting and collection of rangeland products, livestock and crop farming. Although tourism development has led to the decline and abandonment of some livelihood activities, communities do not view these changes as causing any livelihood insecurity. They view these changes as a necessary change which has since improved their livelihoods and quality of life. These claims can be illustrated by comments made by respondents such as that made by an old woman at Sankoyo during group discussion when she noted: “CBNRM has helped us, most of our children in Sankoyo are now working. Its completely different from the past, it was worse and very difficult in the past. There were no jobs and poverty was very

serious”. At Mababe, a 34 year old woman also made a similar remark, “Our well-being today have improved compared to the past years before CBNRM. Most Mababe residents work in the Trust, old people get benefits like P200 each month, have houses built for them, and orphans get monthly allowances as well”. Of particular interest was a comment made by an old woman at Sankoyo who said, “if you ask us to return to the use of Special Game License, we would refuse because you cannot do much with it except for meat. It cannot give you money to buy food”. This comment suggest that the old woman who was expected to support subsistence hunting no longer values it in favor of a wildlife quota provided under the CBNRM program. These comments, therefore, suggest that the loss of traditional livelihoods activities are not viewed by communities as having decreased livelihood insecurity, instead, communities believe the changes have increased livelihood security.

2.5 Effects of tourism development on livelihoods

Grootaert (2001) argue that trust at a community level between members of the community is one of the indicators of social capital. At Khwai, Mababe and Sankoyo, communities work together through their respective local institutions known as Trust to derive benefits from tourism development in their areas. The enhanced social capital as demonstrated by these communities has resulted in several community accomplishments (outcomes) from CBNRM which have improved household livelihoods. As previously shown in Figure 2.1 (the sustainable livelihoods framework), outcomes are determined by the use of different assets as communities engage in different tourism strategies and

activities to improve their well-being or livelihoods. In the case of Khwai, Mababe and Sankoyo, the main assets or resource that communities use to have better outcomes is natural capital which includes different wildlife species, birds, forests and landscape used as a tourism product. The use of natural capital to benefit from tourism development has resulted in outcomes that can be divided into three main categories, namely: individual benefits, household benefits and community benefits. Individuals, household and community benefits are both tangible and intangible.

In determining the outcomes from participation in tourism development, households were asked to think of their lives before and after tourism and state whether there has been a change caused by tourism development. Results indicate that 98.9% of the households noted that their lives have changed dramatically due to tourism development. Only 1.1% of the households noted that their lives have not changed. In other words, community participation in tourism development has created better outcomes which promote the well being of the people at a household level. The changes that translate to outcomes which household mentioned as having been introduced in their households and community include the following: employment opportunities, financial benefits, household dividends, access to game meat and other social benefits such as funeral assistance, old age pensions, and the provision of housing for the elderly and poor, transportation services, introduction of modern technology and other intangible benefits like skill development.

2.5.1 *Employment opportunities*

Employment was in this study was found to be one of the main benefits that has improves livelihoods at Sankoyo, Khwai and Mababe villages. Employment is provided by both the safari companies that sub-lease community areas and by Trusts in respective villages. As shown in Table 2.5, at Sankoyo, the number of people employed increased from 51 people in 1997 when the Trust started operating to 105 in 2007. At Mababe, the number increased from 52 in 2000 to 66 people in 2007. At Khwai, the number increased from five people in 2000 to 74 people in 2007.

Table 2.5 Employment at Sankoyo, Khwai and Mababe

Sankoyo				Khwai			Mababe		
Year	Trust	JVP*	Total	Trust	JVP	Total	Trust	JVP	Total
1997	10	41	51	N/A	N/A	N/A	N/A	N/A	N/A
1998	11	51	62	N/A	N/A	N/A	N/A	N/A	N/A
1999	11	51	62	N/A	N/A	N/A	N/A	N/A	N/A
2000	11	51	62	5	N/A	5	15	37	52
2001	13	9	22	5	N/A	5	15	64	79
2002	35	56	91	8	N/A	8	16	64	80
2003	42	56	98	10	N/A	10	18	64	82
2004	48	56	104	15	40	55	41	18	59
2005	45	56	101	15	50	65	41	25	66
2006	46	56	102	19	55	74	41	25	66
2007	52	56	108	19	57	74	41	25	66

Source: DWNP and Records from study Communities * Joint Venture Partnership

At Mababe, results show that the percentage of people employed is 22.8%, at Khwai its 21% and 28% at Sankoyo. These percentages are very high considering that the small populations of 300 at Mababe, 290 at Khwai and 372 at Sankoyo. The employment rates also become high when excluding the elderly (i.e. over 60 years),

school going children (less than 18 years), the sick and pregnant mothers. In illustrating the importance of employment, the Mababe Trust manager remarked, “go to Mababe right now and you will find zero unemployment. You will only find old people and children in the village. All the young and strong people are out in camps working”. CBNRM is the most important economic activity that provides employment opportunities in the three villages. Most people employed from the three villages are semi-skilled (e.g. cooks, cleaners, storekeepers and escort guides).

The creation of jobs in CBNRM projects is important as a poverty alleviation strategy at Khwai, Mababe and Sankoyo villages. Every economy aims at full employment for its labor force, and this is also the case for the rural economy of Sankoyo, Khwai and Mababe. Table 2.6 shows that most of the households interviewed have a member working either in their CBNRM project in the Okavango Delta.

Table 2.6 Number of people employed in CBNRM from each household

No of People Employed in a Household	No of Households	% of Households
0	3	3.3
1	34	37.8
2	32	35.6
3	12	13.3
4	6	6.7
5	3	3.3
Totals	90	100

That only 3.3% of the households have no household member employed in the tourism industry demonstrates the impact of tourism development at Khwai, Sankoyo and Mababe. Those employed in CBNRM and other tourism enterprises financially

support their families thereby raising the standard of living in the household. In terms of utilization of wages and salaries from tourism, workers of both CBOs and safari operators noted that they use the money for various households needs. The majority (91.1%) of the respondents noted that the main uses of the income from tourism in their households is buying food, building houses, buying toiletries and clothes, supporting parents and helping meet expenses associated with school for children. Only 8.9% of the respondents noted that they save the income they derive from tourism in the bank in Maun for future uses such as paying dowry, sponsoring themselves to schools and for household emergencies. The total household income was on average P 464.13 (standard deviation is P 871.12) of which an average of P 446.53 (standard deviation is P391.50) is spent on food. Such income was not available before Community-Based Natural Resource Management (CBNRM) was introduced in the Okavango.

The importance of employment opportunities created by CBNRM for community members can be noted in comments respondents made in the three villages. For example, a 26 year old lady at Sankoyo noted: “I did not work before CBNRM. I did not know what it means to work by then, now I know. I can find a job in other tourism enterprises in the Okavango Delta”. At Khwai, a 30 year old man noted: “we no longer get scattered like it was before, Khwai residents have come home because there is work here. You no longer fear that you might find your people having relocated elsewhere. There are a lot of benefits here e.g. primary and junior secondary school leavers who cannot make it to higher education get good jobs in the tourism industry here at Khwai. We now live in our village and we develop it”. These comments indicate that households now derive

economic benefits from CBNRM which they value as an important program in providing employment opportunities in their villages.

Grootaert (2001) argues that one of the indicators of social capital is the extent of participation in the decision making process by communities. On the issue of a fair distribution of employment benefits, the Board of Trustees and household at Khwai, Sankoyo and Mababe were asked how a fair distribution of employment benefits is achieved. Respondents noted that whenever there are job vacancies at the Trust or safari company, there is a *kgotla* meeting held in the village. At this meeting, community members collectively determine how many people have already been employed in each household. If there are two or more people already employed in a household, they move on to the next household until they find one where there is nobody or just one person working for the Trust or the safari operator, the members of that household are then considered for the job. This is done to ensure that all the households in the village should have at least one person employed either by the trust or the safari operator. Interviews with households and Board of Trustees members in all the three villages revealed that in Trust meetings, an attendance register is kept. As such, employment opportunities that arise from time to time in their Trust are also determined by who attends meetings and the number of meetings an individual attends over time. This criteria was agreed upon by the community and all those interviewed seemed to be in support of it as one of the fair techniques used to employ people in their projects. The fair distribution of employment benefits is important to avoid internal conflicts and promotes harmony in communities and success of the CBNRM program. The trust between community members and their

ability to make collective decisions on sharing employment benefits is an indication that social capital has grown since tourism development was initiated in all the three communities. This level of social capital is further demonstrated by the fact that these communities have local institutions in the form of Trust or Community Based Organizations (CBOs) which have so far been able to mediate on community participation in tourism development.

Grootaert (2001) argues that membership in local associations is one of the indicators of social capital which determines outcomes in desired goals. In the case of Khwai, Mababe and Sankoyo, community membership in CBOs has resulted in CBOs fairly mediating in *kgotla* meetings to achieve fair distribution of employment benefits. It is, however, important to recognize that the Okavango Delta does not have industrial or manufacturing plants to provide employment. As such, employment opportunities provided by CBNRM contribute to livelihoods of many households. A fair distribution of employment benefits is critical to the success of CBNRM in all the three villages.

2.5.2 Financial benefits from tourism development

Financial benefits are some of the major economic benefits that villages derive from tourism development in the Okavango Delta. Tourism revenue that accrues to communities is largely from the following activities: sub-leasing of the hunting area; sale of wildlife quota (i.e. wildlife quota fees for game animals hunted); meat sales; tourism enterprises e.g. lodge and campsite; and, camping fees and vehicle hires. Income from tourism development accrues to individuals, households and the community at large

when it is finally distributed. Table 2.7 shows the financial benefits that accrue to Sankoyo, Khwai and Mababe respectively from the time the projects started operating to 2007.

Table 2.7 Revenue (BWP) generated by Sankoyo, Khwai and Mababe

Year	Land Rental	Quota	Others*	Total
Sankoyo Tswaragano Management Trust				
1997	285,750	0	12,665	298,415
1998	116,666	60,928	38,826	216,420
1999	151,667	33,470	76,151	261,288
2000	166,833	49,090	148,940	215,923
2001	57,047	55,600	114,801	227,448
2002	492,000	872,550	131,844	1,496,394
2003	466,509	965,772	370,352	1,802,633
2004	562,655	1,096,377	75,634	1,734,666
2005	455,000	1,060,400	612,012	2,127,412
2006	483,250	1,198,700	639,116	2,321,066
2007	613,360	1,272,600	621,537	2,507,497
Khwai Development Trust				
2000	1,057,247	0	72,536	1,129,783
2001	585,220	0	248,305	833,525
2002	1,211,533	0	36,738	1,214,567
2003	348,778	0	97,480	446,258
2004	110,000	857,085	283,482	1,250,567
2005	115,500	1,043,707	405,247	1,564,454
2006	121,275	1,248,500	1,248,500	1,691,723
2007	127,339	1,217,187	1,082,146	2,426,667
Mababe Zokotsama Trust				
2000	60,000	550,000	77,000	687,000
2001	69,000	632,500	127,233	828,733
2002	79,350	702,606	85,961	867,917
2003	91,205	807,996	98,854	1,121,427
2004	104,940	929,196	149,159	1,183,295
2005	120,681	1,068,575	130,739	1,319,995
2006	120,000	1,202,183	13,500	1,335,683
2007	130,000	1,202,183	29,950	1,362,133

Source: Reports on CBNRM projects of study villages

* Camp rental fees, community development fund, meat sales and vehicle hire.

Data shown in Table 2.7 shows that land rentals and quotas increased in each village over time. For example at Sankoyo, land rentals increased from P 285,750 in

1997 to P483, 250 in 2006 and game quota fees increased from P60, 928 in 1998 to P1, 198,700 in 2006. Between 2004 and 2006, game quota fees were the largest source of revenue for each village accounting for almost half of the revenue generated by each Trust. Income generation from tourism is important because it is used by communities to sustain their livelihoods. Some of the income which the three communities derive from tourism subsequently ends up in the households in the form of dividends. For example, between 1996 and 2001, each household at Sankoyo Village was paid P 200, this sum increased to P250 in 2002, P300 in 2003 and P500 between 2004 and 2007. However, the distribution of income to the various households is an important aspect in improving rural livelihoods. When households were asked whether their income has increased due to tourism development, 72.2% of the respondents noted that it has significantly increased while 21.1% noted that it has fairly increased (Table 2.8). Overall, 93.3% of the household noted an increase of household income due to tourism in the last 10 years.

Table 2.8 Household income in the last decade

Rankings	Frequency	Percentage
Has significantly increased	65	72.2
Has fairly increased	19	21.1
Has remained constant	3	3.3
Has fairly decreased	2	2.2
Has significantly decreased	1	1.1
Totals	90	100.0

Only 3.3% of the respondents noted that their income has been reduced. These results show that Sankoyo, Khwai and Mababe no longer rely traditional livelihoods activities such as subsistence hunting, the collection of rangelands products or

agriculture. Instead, they have moved to a cash economy where income from CBNRM has become the main source of livelihoods sustenance in their communities. This shows that tourism development has transformed the traditional economies of these villages to a tourism led or cash economy.

2.5.3 Availability of meat at household level

Households at Sankoyo, Mababe and Khwai noted that game meat is one of the benefits they derive from tourism development. Joint Venture Agreements with safari operators are such that international clients of these companies only take with them the animal heads and skins (which are called the trophies) and fillets. The rest of the animal carcass is taken to respective villages where it is either sold or distributed to the community depending on the type of animal killed. For instance, animals such as elephant, warthog and zebra, which are not normally eaten by most residents, are distributed free. However, meat such as that of impala and kudu and other animals such as buffalo, which are eaten by most people, are sold by the Trust at a minimal price (compared to beef sold in other parts of the country) and the money becomes part of the overall Trust revenue. Some respondents pointed out that the distribution of meat benefits is important to them since there is no butchery in the village. This indicates the role that the availability of meat plays in the Okavango Delta. It also allows the villagers directly benefit from wildlife resources in their local environment. This has the potential to reduce illegal hunting which before the adoption of CBNRM in the Okavango Delta was described as a problem.

2.5.4 *The provision of social services*

The ability of people in the three villages of Khwai, Mababe and Sankoyo to agree in *kgotla* meetings on how to use income they generate from tourism development indicates enhanced social capital. That is, through their membership to their local tourism institutions (i.e. CBOs), communities have been able to agree that some of the revenue generated from CBNRM projects be used to fund social services and related community development projects. Table 2.9 shows the social projects and amount used to fund each of these community development projects in the three villages.

Table 2.9 Social services funded by CBNRM income, 2007

? Assistance with funerals costs (P200 to P3, 000 per household).
? Support for local sport activities (P5, 000 to P50, 000 per village).
? Scholarships (P7, 000 to P35, 000 per village).
? Household dividends (P200 to P500 per village).
? Services and houses for elderly people (150 to P300 per month per person).
? Assistance for orphans (P40, 000 per Trust).
? Assistance for disabled people (P15,000 per village).
? Provision of communication tools such as radios
? Transport services particularly in the use of vehicles.
? Installation of water stand pipes in households

Source: Arntzen et al (2003); Schuster (2007). Khwai, Sankoyo & Mababe Reports.

To illustrate on some of the information provided in Table 2.8, collective decision making in the three communities has led to the payment of funeral expenses for community members to the tune of P3, 000 if an adult dies and P1000 if a minor dies. Community vehicles would also be used to collect fire wood used to prepare meals for

mourners and transport them to and from Maun. Apparently, all the three villages bury their dead in Maun and there seemed to be no specific reason why communities do not want to bury their dead in their respective villages. Community vehicles are also used to transport the dead persons and are a form of transportation by members from one village to the other. Community members can also hire these vehicles in case they want to transport their goods from one point to the other. This is yet another important aspect of community and rural development in remote parts of the Okavango Delta. Sankoyo, Mababe and Khwai are located in remote areas of which accessibility in terms of public transportation is very difficult. The availability of transportation through Trust vehicles has, therefore, increased accessibility of these once remote areas to other big regional centers in other parts of the country like Maun.

Before tourism development, water reticulation was a problem at Mababe, Khwai and Sankoyo villages. In addressing this problem, individual communities use income from tourism development to fund water reticulation to each household. For example, the CBNRM project at Sankoyo funded the provision of water to 56 households out of the 76 in the village. Mababe funded water to 30 households out of the 54 in the village. At the time of the study, Khwai was still digging a trench from the Khwai River to provide water to their village. The other remarkable social service funded by CBNRM in the three villages is that at Sankoyo, the CBNRM paid for the construction of seven houses for the poor in 2007. At Khwai 18 houses were built while at Mababe 10 houses were built for elderly and the poor. In each of the three villages, CBNRM paid a monthly allowance of P200 to orphans and P500 to the elderly twice a year. Sankoyo sponsored

14 students to study for catering, professional guiding, bookkeeping, and computer studies. Mababe sponsored 20 students and Khwai sponsored 30 students by 2007 with a total sponsorship of P 250,000 to study tourism related courses like those by students from Sankoyo. For Khwai, all the villagers got insured with insurance companies for funeral benefits. This shows that CBNRM in the three villages has taken a social responsibility for community members and provide them with the necessary livelihoods needs. CBNRM has therefore transformed communities at Sankoyo, Mababe and Khwai from being beggars who lived on handouts from the Botswana Government and donor agencies from Europe and America into productive communities that are moving towards achieving sustainable livelihoods.

2.5.5 Intangible benefits

There are several intangible benefits that have important spin-off effects for rural development beyond CBNRM projects at Sankoyo, Khwai and Mababe and to the overall development of Botswana. These benefits include: the establishment of representative village institutions like Community-Based Organizations (Trusts) which have become powerful rural development and conservation institutions in the Okavango Delta; retaining the youth in rural areas; development of tourism entrepreneurship skills; exposure to private sector and business thinking, and, improved working relations with Government, conservation and development organization.

In the case of skill development, a young 26 year old woman at Sankoyo noted that she had never worked before CBNRM and at present, she has gained knowledge which

puts her in a position to find employment in other tourism enterprises besides CBNRM in their village. The acquisition of skills in tourism by residents was further shown by the Secretary of the Board of Trustees at Mababe has registered a company partnering with two other friends to begin selling game meat in the next hunting season. He noted that CBNRM in his village sponsored him for Information Technology training and with his experience in CBNRM which is a tourism venture, he believes he can succeed in the sale of game meat. Even though CBNRM has been operational at Mababe for only seven years, interviews with this secretary shows that the interaction he has with safari operators has provided him with the knowledge that he can own a business and sell game meat. An idea that was a decade ago very remote in villages like Mababe and many others in the Okavango Delta.

2.6 HIV/AIDS and livelihoods

The spread of HIV/AIDS negatively impacts on livelihoods at Khwai, Mababe and Sankoyo villages. Interviews with the health official responsible for Khwai and Mababe indicated that in 2006/07, there were 26 people with HIV/AIDS of which three people were noted to have died. Khwai was singled out as having higher HIV/AIDS cases than the other two villages. The health official noted that Khwai has higher cases presumably because of the following: a) The location of the three lodges of Tsaro, Khwai River Lodge and Machaba where community members interact with workers from these lodges (Tsaro and Machaba are currently closed temporarily); b) Khwai is also located in a tourist transit zone between Moremi Game Reserve and Chobe National

Park. Some tourists are noted for having some relations with community members; and, c) there is a Department of Wildlife and National Parks base at North Gate (Moremi Game Reserve) within the village where community members . HIV/AIDS affects rural livelihoods in that when people are sick, their ability to work becomes affected. As such, the ability for them to meet household income is also affected.

The Okavango region is one of the hardest hit districts in Botswana in terms of HIV/AIDS. The overall HIV prevalence in the district is 35% (Kgathi et al, 2004). Kgathi *et al* argue that this figure is biased since estimates are based on pregnant mothers. According to Kgathi et al (2004), poverty has been singled out as one of the important factors which contribute significantly to the rapid spread of HIV in Botswana. Poverty is also high in remote parts of the Okavango Delta (NWDC, 2003; Fidzani et al, 1999; Kgathi et al, 2004). This therefore shows that HIV/AIDS in the Okavango Delta is linked to poverty and affects livelihoods in the Okavango Delta. Based on data from the health official for Mababe and Khwai, tourism development is one of the factors that can be blamed for an increase of HIV/AIDS in these villages. In this respect, it can be concluded that tourism development has not only increased the well-being of the people of Khwai, Mababe and Sankoyo, but has also brought about social changes that have negative effects on the lives of the people. Through collective action, communities can address the problem of HIV/AIDS by promoting sex education, safe sex, abstinence, and becoming faithful to one partner as a priority in Trust meetings. In addition, the three communities can also network with government health agencies to address this problem by promoting sex education.

2.7 Rapid livelihoods changes and sustainability

The rapid cultural change and the collapse of traditional livelihoods options (e.g. collection rangeland products, crop production, and livestock production) at Khwai, Mababe and Sankoyo villages in favor of tourism influence options raises questions of sustainability of livelihoods and tourism development in the area. That is, dependency on tourism as the single livelihood option ushers in a host of questions about sustainability of livelihoods in the event of a shock or stress in the tourism industry. The tourism industry can be described as unpredictable in the event of a socio-economic and political crisis in countries of tourist origins especially in developed nations where tourists that visit wetlands like the Okavango Delta originate. A decline in tourist numbers in the Okavango Delta can thus negatively affect livelihood security at Khwai, Mababe and Sankoyo villages. The ability of international tourism to sustain livelihoods in remote communities located in rich biodiversity areas of developing countries hence becomes questionable. It can be argued therefore, that while tourism development at Khwai, Mababe and Sankoyo appear lucrative and is appreciated by members of these communities for its significant contribution to livelihoods, reliance on international tourists from developed countries is risky and not sustainably.

To address the problem of the unsustainability of international tourism, there is need for it to diversify into other economic options such that dependence on international tourism does not become the only source of income, employment and revenue generation needed for rural development. Domestic tourism is one option that

can be promoted to balance the tourist market and increase the sustainability of tourism development in the three communities. In this regard, the three communities should increase the market and promote their tourist products locally in Botswana and regionally in Southern Africa. Small-scale enterprises such as bakeries, horticulture and small general dealers can also be developed by communities to sustain the rural economy. In other words, tourism should have multiplier effects and linkages with the local economy. The vulnerability of tourism development at Khwai, Mababe and Sankoyo shows that CBNRM and its reliance on international tourists is not the panacea to all the poverty and conservation problems in the Okavango Delta.

2.8 Conclusion

The sustainable livelihoods framework indicates that assets (i.e. natural, financial, human and social capital) are inputs in a system where outcomes in the form of community well being, income, empowerment, health and reduced vulnerability should be achieved. In this system, strategies and activities should be devised to achieve these outcomes. In the case of Khwai, Mababe and Sankoyo, communities have assets in the form of natural resources which they use to benefit from tourism development in the area. The ability of communities to form local institutions (e.g. CBOs) and network with government and the private sector through joint venture partnerships has also enabled them to derive tourism benefits (i.e. income, employment, social services etc) to improve the quality of life and livelihoods in their communities. This shows that social capital in

the three communities has been enhanced such that collective action where the common goal is improved livelihoods is being achieved through tourism development.

This study has shown that livelihoods were worse and poverty was higher before tourism development in their communities. However, since tourism development was adopted as the main livelihood option by the three communities, the quality of life and livelihoods as a whole have improved. In this regard, it can be argued that tourism development through the Community-Based Natural Resource Management program has managed to improve livelihoods at Sankoyo, Khwai and Mababe villages. This is particularly so when considering socio-economic benefits such the creation of employment opportunities, income generation, provision of social services like water reticulation, availability of game meat, scholarship of students in hospitality courses, acquisition of skills in the tourism business and the establishment of facilities like recreation halls and sponsorship of local sporting activities. Since local employment opportunities did not exist before CBNRM in these communities, people migrated to Maun or into safari camps in the Delta for employment opportunities. However, the reverse has been possible as people now migrate back to their communities for employment opportunities particularly in the tourism peak season. In this regard, tourism development through the CBNRM program has widened and augmented local livelihood options. With the small population sizes in the three villages, changes in livelihoods activities and outcomes are significant since most households now benefit from tourism development in the area. Based on the significant benefits these communities derive from tourism development, improve quality of life and livelihoods, it can be argued that

CBNRM is achieving its goal of development at Khwai, Mababe and Sankoyo in the Okavango Delta. These benefits accrue to the three communities despite the fact that

Therefore, results in this study suggest that criticisms of integrated conservation and development projects (e.g. by Brandon, 1998; Oates, 1999; Terborgh, 1999) are misleading. These scholars argue that there is no evidence that community conservation and development programs are achieving their objectives of rural development. As a result, critiques of conservation and development project argue for a return to authoritarian and centralized forms of resource management. The CBNRM program at Khwai, Mababe and Sankoyo is achieving rural development particularly improved livelihoods. As a result, a return to centralized and authoritarian methods of resource management means a return to rural poverty and resource conflicts that contributes to the degradation of resources. It is also erroneous to generalize and conclude that community conservation and development projects are failing to achieve conservation and development. This means programs should be evaluated and judged based on the socio-economic and political context of particular areas (Wilshusen et al, 2002). The Khwai, Sankoyo and Mababe CBNRM tourism projects thus provide a classical case where community projects significantly contribute to livelihoods. In this regard, tourism can be used as a tool to achieve improved livelihoods in remote communities located in rich biodiversity areas of developing countries.

3. LOCAL ATTITUDES TOWARDS DEVELOPMENT AND CONSERVATION IN THE OKAVANGO DELTA, BOTSWANA

3.1 Introduction

Attitudes of resident communities towards conservation and tourism development are a concern among conservationists and scholars, especially in developing countries. This is because negative attitudes are associated with failures to conserve biodiversity (Ite, 1995; Infield, 1988; Hitchcock, 1995; Parry & Campbell, 1995; Mordi, 1991; Sekhar, 2003; Alexander, 2000; Weladji et al, 2003; Walpole & Goodwin, 2001). In Botswana, the history of negative attitudes of local people towards wildlife conservation, protected areas and wildlife managers began during British colonial rule of the country. This was because the establishment of protected areas by the British displaced local communities from their homelands and denied them access and use of resources (Adams & McShane, 1992; Taylor, 2000; Bolaane, 2004). To address subsistence and economic needs in their communities, local people resorted to the illegal harvesting of wildlife resources (Mbaiwa, 2005). Such hunting has been associated with decline of wildlife in Botswana (Perkins & Ringrose, 1966; Moganane & Walker, 1995). Negative attitudes towards conservation in Botswana, therefore, have a colonial foundation. They escalated after independence from British rule in 1966 because the post-colonial government perpetuated the British legacy of centralization of resource control by adopting or only modifying most of the British colonial wildlife policies and strategies (Mordi, 1991).

There is a wide literature (e.g. Mordi, 1991; Hitchcock, 1995; Parry and Campbell, 1995; Newmark et al, 1993; Ite, 1996; Newmark & Hough, 2000; Alexander, 2000; Walpole & Goodwin, 2001; Sekhar, 2003; Weladji et al, 2003) on negative attitudes of local people towards biodiversity conservation. However, recent studies (e.g. McNeely, 1995; Ghimire & Pimbert, 1997; Walpole & Goodwin, 2001; Sekhar, 2003; Weladji et al 2003) argue that there should be a link between rural economic development and biodiversity conservation to reverse such negative attitudes. These studies note that the link should include the involvement of local people in decision-making affecting natural resource management by providing economic benefits to offset the opportunity costs of protecting these resources. Sekhar (2003) notes that one such potential means of economic benefits is wildlife tourism. Tourism has the potential to generate substantial revenues for local economic development and conservation (Sekhar, 2003). Various studies (e.g. Infield, 1988; Ite 1996; Newmark et al, 1993; Walpole & Goodwin, 2001; Alexander, 2000; Sekhar, 2003; Weladji et al, 2003) provide examples of how tourism benefits are associated with positive attitudes toward conservation among peoples who live near protected areas. Where local people do not derive economic benefits from resources in protected areas and other environments around them, their attitudes were found to be negative (Weladji et al, 2003; Newmark et al, 1993; Parry & Campbell, 1992; Infield, 1993). Studies by Mehta & Kellert (1998); Ite (1996); Fiallo & Jacobson (1995) have also shown that costs associated with conservation such as wildlife degradation of crops have negative effects on local attitudes. Because of its potential for generating local benefits, tourism development is a

potential tool that can promote conservation by providing better economic benefits to local communities than other livelihood options available to them.

Although studies described above provide information about attitudes of local people towards conservation and tourism, they largely focus on protected areas that are controlled by national or federal governments. The literature on conservation and development is thus more focused on Integrated Conservation and Development Projects (ICDPs) (Brandon, 1998; Newmark & Hough, 2000; Wilshusen et al, 2002; Oates, 1999; Teborogh, 1999) generally paying less attention to resources outside of protected areas. According to Newmark & Hough (2000), the main objective of ICDPs is to link conservation of biological diversity within a protected area to social and economic development outside of the protected area. In this regard, resources outside of protected areas are often not part of the ICDP package.

Botswana has 17% of its land designated as game reserves and national parks. An additional 22% of the land outside of national parks has high levels of biodiversity and other related natural resources. Some of the local communities, which were displaced from game reserves and national parks, live in these areas. These areas have come to be known as Controlled Hunting Areas (CHAs). Community-Based Natural Management (CBNRM) projects are implemented within CHAs.

Studies of local attitudes towards conservation and tourism have relatively paid little attention on specific species. However, there are exceptions, such as Alexander (2000), who evaluated local attitudes towards the black howler monkeys at the Community Baboon Sanctuary in Belize. The goal of this study, therefore, is to analyze

attitudes of local people towards tourism development and biodiversity conservation in CBNRM areas in the Okavango Delta, Botswana. Resident attitudes are analysed based on the general criteria of common property theory which include: autonomy and recognition of the community as an institution; proprietorship and tenurial rights; rights to make the rules and viable mechanisms to enforce them; and ongoing incentives in the form of benefits that exceed costs (Ostrom, 1990; Bromley, 1992). Resident attitudes are also analyzed paying particular attention to threatened species such as giraffe, sable antelope and thatching grass. In doing so, the study evaluates the effectiveness of CBNRM in the development of positive attitudes of resident communities towards tourism development and biodiversity conservation.

The research questions in this study were:

- 1) What are the attitudes of residents towards tourism and conservation in locally controlled wildlife tourism areas like CBNRM areas?
- 2) What are resident attitudes toward giraffe, sable antelope and thatching grass?

3.2 Community-based natural resource management paradigm

Pretty & Ward (2001:209) argue that “for as long as people have managed natural resources, they have engaged in collective action”. CBNRM is one of those paradigms that aim at involving communities living in rich biodiversity areas to participate in natural resource management. The CBNRM paradigm is built upon

common property theory. Common property theory argues that common pool resources can be utilized sustainably provided there is: autonomy and the recognition of the community as an institution, proprietorship and tenurial rights, rights to make the rules and viable mechanisms to enforce them, and ongoing incentives in the form of benefits that exceed costs (Ostrom, 1990; Bromley, 1992). Central to the CBNRM paradigm is the theory and assumptions underlying the political decentralization of natural resources.

Decentralization of natural resources implies a process of redistribution of power and the transfer of responsibilities from the central government to rural communities in resource management (Boggs, 2000). This is a shift from the so-called top down to a bottom approach in natural resource management. The CBNRM paradigm is thus a reform of the conventional “protectionist conservation philosophy” and “top down” approaches to development, and it is based on common property theory which discourages open access resource management, and promotes resource use rights of the local communities (Rihoy, 1995). The assumption is that the decentralization of natural resources to local communities will improve resident attitudes towards natural resource utilization. In addition, CBNRM assumes that decentralization of resource use to local communities will revitalize local institutions for resource management. That is, CBNRM is assumed to have the potential to increase trust between community members and the ability of these local communities to form networks with government especially the Department of Wildlife and National Parks and Agricultural Resource Board in order to achieve conservation (e.g. of sable antelope, giraffes and thatching grass) and also form joint venture partnerships with tourism companies in order to derive benefits from

tourism development. It is from this perspective that CBNRM assumes it will achieve a change of attitudes of local communities towards tourism development and conservation.

The centralization of natural resources especially wildlife in Botswana began during British colonial rule of the country (1885 – 1966). The post-colonial government of Botswana adopted conventional management practices from the British hence resource degradation continued. As a result, the first decade after independence was characterized by the need to address resource decline in Botswana and the centralization of resources was by then viewed by the Government as the best option. Boggs (2000) notes that the privatized control of resources was strengthened by Garrett Hardin's widely acclaimed 1968 theory of "The Tragedy of the Commons" (Hardin, 1968). Hardin argued that common ownership of resources cannot succeed, as the innate human desire to maximize individual benefits will inevitably cause the over utilization of common resources leading to the ultimate resource degradation. Hardin therefore recommended privatization and mutual coercion agreed upon by government. As a result, the 1970s and 1980s resulted in traditional approaches to nature protection being declared insufficient to protect biodiversity in Africa (Gibson & Marks, 1995). According to Gibson and Marks, local communities were excluded from resource management in favor of privatization of resources because at the time there was an escalation of illegal hunting caused by people living in rich biodiversity areas.

The CBNRM paradigm is a direct challenge to Hardin's theory of the "Tragedy of the Commons" and the privatization of resources. CBNRM argues that the management of resources by the central government has experienced frequent and

chronic declines in the past several decades (Boggs, 2000). As a result, the decentralization of resources to local communities has the potential to promote conservation and rural development. The decentralization of natural resources is perceived by conservationists as a remedy to the chronic wildlife decline caused by the failure by government to achieve resource conservation in community areas. Decentralization of resources through CBNRM thus promotes collective action to achieve conservation. As noted earlier, collective action can be possible if social capital is enhanced at a community level.

At Khwai, Mababe and Sankoyo in the Okavango Delta, CBNRM was adopted in the mid-1990s. Collective action was assumed to enable communities to achieve rural development and conservation. Social capital measures a community's potential for collective action to address environmental problems (Claridge, 2004; Fukuyama, 2001; Ritchie, 2000; Pilikington, 2002). As a result, well developed communities which have developed rules and sanctions are able to achieve conservation of resources than individuals working alone or in competition (Pretty & Ward, 2001; Claridge, 2004). In this regard, CBNRM operates in an environment characterized by collective action at a community level, relationships of trust, reciprocity and exchange, common rules, norms and sanctions, and connectedness in groups are what make up social capital, which is a necessary resource for shaping individual action to achieve positive biodiversity outcomes (Pretty & Smith, 2003). Therefore, CBNRM provides a suitable model to study local attitudes towards conservation and tourism development in community controlled wildlife-based tourism areas. At Khwai, Mababe and Sankoyo, CBNRM has enabled

communities have concession areas known as Controlled Hunting Areas where they are involved in photographic and safari hunting tourism activities since the mid-1990s. These three communities have joint venture partnerships with safari tourism companies to operate safari hunting activities, they have re-invested safari hunting revenue into community lodges and campsites, and they now have a role to play in the decision making process regarding resource management in their local environment. For example, communities have Community Escort Guides to enforce community conservation regulations. As a result of community participation in tourism development and resource management, it is necessary to use CBNRM as a framework to analyze the effectiveness of tourism development achieve positive attitudes towards tourism development and conservation in the Okavango Delta.

3.3 Methods

This study made use of longitudinal data on resident attitudes towards tourism development and conservation available at Khwai, Khwai, and Mababe since 1998. The availability of this data made it easy to analyze changes on local attitudes caused by tourism development in the last 10 years. For this dissertation, fieldwork was carried out between June 2007 and December 2007. A mixed method approach was employed. That is, both quantitative and qualitative data collection techniques and analysis were used. In relation to qualitative data collection, ethnographic field research methods were used and supplemented by secondary data sources. The main tools used to gather information for this study was the face-to-face household interviews using open and closed-ended

questions. Questions asked were those aiming at determining local attitudes towards tourism development and conservation with particular reference to giraffe, sable antelope and thatching grass. Households were asked to state their feelings, perceptions and attitudes towards tourism development and conservation of giraffe, sable antelope and thatching grass. Indicators used to measure attitudes towards tourism development are: the value local people place in tourist visits to the Okavango, the role local people have in tourism development, the value local people place on local environment reserved for tourism development, and, benefits derived from wildlife resources (e.g. sable, giraffe and thatching grass). Indicators used to measure attitudes towards conservation are: the suspension of hunting until species like giraffe and sable recover, the controlled harvesting of thatching grass, funds generated from tourism being re-invested back to conservation, and, the role of residents in resource management.

A total of 30 households were randomly sampled in each village, as such a total of 90 households or 48.4% of the total households in the three villages was sampled for interviews (Table 3.1). A household list in each of the villages kept at Community Trust was used to randomly pick the first 30 households for interviews. That is, names were cut and put in a box and the first 30 households from repeated draws were eligible for interviews. A sample of 30 in each of the three villages proved appropriate in that by the time 30 households were all interviewed, the issue of attitudes towards conservation and tourism development was saturated with information. As such, subsequent interviews produced no new information. The head of household (i.e. husband) was the respondent. If absent, his wife was selected but if both were not available, any household member

who is 18 years and above qualified for interviews. If neither were not available, any household member with 18 years and older was interviewed.

Table 3.1 Household sample in the study villages

Villages	Household Sample	Total households	Total Village Population
Sankoyo	30	76	372
Khwai	30	56	360
Mababe	30	54	290
Totals	90	186	1022

Household data was supplemented by qualitative data obtained through unstructured interviews with key informants like community leaders (village chief, Village Development Committee (VDC) chairpersons, Board of Trustees chairpersons, decision markers in government) will be conducted. Purposive sampling was used to choose key informants named above. Unstructured interviews with key informants took advantage of their long-term knowledge on changes of attitudes towards conservation and tourism development in their respective villages. Unstructured interviews had an advantage in that key informants were recognized as authority figures on issues of attitudes towards conservation and tourism development in their communities. Interviews progressed in a conversational style. That is, even though an unstructured questionnaire was designed and used, its main purpose was to guide discussions during the interview and keep it focused. This method had an advantage in that at times free response questions were asked to dig deeper about a particular issue under discussion. In addition, focus group discussions were conducted with the Village Development Committee and

Board of Trustee in each village to understand local attitudes towards tourism development and conservation.

Secondary data sources in the form of published and unpublished literature on tourism development in the Okavango Delta was used. This involved the retrieval of unpublished reports from libraries and documentation centers in Botswana. The main secondary sources utilized included research reports; policy documents and journal articles on tourism and wildlife, annual reports of the Community-Based Natural Resource Management (CBNRM) projects at Khwai, Mababe and Sankoyo, theses and dissertations on wildlife-based tourism in the Okavango Delta. This information provides an understanding of resident perceptions towards tourism development and biodiversity conservation. Present attitudes were also compared with those of studied in 1998 when the CBNRM was only three years old at Sankoyo Village and was not yet implemented at the villages of Khwai and Mababe. This was done to find out whether the introduction of the CBNRM program at Khwai, Sankoyo and Mababe has any impact in changes of resident attitudes towards conservation and tourism development.

Finally, ethnographic data from households, key informants and group discussions was summarized into specific themes and patterns based on household and community attitudes towards tourism development and conservation. These themes and patterns were made for attitudes before and after tourism became the dominant economic activity in the study villages. Some of the quantitative data was summarized into frequency tables to provide emphases to the analysis.

3.4 Results

3.4.1 Attitudes toward tourism development

The value local people place on tourists visits to the Okavango Delta was used as indicators to measure attitudes of Khwai, Mababe and Sankoyo residents towards tourism development. Results in Table 3.2 indicate that a total of 94.4% of the households noted that they are happy to see tourists visiting the Okavango Delta. They support tourist visits because of the following: tourists bring income to their villages; tourists visits promote rural development like creation of roads; create employment opportunities; and, tourists buy their baskets and this improves their livelihoods. The value people put on tourists visit was further reflected in common statements respondents made during interviews. For example, a 38 year old man from Mababe noted, “we get income from tourists who visit our area hence we are able to buy food for our families. If they do not come, we get nothing and we will starve”. Still at Mababe village, 42 year old Community Escort Guide working for the local CBNRM program remarked, “ever since tourists began coming to our area, there is a difference in livelihoods because they bring money which we use to buy what we eat. We have jobs to sustain our livelihoods”. At Sankoyo, a 25 year old woman also noted, “the more tourists come to our area, the more our well-being as a community improve. Tourists are a source of income for us”, At Khwai, a 29 year old man responsible for community campsites noted, “tourists camp at our campsite and this generates money for us, we do business with tourists”. An elderly woman considered a key informant at Khwai noted, “tourists buy our baskets and we buy food and clothes for our families”. Households

(5.6%) which did not value tourists visiting the area noted that they do not get a fair share of the tourist benefits such as employment opportunities from their project. These people did not have any family member working in a community tourism enterprise.

Table 3.2 Attitudes towards tourism development in the Okavango Delta

Question	Yes	No
a. Would you be happy if more tourists visiting the Okavango Delta	85(94.4%)	5(5.6%)
b. Would you be happy if members of your household work in the tourism industry	87(96.7%)	3(3.3%)
c. Should tourism in the Okavango be stopped and have the area reserved for traditional uses	9(10.0%)	81(90.0%)

The appreciation of employment opportunities for a family member in the tourism industry was another indicator used to measure attitudes of households towards tourism development. Results in Table 3.2 show that the majority (96.7%) of the respondents noted that they would be happy to have their household member work in the tourism industry. Residents noted that this is because tourism generates income for use at a household level, provides young people the opportunity to gain skills and knowledge in the tourism business, and encourages young people to have the desire to start their own tourism enterprises. This is reflected in statements such as those made by a 55 year old woman at Sankoyo when she said: “I want my children to learn more about tourism, hospitality, wildlife conservation and wildlife behavior. Children must learn more on how tourism is managed, gain skill to start their own tourism businesses. I would like them to open businesses of their own in tourism e.g. guest houses, safari lodges.” This shows that the majority of the people in the study villages appreciate it if their family

member works in the tourism industry because of the socio-economic benefits they derive or anticipate from tourism development.

The zonation of Okavango Delta for wildlife-based tourism instead of crop and livestock farming was used as an indicator to measure local attitudes towards tourism development. Results in Table 3.2 shows that 90.0% of the households did not want tourism in the Okavango Delta to be stopped in order to use the wetland for crop and livestock purposes. Households prefer wildlife-based tourism than crop and livestock farming in the Okavango Delta because it is home to a variety of wildlife species, forests, birds and other natural resources which are now tourist attractions. Respondents noted that it is from tourism that most of them are able to derive income and sustain their livelihoods. Comments made by respondents made to illustrate their opinions in support of wildlife-based tourism include those by a 53 year old woman at Khwai who noted, “this area is good for wildlife-based tourism than crop or livestock farming. There are many wild animals here which would kill livestock or destroy crops if we were to practice agriculture”. At Sankoyo, the chief of the village said, “tourism brings income and improve our well-being, its not like in the past when we starved even though we had free game licenses to hunt”. At a focused group discussion at Sankoyo, a young man in his 30s remarked, ”there is a lot of wildlife here to support tourism, so keep it that way”. These results thus show the value which communities of Khwai, Mababe and Sankoyo place on the Okavango as a wildlife-tourism land use area.

Access to land for wildlife-based tourism was also used as an indicator to measure attitudes towards tourism development in the Okavango Delta. Results indicate

that respondents appreciate the zonation of land into Controlled Hunting Areas (CHAs) that in turn are leased to communities for 15 years by government to manage. Before CBNRM, communities did not have access to land and its resources. Resources before CBNRM were centralized and controlled by the national government. Sankoyo Village has their CHA measuring 870 km², Khwai 1,995 km² and Mababe's land is 2,181 km². Interviews with households and Board of Trustees in the three villages indicate that communities accept these areas and the resources within them as theirs. As result, residents believe it's their responsibility to ensure the wise use of resources in them. For example, communities noted that they do not allow anyone who is not a member of their respective villages to harvest grass or any other resource without a permit from their CBNRM board. This shows that communities now have control over resources in their local areas and now determine who should harvest these resources.

Socio-economic benefits have been used in some studies (e.g. Walpole et al, 2001; Sekhar, 2003) as an indicator to measure residents' attitudes towards conservation. In this study, economic benefits from CBNRM were used to measure local attitudes towards tourism development. The assumption being that if economic benefits from tourism exceed costs, communities are likely to have positive attitudes towards tourism. Results in Table 3.3 shows that households that derive economic benefits from CBNRM ranked it as an excellent (57.8%) program, a good (16.7%) program and a fair (4.4%) program. On the overall, 78.9% of the households appreciate CBNRM mainly because of the tourism benefits they derive through it and because of the opportunity CBNRM gives them in the decision making process of resource management in their area.

Economic benefits that respondents noted they derive from CBNRM include:

employment opportunities, income generation, transport services, payment of funeral expenses, water reticulation, housing for elders and the poor, household dividends, allowances for the elderly and orphans, and scholarships.

Table 3.3 Household attitudes towards the CBNRM program

Rankings	Frequency	Percentage
CBNRM is an excellent program	52	57.8
CBNRM is a good program	15	16.7
CBNRM is fair program	4	4.4
CBNRM is a poor program	17	18.9
CBNRM is a very poor program	2	2.2

Comments made by respondents to show the socio-economic benefits and appreciation for CBNRM as a tourism enterprise in the area. For example, an elderly woman considered key informant in a group discussion at Sankoyo noted, “CBNRM has helped us, most of our children in Sankoyo are now working. Its completely different from the past, it was worse and very difficult in the past. There were no jobs and poverty was very serious”. At Mababe, a 34 year old lady who also works in a different city as a nurse had this to say about her home village, “Our well-being today has improved compared to the past years before CBNRM. Most Mababe residents work in the Trust, old people get benefits like P200 each month, have houses built for them, and orphans get monthly allowances as well”. At Sankoyo, a 26 year old woman working for the safari hunting company in joint venture partnership with the Sankoyo community noted, “I did not work before CBNRM. I did not know what it means to work by then, now I know. I can find a job in other tourism enterprises in the Okavango Delta”. At Khwai, an

old woman who also happened to have first hand experience in changes caused by tourism development noted, “CBNRM helps us in funerals and when sick. Our lives would be worse without CBNRM. If someone is sick, we call our community vehicle and it takes the sick person to the hospital in Maun”. At Khwai, a 33 year old man who at the time of the interview had just quit his job in one of the safari companies in the Okavango Delta noted, “we no longer get scattered like it was before, Khwai residents have come home because there is work here. You no longer fear that you might find your people having relocated elsewhere. There are a lot of benefits here e.g. primary and junior secondary school leavers who cannot make it to higher education get good jobs in the tourism industry here at Khwai. We now live in our village and we develop it”. These comments indicate that economic benefits residents derive from CBNRM significantly contributes to the development of positive attitudes towards tourism development in the Okavango Delta.

Results in Table 3.3 shows that only 18.9% and 2.2% of the respondents respectively ranked CBNRM as a poor and very poor program. The reasons they gave for their attitudes are that CBNRM has created internal conflicts due to discrimination and the unfair distribution of jobs and related benefits in their villages. For example, a respondent at Mababe Village had this to say: “CBNRM is a very poor program because it has created a lot of jealousy, conflicts in our village and discrimination of other people in employment opportunities and housing for the elderly”. In essence, these respondents are not necessarily against the CBNRM as a tourism project nor do they fail to appreciate the economic benefits that it derives. They are only concerned with the poor

management of CBNRM projects, which they describe as failing to meet the fair distribution of benefits as people would expect it to be. This shows that even though CBNRM has positive economic benefits at Khwai, Mababe and Sankoyo, it also has problems which are likely to negatively impact on it.

3.4.2 Attitudes toward biodiversity conservation

The suspension of hunting declining species like sable antelope and giraffe and the need for control in harvesting thatching grass species were used as an indicator to measure attitudes towards conservation. Results in Table 3.4 show that households at Sankoyo, Khwai and Mababe support the suspension in the hunting of giraffe and sable antelope and the controlled harvesting of thatching grass species to achieve conservation. Results show that 72.2% and 94.4% of the respondents respectively noted that the hunting of the sable antelope and giraffe should continue being suspended until the species recovers and 86.4% noted that harvesting of thatching grass should never be left without any control. Respondents were also sympathetic to the giraffe and expressed sentiments that the animal must never be hunted again even if it recovers, instead it must be reserved for photographic tourism purposes. The chairman of Sankoyo Tshwaragano Management Trust (STMT) had this to say about the giraffe, “people are emotionally attached to the giraffe and they feel sorry for it when killing it. It is a harmless animal and people prefer not to kill it but keep it for photographic tourists”. Other comments made by respondents about the giraffe and sable hunting, include, “those animals are currently not being hunted, so do not hunt them until they multiply”, “the giraffe is

harmless so why hunt it”, “sable is scarce, live it to multiply first for some time”. In relation to other wild animals, respondents noted, “we should hunt during the hunting season from 1st April to 30th October with a hunting permit”, “we should never hunt pregnant animals”, and “we should only kill old males”. These results show that residents are aware that these species are threatened thus support the idea of having rules in place to control harvesting in order to achieve conservation.

Table 3.4 Control in harvesting of sable, giraffe and thatching grass

Question	Yes	No
Should the hunting of sable antelope be suspended to allow this species to multiply?	65 (72.2%)	25 (27.8%)
Should your household be allowed to hunt the giraffe without restrictions?	5 (5.6%)	85 (94.4%)
Should your household be allowed to harvest thatching grass without restrictions all year round?	14 (15.6%)	76 (86.4%)

Revenue derived from CBNRM being ploughed back to conservation was also used as an indicator to measure attitudes towards conservation. Results in Table 3.5 show that 60.0% (sable) and 70.0% (giraffe) of the respondents support the idea that some of the revenue (figure was not specified to respondents) which they generate through CBNRM project should be re-invested into conservation. However, only 33.3% (grass) supported the donation of funds generated from their tourism projects being donated towards conservation. Overall, 57.0% of the respondents supported the idea of reinvesting back funds generated from tourism into conservation.

Table 3.5 Revenue from CBNRM reinvested into conservation

Species	Yes	No
Sable	54 (60.0%)	36 (40.0%)
Giraffe	70 (77.8%)	20 (22.2%)
Grass	30 (33.3%)	60 (66.7%)
Totals	154 (57.0%)	116 (43.0%)

Conversely, an overage of 43.0% did not support the idea. The main reason why 40.0% (sable), 22.2% (giraffe) and 66.7% (grass) did not support the donation of funds to conservation is that they consider their tourism projects to be new and does not have enough money to contribute to the conservation fund. Besides, the expressed ideas that the Botswana Government has enough funds that can be invested into conservation rather making communities make a contribution from their CBNRM project which they noted is new and does not have enough funds to support all its projects.

Collective action and the role of local communities in the decision making process about natural resource use in community areas was also used as an indicator to measure attitudes towards conservation. Households in the three communities of Khwai, Mababe and Sankoyo were asked to state who they think should be responsible for the management of sable antelope, giraffe and thatching grass in their area. Results in Table 3.6 show that 73.3% (sable antelope), 74.4% (giraffe) and 71.1% (grass) prefer a joint management of resources between communities and government (e.g. Department of Wildlife and National Parks for giraffe and sable antelope and Agricultural Resource Board for thatching grass).

Table 3.6 Who should manage sable, giraffe and thatching grass

Response	Sable	Giraffe	Grass
Myself and my household members	3(3.3%)	1 (1.1%)	3 (3.3%)
Members of my community	15 (16.7%)	16 (17.8%)	15 (16.7%)
DWNP*, ARB**	6(6.7%)	6 (6.7%)	8 (8.9%)
DWNP, ARB, Households	66 (73.3%)	67 (74.4%)	64 (71.1%)

*Department of Wildlife and National Parks for sable and giraffe, **Agricultural Resource Board for grass

Considering that only 6.7% respectively said the sable antelope and giraffe should be the responsibility of the Department of Wildlife and National Parks (DWNP). Only 8.9% said the grass should be the responsibility of the Agricultural Resource Board (ARB). The majority (73.3%) of the residents either want management of resources to be jointly managed by their communities with government agencies like Department of Wildlife and National Parks and Agricultural Resource Board. Communities view resources to be of benefit to both the nation (i.e. Botswana at large) and to their communities hence statements were made about joint management with government were expressed. For example, 30 year old lady at Sankoyo noted, “wildlife belongs to both of us (meaning government and local communities)”. Still at Sankoyo, a woman of 35 years noted, “we both benefit from wildlife through tourism”. A 27 year old woman who also happen to work as a Community Escort Guide at Khwai noted, “DWNP cannot succeed on their own to manage wildlife, they should work with our community escort guides. Our escort guides have limited equipment to patrol the community area, so they should work with DWNP who have many vehicles to move around”. At Sankoyo, a woman in her late 40s during focused group discussions noted, “we have our community escort guides who police our wildlife”, “In the past, DWNP controlled everything, we

had nothing to say. Things have changed and we now make rules to manage our wildlife at the *kgotla*. Everybody in the village is expected to observe these rules. Most people in our village have proved to respect the rules. When we see someone breaking the rules in our area, we report to community escort guides. Community policing of resources at Khwai, Mababe and Sankoyo was shown by the existence of Community Escort Guides employed by respective communities to enforce conservation rules community concessions areas on behalf of their communities.

3.5 Discussion

Results in this study suggest that since CBNRM was introduced at Khwai, Mababe and Sankoyo in the mid-1990s, there has been a change of local community attitudes towards tourism development and conservation. These attitudes have been triggered by a number of factors, this include the decentralization of resources to communities which gave them a role to play in the management of biodiversity in their area. In 1998, about 93.7% of the respondents indicated that they did not have a role to play in policy making regarding wildlife management in their local environment (Mbaiwa, 1999). At the time, there was hostility between DWNP and community members in each of the three villages because local people felt that government was denying them access to land and its resources. DWNP was by then regarded by local communities as a policing body whose main duties were to arrest people and prevent them from utilizing wildlife resources which are their God-given bounty (Mbaiwa, 1999). Mbaiwa argues that the government was perceived to have usurped wildlife

resource control and ownership from the local people. As a result, wildlife resources were mostly viewed as government property and not a communal resource, which they assumed mostly benefited the government and tourist industry.

The negative attitudes towards conservation were in 1998 also demonstrated by sentiments of an old woman in Mababe who during an interview said: “my grand child, don’t speak of wildlife in this area if you do not want to die, wildlife game scouts will soon arrive to arrest you and finally will kill you” (Mbaiwa, 1999: 108). Data collection at Mababe and Sankoyo in 1998 was difficult for me since some local community members suspected me to be a Department of Wildlife and National Parks (DWNP) secret agent disguising as a university student on research. Results in this study show that the hostility between DWNP and resident communities has since been reduced such that communities now see DWNP as a partner in conservation. Informal interviews with a DWNP officer at Khwai Gate (Moremi Game Reserve) noted that the hostility between DWNP and the community that existed in 1998 before CBNRM was implemented at Khwai village has been minimized. The DWNP officer further noted that there is now cooperation between Community Escort Guides (CEGs) and DWNP in issues relating to wildlife conservation in the area. The Chairman of the STMT, the Secretary of the Mababe Zokotsama Trust and the Councilor of Khwai also expressed that there is an improvement in the cooperation between the Department of Wildlife and National Parks and members of their communities especially with Community Escort Guides who collaborate with them to enforce conservation laws. The role that communities have in land and its resource management is thus important variable in the development of

positive attitudes towards conservation not only for sable antelope, giraffe and thatching grass but for all the resources. This shows that when people take part in the decision making process of resources around them, they develop positive attitudes towards conservation. Positive attitudes are a stepping stone towards conservation in the Okavango Delta.

Results in this study also show that there has been a change of attitudes at Khwai, Mababe and Sankoyo towards tourism development since the introduction of CBNRM in these communities. That is, in 1998, residents at Khwai, Mababe and Sankoyo had negative attitudes towards tourism development in all the three villages (Mbaiwa, 1999). This was because they derived insignificant or no benefits in the form of employment opportunities and income generation from tourism development. For example, in 1998, a total of 71.6% of the households got no tourist benefits (i.e. income, employment, improved infrastructure e.g. water supply and roads) in their local environment (Mbaiwa, 1999). In illustrating this problem, a 25-year old man at Khwai made the following remark during an interview in 1998, “how can we get benefits from wildlife resources when we do not have control over them and the use of the land. All belong to the Department of Wildlife and National Parks, who are making a request to us to relocate from this place and give way to wildlife conservation” (Mbaiwa, 1999: 99). By then, residents’ perceived tourism development in the area as destructive in that tourist took pictures of their children and huts without permission. They also noted that tourist vehicles made noise and some passed across their villages at high speeds. Only 28.4% of the households said they got benefits from tourism since tourists bought their craft work

(e.g. baskets and wood carvings). Tourism, was, therefore, viewed by the people as an economic activity that yielded revenue to the government through the collection of gate fees from game parks and private lodge owners and hoteliers in the area. However, results in this study show that these negative attitudes towards tourism have since changed due to benefits communities derive from tourism development through the CBNRM program. That is, benefits from tourism that accumulate to communities such as employment opportunities, income generation and provision of social services contribute to the present development of positive attitudes towards tourism development by the communities of Khwai, Mababe and Sankoyo villages.

3.6 Conclusion

Results in this study have shown that the introduction of tourism development through CBNRM at Khwai, Mababe and Sankoyo has led to the development of positive attitudes towards tourism development and conservation (e.g. for sable antelope, giraffe and thatching grass) in the area. Local attitudes towards tourism development and conservation determine whether communities in rich biodiversity areas can or cannot conserve resources in their local area. Previous studies (e.g. Walpole & Goodwin, 2001; Alexander, 2000; Sekhar, 2003; Weladji et al, 2003) used economic benefits to measure local community attitudes towards tourism development and conservation. This study however, argues that it is not only the economic benefits from tourism that contribute to positive attitudes towards tourism development and conservation. Collective action by communities and enhanced social capital also contributes to local attitudes towards

conservation and tourism development. At Sankoyo, Khwai and Mababe, enhanced social capital is demonstrated by the existence of Trusts or Community-Based Organisations which are institutions charged with the responsibility to ensure community participation in tourism development and conservation. Collective action by communities is shown by their ability to make rules at the *kgotla* and decide on how they should use resources in their CHA. Collective action is also shown by the employment of Community Escort Guides and the Board of Trustees to enforce rules about tourism development and conservation on behalf of respective communities in their CHAs. Finally, attitudes have changed because of the economic benefits communities derive from tourism which exceed costs. All these factors have created a sense of benefit from and ownership over resources by these communities creating the development of positive attitudes of residents towards tourism development and conservation.

The case of positive attitudes towards tourism development and conservation by local people at Sankoyo, Khwai and Mababe suggest that conditions have been established to satisfy Ostrom (1990) and Bromley (1992)'s principles of the sustainable management of common property resource. These principles are: the autonomy and recognition of the community as an institution; proprietorship and tenurial rights; rights to make the rules and viable mechanisms to enforce them, and, ongoing incentives in the form of benefits that exceed costs. Therefore, it is not surprising that attitudes of residents at Khwai, Mababe and Sankoyo have since changed to be positive towards tourism development and biodiversity conservation.

The positive attitudes of residents towards tourism development and conservation are the first building blocks towards conservation of natural resources in the Okavango Delta. This means decentralization of resource management to local communities who live in resource areas is a strong variable that determines local attitudes towards tourism development and conservation. As a result, control and access to resource use should be given to users, who in this case include the communities at Sankoyo, Khwai and Mababe in order to achieve positive attitudes towards tourism development and conservation. Ipara et al (2005) state that there is an intricate link between land and resource tenure and local support for and/or participation in wildlife conservation. The decentralization of wildlife resources to district and local community levels is vital in that it empowers landholders to take control of the resources and manage them so as to maximize returns. This is assumed will oblige them to conserve resources (Barnes, 1998).

Based on the positive attitudes towards tourism development and conservation and the devolution of resource use to communities at Khwai, Mababe and Sankoyo, arguments that people oriented approaches have failed to achieve their main goal of protecting the biological diversity (e.g. Brandon, 1998; Terborgh, 1999) becomes questionable. These researchers (e.g. Brandon, 1998; Terborgh, 1999) call for a renewed emphasis on authoritarian protection of resources. These kinds of arguments are advocated by those who point to the fallacy of the “ecologically noble savage” (Brandon, 1998, Gibson & Marks, 1995; Redford et al, 1998; Terborgh, 1999; Redford, 1991; White & Cronon, 1988; Diamond, 2003; Krech, 1981, 2007; Burch, 2007; Flores, 2007). These scholars argue that the idea of deliberate conservation by local

communities is a myth. Krech (1981), for example, argues that extractive behaviours by local communities demonstrate that conservation occurred as a side effect of low population density, simple technology, and the lack of external markets to spur over-exploitation (see also Hunn, 1982). “Reinventing a square wheel” as Wilshusen et al (2002) describe arguments towards the government authoritarian approach is simplistic and may cause a further decline of resources in rich biodiversity areas like the Okavango Delta. Further, such central control arguments are made in isolation of the political, social and economic factors in particular areas (Wilshusen et al, 2002) like the positive development of peoples’ attitudes towards conservation at Sankoyo, Khwai and Mababe in the Okavango Delta.

The history of conservation in Botswana is that of negative attitudes of local people towards conservation, wildlife managers and protected areas caused by authoritarian approaches to resource management (Mbaiwa, 2005). As a result, a return to that hostile era may not only worsen resource decline but its likely to cause increased poverty problems in remote areas like the Okavango Delta. It is from this background that people oriented approaches like CBNRM provide an incentive in which conservation of the remaining and threatened biodiversity can be achieved. However, this does not suggest that CBNRM is a panacea to all the conservation problems in the Okavango Delta. It has its shortcomings and its success has so far been localised to specific communities and areas. As such, CBNRM should be viewed as a small piece in the bigger pie in its contribution to conservation and improved livelihoods in rich biodiversity areas like the Okavango Delta.

4. EFFECTS OF TOURISM DEVELOPMENT ON CONSERVATION IN THE OKAVANGO DELTA, BOTSWANA

4.1 Introduction

Botswana is endowed with a large variety spectacular and observable wildlife species like elephants, buffaloes, zebras, lions, impala, kudu, giraffes, red lechwe and many smaller species. While Botswana's rangelands have supported a variety and abundance of wildlife resources for hundreds of years, recent studies like those by Mordi (1991), Perkins (1996), Perkins & Ringrose (1996) and Albertson (1998) point out that the country's wildlife populations are in a constant decline. Some scholars argue that wildlife decline in Botswana began on the eve of colonial rule of Botswana (White, 1995) and others argue that it began during British colonial rule of the country especially since the 1960s (Perkins & Ringrose, 1996).

The Okavango Delta is one of the wetland ecosystems in Botswana that has a rich biodiversity. This is because of the permanent water resources found in the wetland and the low human population that lived in the wetland for centuries. However, the Okavango Delta is among the most threatened of all ecosystems in Botswana (Darkoh & Mbaiwa, 2005). It is a major source of livelihood for rural communities that live within and around it, and like all communities, those in the Okavango exert pressures on surrounding natural resources. The Okavango Delta is important to livelihoods mainly because of the rich natural resources it possess, particularly the permanent water supply, wildlife, and fish. Interest in sustainable resource use, conservation, and adaptive

management of wetlands has increased in recent years as pressures on these ecosystems have also increased (Finlayson & Rea, 1999; Wighan et al, 1993). General analysis and reviews over the past two decades have identified a suite of pressures tropical wetlands face, in particular the over harvesting through fishing and hunting, pollution, salination, drainage and infilling, the spread of infrastructure development for agricultural, industrial and military purposes which results in land use/cover change (see e.g., Finlayson & Moser, 1992; Wighan et al, 1993; Finlayson & Rea, 1999). Finlayson & Rea (1999) have contended that to prevent further loss or degradation of wetlands, it is necessary to address the underlying causes of such pressure which includes poverty.

Conventional approaches to resource management are partly a cause of resource degradation in the Okavango Delta and Botswana (Mordi, 1991; Moganane & Walker, 1994). In the Okavango Delta, the centralisation of natural resource management displaced local people like the Basarwa from their hunting and gathering areas when the Moremi Game Reserve was established in 1963 (Bolaane, 2004), when Botswana was still under British colonial rule. The loss of access to land, rights to hunt and gather by Basarwa communities led to the development of negative attitudes by local communities towards conservation (Mordi, 1991; Moganane & Walker, 1994). The negative local attitudes towards wildlife conservation often resulted in illegal hunting, which contributed to wildlife decline in Botswana (Othomile, 1997).

Resource competition, land use conflicts and poverty are also some of the causes of resource degradation in the Okavango Delta (Arntzen, 2006; Darkoh & Mbaiwa, 2005). Studies (e.g. Fidzani et al, 1999; NWDC, 2003; Kgathi et al, 2004) have found that most

of the people in the Okavango Delta live in what the United Nations has defined as “human poverty.” Human poverty is a composite measure of life span, health, knowledge, economic provisioning, and degree of social inclusion (UNDP, 2005). Poverty has created conditions for over harvesting of natural resources by the local people in the Okavango Delta.

Resource degradation in the Okavango Delta can be ameliorated partly through the achievement of household livelihood security (Arntzen et al, 2003; Thakadu, 2005; Kgathi et al, 2004). Livelihoods determine the use of natural resources. As such, changes in livelihoods may affect resource use in the Okavango Delta. Given the inadequacy of conventional approaches in achieving effective conservation especially wildlife resources, biologists, policy makers and wildlife managers are seeking new approaches to address the problem of resource decline. Wildlife tourism is one such option. In the Okavango Delta, tourism development by rural communities began in the mid-1990s and it is carried out through the Community-Based Natural Resource (CBNRM) program. CBNRM was adopted by the Botswana Government as a program that decentralizes resource use to rural communities living in resource areas. Through CBNRM, rural communities are expected to participate in tourism development and conservation in their local areas. Community conservation and tourism development activities are jointly carried out in small land units or community concession areas known as Controlled Hunting Areas (CHAs). In their CHAs (concession areas), communities have adopted a collective action approach to participate in tourism development and conservation. At Khwai, Mababe and Sankoyo, CBNRM focus on wildlife-based tourism activities such

as game viewing, safari hunting, eco-tourism lodging, campsite and the sale of baskets and thatching grass has been in existence for about 10 years in the Okavango Delta, it is essential to measure its effectiveness in achieving conservation.

The objective of this section, therefore, is to analyze the role of local communities to use tourism development as a tool to achieve the conservation of three species, namely: sable antelope, giraffe, and thatching grass. The section focuses on what communities of Khwai, Mababe and Sankoyo do to achieve conservation of sable, giraffe and thatching grass. As a result, communities activities that were analyzed include: the rules and norms of the use of these species before and after tourism development; the ability of the three communities to form local institutions known as Community Based Organization or Trusts to enable them to participate in conservation, the effectiveness of Community Escort Guides to enforce community conservation rules, community role in deciding how much in terms of species should be harvested in a particular year (i.e. wildlife quota). The section will finally analyze the outcome of these community activities in the conservation of the three species particularly the low levels of illegal hunting and the constant wildlife populations of sable antelope and giraffe in concessions areas (i.e. CHAs) belonging to these communities.

Conceptually, social capital was used to inform the research study. Social capital was considered suitable because the concept describes collective action, mutual trust, networking and reciprocity that communities should have to achieve a shared goal, in this study, the share goal is conservation.

The study was also guided by the following research questions:

- a) What are the community uses of sable antelope, giraffes, thatching grass?
- b) What are local institutions are in place to manage giraffe, sable antelope and thatching grass?
- c) What are the effects of tourism development on resource use and the conservation of sable antelope and giraffe populations and thatching grass?

4.2 Social capital

This section used social capital as the analytical framework for community activities to achieve the conservation of sable antelope, giraffe and thatching grass. Social capital is defined as the relationships between people that enable productive outcomes (Szreter, 2000). This definition is related to that by Putnam (1995) who says social capital are those features of social life, namely: networks, norms, and trust that enable participants to act together more effectively to pursue shared goals. As such social capital involves building mutual trust, constructing shared futures, strengthening collective identity, working together and forming groups (Flora & Flora, 2003). Dhesi (2000) on his part notes that social capital involves shared knowledge, understanding, values, norms, traits, and social networks to ensure the intended results. These different

definitions of social capital point out to trust between individuals and collective action as being critical ingredients of enable communities achieve shared and agreed outcomes.

For communities to achieve shared goals they should form local institutions to enforce rules and regulations they agree will enable them achieve desired outcomes. Scoones (1998) defines institutions as “regularized practices (or patterns of behavior) structured by rules and norms of society which have persistent and widespread use.” In this way, institutions serve as mediating factors in promoting conservation and development (Scoones, 1998). This shows that social capital and the strength of local institutions are considered important to achieve community development and sustainable natural resource management (Pretty, 2005).

There is limited literature linking social capital and natural resource management (Claridge, 2004). However, Anderson et al 2002; Daniere et al 2002; Koka & Prescott 2002; Claridge, 2004) argue that enhanced social capital can improve environmental outcomes through decreased costs of collective action, increased cooperation, less resource degradation and depletion, and improved monitoring and enforcements. As used in natural resource management, social capital demonstrates a community’s potential for cooperative action to address problems (Claridge, 2004; Fukuyama, 2001; Ritchie, 2000; Pilikington, 2002). This means that well developed communities with locally developed rules and sanctions are able to make more of existing resources than individuals working alone or in competition (Pretty & Ward, 2001; Claridge, 2004). Therefore, the widely acclaimed “tragedy of the commons” syndrome (Hardin, 1968) is unlikely to occur in communities with enhanced social capital that influence the use of

natural resources. Because of its role in addressing natural resource use problems particularly at community level, social capital is considered suitable for analysis in this study. However, its use in this study limited itself to issues of; a) trust in people and institutions, b) norms of reciprocity, c) networks, d) membership in voluntary associations, and, e) the extent of participatory decision making. Pretty & Smith (2003:631) also argue that “relationships of trust, reciprocity and exchange, common rules, norms and sanctions, and connectedness in groups are what make up social capital, which is a necessary resource for shaping individual action to achieve positive biodiversity outcomes”.

4.3 Methods

This study made use of longitudinal data on community participation on conservation available at Khwai, Khwai, and Mababe since 1998. The availability of this data made it easy to analyze changes on the role of local communities on conservation particularly of sable antelope, giraffe and thatching grass caused by tourism development in the last 10 years. For this dissertation, data collection was carried out between June and December 2007. Ethnographic field research was conducted as the primary method for data collection in this study. The main tools used to gather information for this objective will be the face-to-face household interviews using open and closed-ended questions. Households were asked to state what they consider to be the conservation benefits in the use of sable antelope, giraffe and thatching grass through

tourism development. Households were further asked to state whether they perceive the introduction of tourism as having increased the conservation of use of these species.

Indicators that were used measure the effects of tourism development on the conservation include: hunting/illegal hunting levels, increase in wildlife numbers (e.g. giraffe, sable antelope), local conservation practices in the harvesting of wildlife and thatching grass, returning funds generated from tourism into conservation of wildlife, plant and grass species. Indicators used to measure the impact of local institutions, trust and networking on conservation included: existence of local associations, ability to have collective action, relationship between local people and government agencies like the Department of Wildlife and National Parks, Agricultural Resource Board and tourism companies that form joint venture partnerships with local communities.

A total of 30 households were randomly sampled in each village, as such a total of 90 households or 48.4% of the total households Khwai, Mababe and Sankoyo was sampled for interviews (Table 4.1). A sample of 30 in each of the three villages proved appropriate in that by the time 30 households were all interviewed, the issue of effects of tourism development on conservation was saturated with information. As a result, subsequent interviews produced no new information. A household list in each of the villages kept at Community Trust was used to randomly pick the first 30 households for interviews. That is, names were cut and put in a box and the first 30 households from repeated draws were eligible for interviews. The head of household mostly the husband was the respondent. If absent, his wife was selected but if both were not available, any household member who is 18 years and above qualified for interviews. In Botswana, any

individual of 18 years and above is considered an adult hence were suitable for interview in this study.

Table 4.1: Household sample in the study villages

Villages	Household Sample	Total households	Total Village Population
Sankoyo	30	76	372
Khwai	30	56	360
Mababe	30	54	290
Totals	90	186	1022

The above data was supplemented by data from unstructured interviews with key informants like biologists, community leaders (village chief, Village Development Committee chairpersons, Board of Trustees chairpersons, decision makers in government). Unstructured interviews with key informants took advantage of their long-term knowledge on effects of tourism development on conservation in their respective villages. Unstructured interviews had an advantage in that key informants were recognized as authority figures on the effects of tourism development on conservation in their communities. Interviews progressed in a conversational style. That is, even though an unstructured questionnaire was used, its main purpose was to guide discussions during the interview and keep it focused. This method had an advantage in that at times free response questions were asked to dig deeper about a particular issue under discussion. Focus group discussions were also conducted with the Village Development Committee and Board of Trustees in each village to understand these changes.

Finally, published and unpublished literature on the effects of tourism development on conservation in the Okavango Delta was used. This involved the

retrieval of unpublished reports from libraries and documentation centres in Botswana. The main secondary sources utilized included research reports; policy documents and journal articles on tourism and wildlife, annual reports of the CBNRM project at Khwai, Mababe and Sankoyo, theses and dissertations on wildlife-based tourism in the Okavango. This data adds in the understanding tourism development and biodiversity conservation in the Okavango Delta.

Qualitative data from households, key informants and group discussions was summarized into specific themes and patterns based on household and community activities that promote conservation in specific villages. These themes and patterns were made for attitudes before and after tourism became the dominant economic activity in the study villages. To add emphasis on quantitative analysis frequency tables we made. In addition, a one-way analysis of variance test was performed to test the differences in responses between villages on the availability and use of thatching grass.

4.4 Results and discussion

4.4.1 Uses of sable antelope, giraffe and thatching grass

To understand community norms and rules before the introduction of tourism development in the Okavango Delta, households at Khwai, Mababe and Sankoyo were asked how important were sable antelopes, giraffes and thatching grass to them and what these species were used for. Results in Table 4.2 shows that the majority (91.5%) of the households noted that these species were important for meat mainly used for subsistence purposes. These species were also important in that their skins were used for sleeping

mats and clothing. Grass was used for thatching and building enclosures around their huts to act as a windbreak.

Table 4.2: Importance of species to households before tourism

Species	Yes	No
Sable	83 (91.1%)	8 (6.7%)
Giraffe	84 (93.3%)	6 (6.7%)
Grass	80 (88.9%)	10 (11.1%)
Totals	247 (91.5%)	24 (8.9%)

Interviews with households indicate that the economic value that communities placed on the three species enabled them to develop rules and regulations on the use of the species. Some of the rules which households and key informants mentioned include the following: hunt mostly old bulls; do not hunt breeding and young animals; do not hunt declining species; hunting during the hunting season after the chief's declaration etc). In addition, interviews with community leaders at Khwai, Mababe and Sankoyo indicate that before tourism development in the Okavango Delta particularly before British colonization of Botswana, wildlife belonged to all members of the community, not the individual. As such, wildlife was governed by societal norms and customs which communities agreed upon and entrusted their leaders (i.e. chiefs) to implement these rules on behalf of their people. Interviews with key informants indicate that each member of the community was also expected to cooperate and act as a "game ranger", reporting any illegal hunting activities to the chief, and heavy fines were imposed on anyone caught hunting illegally. In this regard, community's collective ownership of wildlife resources ensured that no individual was able to maximize personal wildlife

gains to the detriment of communal resources like sable antelope, giraffe, thatching grass and other resources.

Key informants and elders in the three villages noted that community cooperation in the use of natural resources at Khwai, Mababe and Sankoyo was affected by the commercialization and centralization of resources particularly wildlife during British colonial rule of Botswana and in the first years after Botswana's independence in 1966. As a result, respondents noted that the decline of sable and giraffe populations might have begun during British rule or in the first years after independence. These results were partly confirmed by the Central Statistic Office (2005) which notes that the sable antelope is one of the most sought species by trophy hunters in the Okavango Delta. Respondents at Khwai, Mababe and Sankoyo therefore noted that the introduction of CBNRM in their villages might be one way of restoring custodianship of resources like sable antelope, giraffe and thatching grass to communities in order to achieve conservation.

To determine changes in the use of sable antelope, giraffes and thatching grass, households were asked to state what they consider to be the present use of these species found in their local areas. Results in table 4.3 show that for sable, 1.1% noted meat, 92.2% noted tourist attraction and 6.7% said it has no use in their households. For giraffe, 3.3% noted meat, 4.4% noted skins used as mates and 92.2% noted that it is used as tourist attraction in their concession area (Controlled Hunting Area). For grass, 73.3% noted that the grass is important for thatching their huts and making fencing enclosure in front of their huts to serve as windbreakers. A total of 26.7% noted that thatching grass is important in that it is sold to safari lodges.

Table 4.3: Present use of sable, giraffe and thatching grass

Species	Meat/Thatching	Skins	Tourist Attraction	No Use
Sable	1.1%	0	92.2%	6.7%
Giraffe	3.3%	4.4%	92.2%	0
Grass	73.3%	0	26.7%	0

Results in Table 4.3 suggest that the majority of the people now view the sable and giraffe as important tourist attractions in their local area. As a result, there has been a shift in the primary value placed on these species from subsistence use to tourism assets purposes. In addition, the hunting of sable antelope and giraffe has been suspended and the use of these species is limited to photographic tourism purposes because government and communities assume the species are on decline. Communities of Khwai, Mababe and Sankoyo have thus given up subsistence hunting of sable antelopes and giraffes in exchange for benefits from photographic tourism development. Photographic tourism does not encourage wildlife take-off hence can led to an increase in wildlife populations in the area. These sentiments were expressed by the Mababe Trust Manager at a recent conference organized by Conservation International when he noted, “At Mababe, we want to do away with safari hunting. Give us three more years and we will do away with safari hunting and concentrate on photographic tourism”. A Community Escort Guide at Sankoyo noted, “Before CBNRM, we hunted wildlife and eat meat just like lions. That was not good. It led to wildlife decline”. Even though lions do not hunt in an exploitative way as this comment seem to imply, these results suggest that there has been change in wildlife use from an exploitative system of hunting as shown by the words, “...we hunted wildlife and eat meat just like lions...” to a CBNRM

approach which encourages conservation. The desire to shift from safari hunting to photographic tourism was observed in the three villages particularly with interviews with Community Escort Guides. Collective action and the use of sable antelope and giraffes for photographic tourism purposes is therefore one of the ways that communities of Khwai, Mababe and Sankoyo use to achieve conservation.

4.4.2 Impact of trust, networking and local institutions on conservation

The ability of the Khwai, Mababe and Sankoyo communities to have local institutions which can enforce community conservation rules and form networks with related government agencies such as the Department of Wildlife and National Parks (DWNP) and the Agricultural Resource Board (ARB) was assessed in this study. Results indicate that people in the three communities have formed Community Based Organizations (CBOs) or Trust to enable them to benefit from tourism development and participate in resource management. Constitutions of Trust from respective villages indicate that all residents of over 18 years of age free to apply for membership of the Trust. Practically, almost all the adult population in each of the three villages was found to be active members of Trust in their villages. Members of Trusts have powers to elect representatives (leaders) to the Board of Trustees or to be elected into such Boards. The Board of Trustee is the representative body elected by the community to manage activities of Trusts on behalf of all members. Except on emergence, members are expected to attend scheduled quarterly general meetings to discuss issues of their participation in tourism development and wildlife management. It is in these meetings

that important and collective decisions on local participation on conservation and tourism development are made. These decisions are considered binding to all members even if they were not in the meeting since a quorum would have been reached to make the meeting legal. These results suggest that communities of Khwai, Mababe and Sankoyo have developed trust between each other such that they are able to agree on the formation of local institutions that enforce their rules and network with DWNP and ARB to achieve conservation in their local area. These results therefore confirm Grootaert (2001) arguments that one of the indicators of social capital is the existence of local associations which provides membership to particular communities so as to enable them participate in development projects to achieve desired goals.

Interviews with households and community leaders at Khwai, Mababe and Sankoyo suggest that Trusts have made it possible for communities to network with the Department of Wildlife and National Parks (DWNP) on issues of wildlife conservation not only for sable antelope and giraffe but for other wildlife species as well. For example, Trusts network with DWNP on the training of Community Escort Guides. Community Escort Guides are community rangers and their main role is to enforce community conservation agreements. Interviews with Community Escort Guides at Khwai, DWNP officers at North Gate (Moremi Game Reserve) and the Councilor of Khwai revealed the hostility that used to exist between the community and DWNP officials in 1998 has since been reduced such that the two now work together particularly in sharing of equipment like vehicles and sharing conservation information. The communities of Khwai, Mababe and Sankoyo were also found to be networking

with DWNP on determining wildlife quotas and the suspension in the hunting of declining species such as giraffes and sable antelope. Communities in the three villages were found to be collaborating with the Agricultural Resource Board in the harvesting of thatching grass when it is dry in the winter season. Trusts have also made communities to be able to network with Tawana Land Board which has made land accessible to them through concession areas known as CHAs for tourism development and conservation. Through Trusts, communities have also network with the Department of Tourism on issues of licenses. Trusts through the Board of Trustees have also made it possible for joint venture partnerships between communities and tourism companies. Through joint venture partnerships, Trusts have been able to rent their concession areas to safari companies, sell their wildlife quotas to safari companies and in turn safari companies employ people from these communities in their hunting and photographic tourism except if these communities do not have the necessary skills.

The appreciation of the role of Trust in community development and conservation was illustrated by a 47 year old woman at Sankoyo when she said, “Our Trust is doing a lot for us more than what government does. It has improved our well-being and the development of our village”. At Mababe, the former chairperson of the Trust noted, “Ever since there was a Trust in our village, people’s lives have improved. People are able to build houses and send their children to school”. At Khwai, an elderly woman during focused group discussion noted, “Before there was a Trust in our village, we starved, poverty was high. We now have a Trust and our kids now work and bring income home”. In a similar note, communities made statements towards their Trust

being an institution capable of achieving conservation in their concession areas. For example, a 25 year old man at Mababe noted, “CBNRM is a good idea because our Trust teaches us about conservation”. At Khwai, an elderly man during a group discussion noted, “CBNRM promotes conservation. Before we had a Trust, we harvested resources freely, now we follow the rules set by our Trust. We harvest thatching grass when it is dry and after the chief has declared the harvesting season”. These comments suggest that communities at Khwai, Sankoyo and Mababe through their respective Trusts participate in wildlife-based tourism development and derive economic benefits from it. In return, communities see the need to conserve resources because tourism development relies on it. The link between species and tourism was rightly expressed by a Village Development Committee member at Mababe who noted, CBNRM taught us the value of wildlife”. This comment suggests that the reciprocity between wildlife benefits and conservation at a community level in the three villages. Therefore, collective action in tourism development and conservation not only for sable antelopes, giraffes, thatching grass but also for all the natural resources is necessary to achieve conservation in the Okavango Delta.

4.4.3 Community escort guides and conservation

The ability of Khwai, Mababe and Sankoyo to enforce conservation rules in their concession areas and the extent at which community members participate in decision making regarding the conservation of sable antelope, giraffes and thatching grass was assessed in this research. Interviews with community leaders and households at Khwai,

Mababe and Sankoyo indicate that their respective communities participate in the decision making process on resource management. Respondents noted that they have been able to do so through their respective membership in CBOs and Trust which holds public meetings to make decisions on conservation. One of these main decisions which demonstrate a collective decision making approach was that of employing their own people as Community Escort Guides (CEGs) to enforce community conservation rules in their respective concession areas. CEGs can be described as “community rangers” since their main job is to enforce conservation regulations on behalf of their communities in respective concession areas. The trust and networking process that now exists between communities and government has resulted in CEGs being trained by the Department of Wildlife and National Parks (DWNP). CEGs monitor safari hunting activities and ensure that all hunting in the community CHA is conducted within the laws of Botswana. The CBNRM coordinator in DWNP (Maun) noted that CEGs are to ensure that all the hunting is confined to the respective CHAs. CEGs record all kills or wounded animals, monitor illegal wildlife off takes and report any illegal hunting to Botswana Police Force and DWNP. They also make sure that all community members and hunters observe the suspension in the hunting of species like giraffes and sable antelope in concession areas.

In photographic areas, CEGs ensure that safaris are conducted within the correct zone of the CHA and that photographic activities have minimal impacts on the Okavango Delta by regulating waste disposal, off-road driving and many other environmental harmful activities. Interviews with CEGs at Khwai showed that most of them were not appreciative of self-drive tourists who they blamed for creating illegal

roads and camping even in areas not designated for camping in their local CHA. They blamed this problem on government policy which allows free movements of self-drive tourists between Chobe National Park and Moremi Game Reserve of which their CHA forms a link between the two protected areas. CEGs conduct routine patrols and anti-illegal hunting patrols and wildlife resource monitoring patrols in their CHAs. As such, they ensure that no hunting of species is carried out in photographic areas.

When asked to describe whether the CEGs are effective in ensuring rules on the harvesting of thatching grass or hunting of sable antelope and giraffe, the Chairperson of the Sankoyo Trust together with several households which were interviewed noted that they were effective in making their communities observe conservation regulations agreed upon by all members of the community. Failure to observe the law empowers CEG to arrest and over the culprit to the Botswana Police Service. At Sankoyo, an incident which household could remember was that of the former chairperson of the Board of Trustees. The chairperson was involved in killing a buffalo without a license. CEG arrested him, confiscated his gun, vehicle and the meat. He was then handed over to the police for prosecution. The community also agreed to suspend him from deriving benefits from the Trust which other villagers enjoy until such a time that an assessment is made and he is found having redeemed himself to receive the benefits. The chief of Sankoyo also mentioned of an incident where a safari hunter killed a collared leopard. Animals that are collared are considered to be under research monitoring and should not be killed. CEGs arrested the hunter and handed him over to the police for prosecution.

At Khwai, interviews with CEGs revealed that a recent incident in their CHA was that of a safari hunter who shot an elephant but failed to kill it, the elephant was only wounded and it run away. The safari operator who brought the hunter found a helicopter and killed a different elephant. CEGs were brought in and they arrested both the hunter and the operator and handed them over to the police. The two were made to pay some fines. Even though the examples given are not about sable antelope and giraffes, they indicate areas where CEGs have been effective in promoting conservation in their CHAs. These results suggest that when communities are involved in the decision making about conservation and in the implementation of their decisions. Community punishment of law offenders through the suspension of tourism benefits also suggests that local community institutions of conservation are effective and have the potential to restrain the few deviants in society that often fail to observe agreed upon community decisions. McNeely (1993) argues that local people should were possible administer the enforcement of the law. The case of CEGs at Khwai, Mababe and Sankoyo suggests that communities are now able to enforce community conservation practices not only to conserve the sable antelope, giraffe, and thatching grass but also for other natural resources found in their concession areas.

4.4.4 The wildlife quota system

The wildlife quota system is one of the pillars behind the success of tourism development in achieving conservation at Sankoyo, Khwai and Mababe villages. Annual wildlife quotas are decided after aerial surveys of wildlife populations are done

every year. As a result, the number allocated to a community for hunting purposes is determined by the number of species counted in the respective community CHA in a particular year. Because of the networking which exists between the Department of Wildlife and National Parks and communities of Khwai, Mababe and Sankoyo through their Trusts, the giraffe and sable antelope have not been allocated for hunting for some time because their numbers are considered too small. Household interviews indicate that the suspension in hunting giraffes and sable antelope has been accepted in all the three villages. This is perhaps one indicator on the willingness of Khwai, Mababe and Sankoyo residents to contribute to conservation. The wildlife quota system is selective in nature hence indiscriminate hunting and killing of wildlife which communities did before tourism was introduced in their areas is no longer carried out as shown by comments from respondents later in this section.

The networking and mutual trust that exist between DWNP and communities has made it possible for wildlife quotas to be decided. Grootaert (2001) argues that where social capital is better developed especially trust in government by communities and networking between the two groups, it is possible to solve resource degradation and achieve conservation. The wildlife quota system between communities of Khwai, Mababe and Sankoyo and the Department of Wildlife and National Parks which gives quotas shows networking between the two groups to achieve conservation in community wildlife concession areas.

Community collective action to achieve conservation of resources at Khwai, Mababe and Sankoyo can also be illustrated by the appreciation of communities to

suspend the Special Game License (SGL) in favor of the wildlife quota system. The SGL was issued to citizens of Botswana living in wildlife areas and depended principally on hunting and gathering to sustain their livelihoods. This license was free and meant for subsistence hunting only. Holders were not permitted to sell their license or meat of the animals killed in respect to the license. The SGL had a species list which holders were suppose to make a mark after killing an animal and give results of the Department of Wildlife and National Parks who had the responsibility of monitoring wildlife populations. However, Central Statistics Office (2005) notes that some of the license holders did not mark the list after killing the animal. The Central Statistics Office (2005) notes that license holders who did not mark their lists did so in order to use the license over and over again before DWNP finds out. As such some holders hunted more than their licenses allowed. Therefore, it was not easy to monitor the number of animals hunted by species. The SGL thus contributed to over harvesting resource decline hence the license was suspended to usher in the wildlife quota system which is acceptable to communities at Sankoyo, Mababe and Khwai. Rejecting an exploitative system to resource use and accepting a system that specifies the number and type of wildlife to be hunting in an area is a conservation practice desirable in resource declining areas like the Okavango Delta.

Some of the community comments at Khwai, Mababe and Sankoyo made in favor of the wildlife quota system include: “if you ask us to return to the use of Special Game License, we would refuse because you cannot do much with it except for meat. It cannot give you money to buy food” (old woman at Sankoyo). The Councilor for Khwai

noted, “the quota system is the best when compared with the Special Game License. We hunted freely in the past and it was not good”. A Community Escort Guide at Sankoyo noted, “Before CBNRM, people were issued with the hunting licenses (i.e. Special Game License). However, they mostly exceeded the number of animals they were allowed to hunt by the license. They would hunt as many animals as possible until they were arrested. These days, people understand the value of wildlife and tourism, so they do not do that anymore”. He continued to say, “we resisted DWNP and its hunting laws because we did not understand the rules and why we should follow them. That is why we exceeded the limit given in our licenses. We now understand”. These comments suggest that communities did not appreciate top-down approaches to conservation like the Special Game License. As a result, they resented conventional approaches since most of them were made without community involvement. The absence of communities in the decision making process thus contributed to resource decline since communities felt not obliged to observe such laws. However, bottom-up approaches where collective community action is recognized through CBNRM as is the case with the wildlife quota is acceptable by communities and it has potential to achieve conservation of species such as sable antelope, giraffes and thatching grass.

Collective action by communities of Khwai, Mababe and Sankoyo has made it possible for them to form networks with government to achieve conservation. Networking between government and the community has resulted in land and natural resources like sable antelope, giraffes, thatching grass and other resources in CHAs being decentralized to rural communities like those of Khwai, Mababe and Sankoyo for management and

tourism development purposes through the wildlife quota system. These communities are therefore having access to land which they co-manage land with government agencies such as Tawana Land Board and also co-manage wildlife resources with agencies such as the DWNP. Access to land and its resources to communities mean that resource management is now effectively regulated locally, whereas in the past, these communities resented top-down wildlife management mandates and engaged in the illegal harvesting of the resources which caused degradation. Accessibility of land and its resources to communities of Khwai, Mababe and Sankoyo increases chances of conservation in areas under community jurisdiction.

4.4.5 Sable antelope and giraffe populations

One of the goals of CBNRM is that when communities derive socio-economic benefits from tourism development, there should use wildlife resources wisely such that wildlife populations remain healthy. This means enhanced social capital and tourism development at Khwai, Mababe and Sankoyo should translate into increased wildlife populations in community areas. The sable antelope is one of the species which is much sought after by trophy hunters (CSO, 2005). Interviews at Khwai, Mababe and Sankoyo with subsistence hunters indicate that giraffes are easy to hunt. Residents assume the decline in giraffe and sable populations began before tourism development became the dominant economic activity in the Okavango Delta, that is, during the colonial and Special Game License eras. The decline led to the suspension in hunting of these species not only in Okavango Delta but also in other parts of Botswana.

Households at Sankoyo, Mababe and Khwai reported that they see a giraffe almost daily in their surrounding villages. As such, household perceptions are that the giraffe population in their CHAs has since increased. In Sankoyo's NG/34, one of the wildlife management researchers described it as "a giraffe CHA", meaning that the giraffe population in that area has increased considerably ever since the suspension of its hunting. In addition, Arntzen et al (2003:64) also note, "at Sankoyo, groups of giraffes and impalas were sighted daily. This also applied at Khwai where giraffes were spotted daily". In this survey, giraffes were also observed whenever driving in the CHAs belonging to the people of Khwai, Mababe and Sankoyo. As a result, it can be assumed that the giraffe population in CHAs belonging to the people of Khwai, Mababe and Sankoyo might have increased respectively over the last 10 years of CBNRM in the area.

4.4.6 *Community conservation practices of thatching grass*

Results at Khwai, Mababe and Sankoyo indicate that communities have adopted rules and regulations on when and how to harvest thatching grass in an attempt to promote conservation in their respective CHAs. Some of the practices which households gave during interviews include: harvesting the grass when it is dry; harvesting the grass during the winter season after the chief has declared the harvesting season at the *kgotla*, allowing non-community members to harvest grass with a permit; and, harvesting that which is enough for use by the individual household. In relation to those who illegally harvest thatching grass in their CHA without permission of the Board of Trustees, several actions are taken against them. These include confiscating the grass from the

individual by the Community Escort Guides who in turn handover the culprit to the chief for prosecution. Depending on the seriousness of the case, the chief has powers to sentence the individual to a jail term or make guilty part pay a certain amount of money. This shows that mutual trust between community members and their ability to make decisions regarding conservation is effective in these three communities.

Mutual trust between community members is one of the main indicators of social capital (Grootaert, 2001) which can determine whether community projects succeed or fail. In this study mutual trust enables collective action by community members to agree and participate in the conservation of thatching grass. As such, these results show that at Khwai, Mababe and Sankoyo, community trust and collective action are possible due to enhanced social capital which has been made possible through CBNRM or tourism development. This in the process has facilitated the development conservation ethics and regulations in the three communities to be implemented in their respective concession areas (or CHAs).

4.4.7 The low levels of illegal hunting

Collective action by communities of Khwai, Mababe and Sankoyo and the mutual trust that now exists between communities and government has resulted in low rates of illegal hunting in community CHAs. Data from the Department of Wildlife and National Parks indicate that illegal hunting rates in CBNRM areas has been found to be lower than in CBNRM areas when compared to non-CBNRM areas (Table 4.4). Informal interviews with DWNP officials confirmed that illegal hunting in CBNRM

areas has decreased when compared to pre-CBNRM time. DWNP officials noted that illegal hunting is a problem in non-CBNRM areas.

Table 4.4 Reported cases of illegal hunting in the Okavango Delta

Area	1998	1999	2001	2002	2003	2004	2005	2006
CBNRM areas	4	0	0	0	1	2	2	1
Non-CBNRM areas	23	9	12	13	12	12	10	5
Total	27	9	12	13	13	15	12	6

Source: Arntzen et al (2003), DWNP Annual Illegal Hunting Records (1998-2006)

The low levels of illegal hunting in CBNRM areas are critical for effective wildlife conservation. Interviews at household level at Khwai, Mababe and Sankoyo also indicated that illegal hunting reports in their villages have gone down when compared to the period before CBNRM started operating in their area. The reduction in illegal wildlife take-off in CBNRM areas suggests a positive relationship between tourism development and collective action in conservation. That is, when local communities derive economic benefits from tourism development in their area, they begin putting a higher economic value on natural resources around them and become obliged to conserve them. This therefore confirms claims by Mwenya *et al* (1991) who argue that successful wildlife conservation is an issue of “who owns wildlife” and “who should manage it”. If local people view wildlife resources as “theirs” because they realize the benefits of “owning” wildlife resources, and understand that wildlife management needs to be a partnership between them and the government, there is a higher potential for them to conserve wildlife species in their areas.

4.4.8 Community monitoring of wildlife and thatching grass uses

Collective action by communities at Khwai, Mababe and Khwai is further shown by resource monitoring the availability of particular species in their local areas. This is done because these communities have taken the responsibility and custodianship of resources in their CHAs. Networking with the Department of Wildlife and National Parks has resulted in the development of a monitoring program known as Management Oriented Monitoring system (MOMS) and is implemented in respective CHAs by Community Escort Guides. Management Oriented Monitoring system is a monitoring approach which deviates from the convention of external scientists or Biologist being responsible for monitoring and collecting data but allows communities to monitor resources on their own in their CHAs. However, the DWNP technical support team facilitates workshops for the general community members, Board of Trustees and Community Escort Guides (CEGs) in these villages to orientate them on the guiding principles of Management Oriented Monitoring system. In these workshops some key issues/areas that local communities feel should be monitored were identified. During fieldwork, some of the CEGs were observed carrying the Management Oriented Monitoring system record book where they record the number of animals they come across and where they saw them in the CHA. While, Management Oriented Monitoring system is only a year old in the three villages of this study hence it's too early to analyse its effectiveness. It has long-term implications on determining the wildlife quota or

providing data on the recuperation of giraffe and sable antelopes in respective CHAs as well as determines resource harvesting like thatching grass.

4.5 Conclusion

Communities of Khwai, Mababe and Sankoyo have a long history of interaction with wildlife resources in the Okavango Delta. In pre-colonial Botswana, wildlife resources like giraffe and sable were mostly hunted for subsistence purposes at household level. Grass was harvested for thatching. There were traditional norms and rules that communities observed in use of resources. Everyone was expected to observe these rules particularly those like harvesting thatching grass when it dry, hunting old males, not hunting breeding animals and sanctioning of those who hunted illegally. Chiefs acted as custodians of resources for their communities. Collective action was by then high since there were local institutions and customs that ensured the wise use of resources. The existence of local institutions like the *kgotla* headed by the chief and traditional customs in resource use resulted in improved livelihoods and conservation at Khwai, Mababe and Sankoyo villages. This shows that collective action in traditional Botswana in as far as resource management was key to achieving conservation. Collective action in resource conservation was affected by British colonization of Botswana. Conventional approaches to resource use were adopted by the post-colonial government of Botswana hence resource decline continued to be a problem. The CSO (2005) argues that most trophy hunters like the sable antelope. Interviews with community elderly people at Khwai, Mababe and Sankoyo suggest that the decline of

sable antelope began during colonization of Botswana. Resource decline in Botswana thus indicate that the exclusion of community participation in resource management is detrimental to conservation. In the mid-1990s, Community-Based Natural Resource Management (CBNRM) program has been introduced in Botswana as a means to restore collective action and custodian of resources to local communities. This is assumed will result in conservation of resources.

Results in this study suggest that communities of Khwai, Mababe and Sankoyo recognized the value of collective action through the CBNRM program. In enhancing mutual trust, networking and reciprocity to achieve conservation, these communities have formed Community-Based Organizations or Trust. Through Trust, communities of Khwai, Mababe and Sankoyo have adopted practices to achieve conservation of sable antelope, giraffes, thatching grass and other resources in their concession areas. These practices include harvesting of thatching grass when it is dry, the suspension in the hunting of giraffes and sable antelope, community policing of resources through Community Escort Guides (CEGs) and the monitoring of wildlife populations and the availability of grass. These communities have also formed networks with government in the form of training CEGs, availing wildlife quotas and CHAs as some of the methods to conserve resources. All measures indicate the extent at which tourism development and collective action are critical in achieving the conservation of sable antelope, giraffes, and thatching grass and of other natural resources in their concession areas as well. Results in this study suggest that communities of Khwai, Sankoyo and Mababe recognize the link between conservation and tourism development. This is because their livelihoods

solely depend on tourism development. The sustainability of tourism in their communities lies in the conservation of natural resources like sable antelope, giraffes, thatching grass and other resources in their areas. The recognition of this link makes communities feel obliged to promote conservation in concession areas in order to achieve sustainability in their livelihoods.

Ethnographic data in this study indicate that CBNRM has a potential to positive make a contribution to conservation. This suggests that critiques of community conservation and development programs (e.g. Brandon 1998; Oates 1999; Terborgh 1999) are rather simplistic and misplaced. These scholars argue that community conservation and development programs are failing to achieve their objectives of rural development and conservation. As a result, these scholars call for the return to authoritarian and centralized forms of resource management. This study shows that CBNRM at Khwai, Mababe and Sankoyo is successful in achieving improvement livelihoods and conservation. As such it is a fallacy to argue that community conservation and development programs are failing to achieve their goals. It is also erroneous to generalize and conclude that community conservation and development projects are failing to achieve their objectives. Wilshusen et al (2002) describe arguments towards the government authoritarian practices of resource management being made in isolation of the political, social and economic factors in particular areas.

The case of CBNRM at Khwai, Mababe and Sankoyo is, therefore, a demonstration that communities living in rich biodiversity areas are collectively able to make a contribution to the conservation of natural resources around on condition that

they are involved in the decision making process of these resources and are able to drive economic benefits from them. That is, if benefits exceed costs. In this regard, tourism development at Khwai, Mababe and Sankoyo which has significant economic benefits can thus be used as a tool to achieve conservation in rich biodiversity areas like the Okavango Delta.

5. SUMMARY AND CONCLUSION

5.1 Summary

5.1.1 *Effects of tourism development on rural livelihoods*

The first objective of this study was to analyze the effects of tourism development on rural livelihoods at Sankoyo, Mababe and Khwai in the Okavango Delta, Botswana. The goal of this objective was to understand whether tourism development through CBNRM can be used as a tool to achieve improved livelihoods in the Okavango Delta. The study was informed by the sustainable livelihoods framework.

This objective made use of both primary and secondary data sources. Primary data sources involved face-to-face interviews with 30 household representatives in each of the three study villages. It also involved unstructured interviews with key informants like elders in each village, chiefs, Village Development Committee members, Board of Trustees members, Trust Managers, conservation biologists and researchers in the Okavango Delta. Secondary data sources were used to obtain information about the effects of tourism development specifically CBNRM in the three villages. These sources included research reports; policy documents and journal articles on CBNRM, and, annual reports of the CBNRM projects at Khwai, Mababe and Sankoyo, theses and dissertations on wildlife-based tourism in the Okavango Delta.

Indicators that were used to measure the effects of tourism development on livelihoods included but were not limited to: increased household income from tourism, increased employment opportunities for households in tourism activities, tourism related livelihood diversity within a community, tourism infrastructure development,

reinvestment of tourism revenue to other tourism related activities and scholarships for students. Interview data from households, key informants and group discussions were summarized to identify patterns on the effects of tourism and CBNRM on livelihoods in the study villages.

Results show that tourism development at Khwai, Mababe and Sankoyo has both positive and negative effects on rural livelihoods. These communities have joint venture partnerships largely with foreign tourism companies. Joint venture partnerships are assumed by communities to be critical in that they enable them to acquire entrepreneurship and marketing skills in the tourism business. However, results in this study indicate that much of the management and skilled positions such as accountants, marketing, managers and professional guiding were found to be occupied by foreigners or people not from the three communities. The jobs that people of Khwai, Mababe and Sankoyo do are unskilled in nature. These include cleaning in tourism facilities, security, scullery (washing dishes in kitchens), doing laundry, animal tracking and many other related jobs that need manual labor. In addition, these jobs are seasonal particularly in one is employed in safari hunting. Safari hunting runs for six months each year and the other six months there is no business or jobs are suspended. The lack of entrepreneurship skills at Khwai, Mababe and Sankoyo make tourism a foreign controlled industry despite the benefits that communities currently derive from tourism development in the Okavango Delta. Foreign ownership and control of the tourism industry in the Okavango Delta suggests that is revenue repatriation from the Okavango Delta and Botswana to developed countries where these companies originate. The

reliance of communities on foreign companies particularly through joint venture partnerships can be addressed if skill development in key positions such as marketing, management, accounting and professional guiding are given priority by the three communities. At present, most of the community tourism workers either have no education or have achieved the Botswana Junior Secondary Education Certificate (an equivalent to Junior High Education in Texas). This suggests that skill development should focus on those with secondary education for training in management, accounting, marketing and professional guiding position in the three communities.

An analysis of the positive effects of tourism development to livelihoods using the sustainable livelihoods framework indicates that CBNRM has considerably improved livelihoods at Mababe, Khwai and Sankoyo villages. This is particularly so when considering socio-economic benefits such the creation of employment opportunities, income generation, provision of social services like water reticulation, availability of game meat, scholarship of students in hospitality courses, acquisition of skills in the tourism business and the establishment of facilities like recreation halls and sponsorship of local sporting activities in these three communities. Results have shown that livelihoods were poor before the introduction of the CBNRM project at Khwai, Mababe and Sankoyo. Local employment opportunities did not exist before CBNRM and people migrated to camps in the Okavango Delta, Maun and other parts of Botswana for employment opportunities. This has since changed since CBNRM has become the main employment sector and income generating mechanism at Khwai, Mababe and Sankoyo. Given the small population size of these communities, these changes are significant, as

most households now derive benefits from tourism development. These benefits do not only show that livelihoods at Khwai, Mababe and Sankoyo have improved but also demonstrates the effectiveness of tourism development as a tool that can be used to promote rural development and livelihoods in the Okavango Delta. In other words, the negative effects of tourism (costs) are exceeded by the benefits which communities derive from tourism development in their respective area. This further shows that where social capital within a community is greater, there are often more benefits to livelihoods than there are negative effects.

This study also found that tourism development at Khwai, Mababe and Sankoyo has negative effects on livelihoods. However, most households appear to ignore the negative effects because at present, the positive effects of tourism development appear to be very juicy at both the household and community levels. Both individual, household and community respondents pointed out to one direction, that is, “tourism has improved our well-being”. As such communities support tourism development because of the positive aspect it currently appears to have ignoring the long-term negative effects. Long-term effects were found to include the fact tourism development was found to be causing livelihood changes at a household and community levels development at Khwai, Mababe and Sankoyo villages. The CBNRM program is emerging as the single most important livelihood option in most households in the three communities. In this regard, tourism is causing either a decline or abandonment of traditional livelihood options like subsistence hunting, the collection of rangeland products, crop and livestock farming which sustained these communities for decades in the Okavango Delta. This confirms

claims by Harrison (1992) who argues that when there is modernization in a society, there is a shift from agriculture to industry and the central role of money and the money market. The shift from hunting, gathering and agricultural production to CBNRM influenced livelihoods at Khwai, Mababe and Sankoyo contradicts the notions that remote communities pursue more than one livelihood options to sustain their livelihoods (Kgathi et al, 2004).

Relying on a single livelihood option is, however, problematic because tourism in the Okavango Delta is seasonal as already pointed out. As a result, the months when tourism is either low or temporarily closed, some community members are often left without employment and income to sustain their livelihoods. This creates a rural-urban migration from Mababe, Khwai and Sankoyo to Maun. Rural-urban migration increase pressure on resources in urban centers and often results in unemployment and crime. These movements are reversed during the tourism peak season when employment opportunities become available in CBNRM enterprises. At Mababe, people who do not migrate to Maun accuse those who do migrate of lacking commitment to community development. These people have suggested that those who migrate should not be allowed to derive benefits from CBNRM in the area. In this regard, tourism development, even though it has led to improved livelihoods at Khwai, Mababe and Sankoyo, it also is causing internal conflicts especially at Mababe. Findings in this research suggest that the high level of community trust and collective action which Mababe has through their Community-Based Organization indicate that the benefits and internal conflict is still manageable. However, migrations to Maun also indicate that

tourism development is failing to form linkages with the domestic economy or have multiplier effects in the form of small-scale enterprises that would otherwise absorb community members during the tourism low season.

The conclusion made in this objective is that even though CBNRM has problems that affect its development (e.g. the 65% of the profit from CBNRM projects to be deposited into government coffers), it is currently achieving its goal of improved livelihoods at Khwai, Sankoyo and Mababe. These findings contradict claims by some scholars (e.g. Brandon 1998, Diamond 2003, Krech 2007) that community conservation and development projects are failing to achieve rural development. The study concludes that a return to centralized and authoritarian methods of resource management means a return to rural poverty and resource conflicts that contributes to the degradation of resources. As such, it is erroneous to generalize and conclude that community conservation and development projects are failing to achieve their objectives of conservation and development without considering the socio-economic and political setting of each project (i.e. the one size fits all approach about community conservation and development programs is misleading). Since benefits from CBNRM at Khwai, Sankoyo and Mababe are significantly high and sustain livelihoods in the area and the level of social capital has been enhanced, then there is a potential that these communities will conserve natural resources upon which CBNRM and tourism development relies. As a result, this study concludes that community conservation and development programs are one of the approaches that can contribute to improved livelihood and conservation in rich biodiversity areas like the Okavango Delta.

5.1.2 Local attitudes toward tourism development and conservation

The second objective of this study was to analyze household and community attitudes towards tourism development and biodiversity conservation in the Okavango Delta, Botswana. Attention was paid to declining species such as sable antelope, giraffe and thatching grass. These species were purposively selected because there are some of the species declared to be on decline by government. This objective was informed by the CBNRM paradigm which heavily borrows its principles from common property theory. The CBNRM paradigm argues that when communities derive economic benefits from natural resources around them, it is likely that they would develop positive attitudes and become obliged to conserve resources in their local environment (Thakadu et al 2005; Twyman 2000). The rationale is that attitudes of local people largely determine whether tourism in the area is acceptable and can be used as a tool to achieve both conservation and improved livelihoods. The assumption is that residents should feel obliged to conserve natural resource upon which tourism development relies.

The study relied on data collected through ethnographic methods supplemented by secondary data sources. Primary data collection involved the use of a standardized questionnaire to conduct face-to-face interviews with 30 household representatives in each of the three study villages. A total of 90 interviews were conducted in the three villages. Primary data collection also involved unstructured interviews with key informants like elders in each village, chiefs, Village Development Committee members, Board of Trustees members, Trust Managers, conservation biologists and researchers in

the Okavango Delta. Secondary data sources on wildlife-based tourism involved materials such as research reports; policy documents and journal articles on CBNRM, and, annual reports of the CBNRM projects at Khwai, Mababe and Sankoyo, theses and dissertations on wildlife-based tourism in the Okavango Delta.

Indicators used to measure attitudes towards tourism development are: the value local people place in tourist visits to the Okavango Delta, the role local people have in resource management, the value local people place on local environment reserved for tourism development, and, benefits derived from wildlife resources (sable, giraffe and thatching grass). Indicators used to measure attitudes towards conservation are: the suspension of hunting until species like giraffe and sable recover, the controlled harvesting of thatching grass, funds generated from tourism being ploughed back to conservation, households especially children being taught conservation, and, the role of residents in resource management. Interview data from households, key informants and group discussions were summarized to find patterns of attitudes towards conservation and tourism development in the study communities.

Results suggests that the socio-economic benefits which communities of Khwai, Sankoyo and Mababe derive from CBNRM have partly increased their appreciation of the economic value of natural resources like sable antelope, giraffe and thatching grass. This appreciation has led to communities developing positive attitudes towards tourism development and conservation. However, results also point out that it is not only the economic benefits from tourism as widely shown in the literature (e.g. Walpole & Goodwin, 2001; Alexander, 2000; Sekhar, 2003; Weladji et al, 2003) that creates

conditions for positive attitudes towards tourism development and conservation. Other factors do influence attitudes and at Sankoyo, Khwai and Mababe, these factors were found to include: the existence of local institutions known as Trusts or Community-Based Organisations which are charged with the responsibility to ensure community participation in tourism development and enforce conservation ethics in respective CHAs; co-management of resources; accessibility to land (i.e. CHAs) and its resources for tourism purposes; the ability to make suggestions on how resources in their CHA should be used; and, the provision of community policing of resources. Communities make rules about wildlife use and decide on how they should use resources in their CHA during Annual General Meetings. Communities also have Community Escort Guides and the Board of Trustees to enforce rules about tourism development and conservation in their Controlled Hunting Areas. These results show that where social capital is higher within a local community in resource use, desired outcomes are derived, like better economic benefits from tourism. This in the process has led to the development of positive attitudes by residents towards both tourism and conservation of species.

The conclusion made in this objective is that the implementation of CBNRM at Khwai, Mababe and Sankoyo has resulted in the development of positive attitudes of communities towards tourism development and conservation. Positive attitudes by locals towards tourism development and conservation are stepping stones towards conservation of resources. Because of the enhanced social capital particularly trust, at Khwai, Mababe and Sankoyo, these communities have succeeded in participating in tourism development through the CBNRM program. As such, CBNRM has created a sense of

ownership and need for custodianship of natural resources by resident communities. In this sense, CBNRM serves as an appropriate tool for conservation and rural development. However, this study points out that this does not suggest that CBNRM is a panacea for all the conservation and poverty problems in the Okavango Delta. It has its limitations like lower skills in tourism business by communities. Its success has so far been localized to specific communities like those of Khwai, Mababe and Sankoyo villages. In this regard, CBNRM should be viewed as a small piece in the bigger picture for achieving conservation and improved livelihoods ideals in rich biodiversity areas like the Okavango Delta.

5.1.3 Effects of tourism development on biodiversity conservation

The third objective of this study was to analyze the effectiveness of tourism development in achieving biodiversity conservation in the Okavango Delta. Particular attention was paid to sable antelope, giraffe and thatching grass. The goal in this objective was that of establishing whether tourism development can be used as a tool to achieve conservation in the Okavango Delta. Social capital was used as a conceptual framework to inform the study.

This objective made use of ethnographic data sources supplemented by secondary data sources. Ethnographic data collection involved face-to-face interviews with using a standardized questionnaire with 30 household representatives in each of the three study communities. A total 90 interviews were conducted in the three villages. Ethnographic data collection also involved unstructured interviews with key informants

like elders in each village, chiefs, Village Development Committee members, Board of Trustees members, Trust Managers, conservation biologists and researchers in the Okavango Delta. Secondary data sources on wildlife-based tourism involved materials such as research reports; policy documents and journal articles on CBNRM, and, annual reports of the CBNRM projects at Khwai, Mababe and Sankoyo, theses and dissertations on wildlife-based tourism in the Okavango Delta.

Indicators that were used to measure the effects of tourism development on the conservation include: hunting/illegal hunting levels, increase in wildlife numbers (e.g. giraffe, sable antelope), local conservation practices in the harvesting of wildlife and thatching grass, returning funds generated from tourism into conservation of wildlife, plant and grass species. Indicators used to measure the impacts of local institutions, trust and networking included: existence of local associations, ability to have collective action, relationship between local people and government agencies like the Department of Wildlife National Parks and Agricultural Resource Board. Interview data from households, key informants and group discussions were summarized to identify patterns of the effects of tourism development on conservation in the study villages.

Results indicate that the CBNRM program at Khwai, Mababe and Sankoyo has re-introduced trust at a community level in resource use and conservation. As a result, the high level of social capital has led to conservation ethics and practices of resource use almost similar to those used before conventional approaches were introduced in the area. These include observing hunting seasons and harvesting thatching grass at specific seasons when it is dry (harvesting is done in winter). Communities have also returned to

selective hunting and using hunting quotas, which contribute to the conservation of these species. Communities shunned the Special Game Licence which they believed resulted in the over harvesting of wildlife resources. Community policing of resources through Community Escort Guides was also found to demonstrate commitment by the three villages to conservation. The commitment of the community to conservation is also shown by the community monitoring of resources through a program known as Management Oriented Monitoring System (MOMS). This, however, does not only suggest a restoration of some of the old conservation practices but also indicates the enhanced social capital and community commitment to conservation in their CHAs. In this regard, tourism development has resulted in the community's ability to recognize the higher value of resources in their area. Apparently, results suggest that communities recognize the link between conservation (e.g. of sable antelope, giraffe and thatching) and livelihoods in their area. As a result, illegal hunting in CBNRM areas is lower. The low level of illegal hunting is an indication of improved conservation practices at Khwai, Mababe and Sankoyo. In this regard, CBNRM has been able to achieve its goal of conservation in the Okavango Delta. This is partly possible because of the trust and cooperation on resource use that exists between individual communities in their respective Controlled Hunting Areas. Such cooperation also exists with government bodies such as the Department of Wildlife and National Parks and Agricultural Resource Board which are respectively charged with the responsibility of wildlife (e.g. sable antelope, giraffe) and rangeland resources (thatching grass) management in Botswana.

Related results indicate that the number of tourists visiting the Okavango Delta has been increasing in the last 10- 15 years creating a threat to the environment in community concession areas. For example, only 4,500 people visited the reserve in 1971 (DWNP, 1991), this number increased to just over 50,000 visitors in 2006 (DWNP, 2007). The increase in tourist numbers and tourism facilities in the Okavango Delta has been reported to be causing environmental problems such as: the creation of illegal roads that destroy the aesthetic beauty of the wetland; poor waste management (both liquid and solid); and, noise pollution created by tourists and vehicles. In this research, Community Escort Guides at Khwai blamed that self-drive tourists mainly from South Africa for creating illegal roads and camping illegally in their CHA. Self-drive tourists are reported for disposing waste anywhere particularly in areas where they camp illegally. Community Escort Guides accused government policy for the problem of self-drive tourists. This is because the policy allows free movements of self-drive tourists between Chobe National Park and Moremi Game Reserve of which their CHA forms a link between the two protected areas. Community Escort Guides conduct routine patrols and anti-illegal hunting patrols and wildlife resource monitoring patrols in their CHAs. Some of the safari hunting tourists in community areas are reported to be involved in illegal hunting. For example, interviews with the Sankoyo chief revealed that one of the hunters killed a collared leopard. Collared leopards are not supposed to be killed and they are preserved for hunting purposes. At Khwai, interviews with CEGs revealed that a recent incident in their CHA was that of a safari hunter who shot an elephant but failed to kill it, the elephant was only wounded and it run away. The safari operator who brought the

hunter found a helicopter and killed a different elephant. CEGs arrested the hunter and operator and handed them over to the police. The two were made to pay some fines.

The increase of tourists and tourism activities shows that tourism cause negative environmental problems in community conservation areas. While much in terms of environmental impacts caused by tourism development in community areas have not been adequately researched, existing problems obtained from interviews at Khwai, Mababe and Sankoyo suggests that these problems are manageable and are not affecting the tourism benefits these communities derive from CBNRM. That is, Community Escort Guides have been successful in addressing some of the problems such as the killing of elephants and leopards. However, networking with the Department of Wildlife and National Parks (DWNP) is necessary to address some of the illegal hunting caused by safari hunters since DWNP has the necessary resources such as choppers and vehicles to deal with the sophistication brought by illegal hunters. The problem caused by self-drive tourists can also be addressed through networking and the involvement of all stakeholders particularly government.

The conclusion made in this objective is that tourism especially CBNRM can be used as a tool to achieve conservation in the Okavango Delta and in other rich biodiversity areas in developing countries. This is because CBNRM has enhanced trust, an indicator of social capital, between all stakeholders at a community level, and also community trust of the government and the private sector that forms joint venture partnership with communities. However, this study recognizes that CBNRM is still at an infant stage of its development, as a result, it is not a panacea to all the conservation

problems that exists in the Okavango Delta. This is because of the inherent problem that still exists within CBNRM. One such problem is the proposed 65% deposit of the CBNRM profits to the government conservation fund. Through the CBNRM Policy of 2007, the Botswana Government requires communities involved in CBNRM to deposit 65% of annual profit into a government managed conservation fund. This came about because government felt that communities were mismanaging funds from tourism through CBNRM. Because of these problems in CBNRM, it might not be necessarily easy to see their results in conservation in the short-term or in the long term in some communities. The study concludes by stating that co-management of resources between local people and conventional managers and other stakeholders is critical in achieving conservation. This is, however, possible if stakeholders (i.e. rural communities, NGOs, private tourism sector and government) collaborate with each other. The symbiotic relationship or networking between stakeholders in conservation is a necessary ideal to be recognized by all those involved in biodiversity conservation in the Okavango Delta. As such, there is need to develop appropriate policies and strategies that accommodates all these stakeholders in conservation.

5.2 Key lessons learned

There are several lessons learnt in this study. However, key lessons learnt in include the following:

- a) Tourism development through the Community-Based Natural Resource Management (CBNRM) program is an effective tool that can be used to achieve

improved livelihoods by communities living in rich biodiversity areas of developing countries. However, for this goal to be achieved there should be decentralization of resources to local communities and social capital (e.g. relationship of trust, reciprocity and exchange, common rules, norms and sanctions, networking etc) should be enhanced as is the case at Khwai, Mababe and Sankoyo communities in the Okavango Delta. For example, poverty was reported to have been higher before CBNRM at Khwai, Mababe and Sankoyo. However, the reverse has been possible since the adoption of CBNRM in that livelihoods have since improved.

- b) Collective action and enhanced social capital at Khwai, Sankoyo and Mababe indicate that tourism development through the CBNRM program is an effective tool that can be used to achieve conservation in the Okavango Delta. This is possible in an environment where resources have been decentralized to rural communities. However, co-management of resources and networking between communities and stakeholders like government agencies (e.g. the Department of Wildlife and National Parks, Tawana Land Board, and Agricultural Resource Board) is critical since communities alone lack the necessary modern technology (i.e. equipment) and skills to meet the needs of conservation in the 21st century. In other words, tourism can be an effective tool to achieve conservation if local knowledge and skills are fused together with scientific knowledge and skills

which government agencies happen to possess particularly from conservation biologists and land use planners.

- c) The decentralization of natural resources to local communities and allowing them to derive economic benefits from these resources has the potential to reverse negative attitudes which local communities have towards tourism development and conservation. In most developing countries like Botswana, negative attitudes towards conservation began during European colonial rule and accelerated during the first decades of post-colonial rule. This is because new governments simply adopted colonial approaches like the centralization of resources and the exclusion of local groups from the decision making process. Local communities also had no access to resource use in their local areas. Decentralization of resources through programs like CBNRM thus returns custodianship of resources to remote communities. In the process, this creates a sense of ownership over resources by communities. If tourism benefits from these resources exceed costs as is the case at Sankoyo, Mababe and Khwai, local communities begin to link benefits that sustain their livelihoods and natural resources in their area. In doing so, they develop positive attitudes towards tourism development and conservation. Positive attitudes of local communities towards tourism development and conservation are the first building blocks towards achieving conservation of natural resources in rich biodiversity areas like the Okavango Delta.

- d) A tourism boom in rich biodiversity areas like in the Okavango Delta creates a rapid change in the socio-cultural and economic lives of local people. This can be illustrated by a collapse of traditional livelihoods options as tourism emerges as the single most important livelihood option. For example, at Khwai, Mababe and Sankoyo, tourism development caused a collapse of the collection of rangeland resources, subsistence hunting crop and livestock farming. In other words, there has been a modernization of livelihoods options and lifestyle where the local socio-economic life is now monetary driven (cash economy) like in western societies. However, reliance on tourism development alone as the main source of livelihood brings to question the sustainability of tourism development in remote areas. That is, tourism is a risky livelihood option to rely upon as a single option because it can be affected by a global socio-economic and political instability at any time. Although this study recommends diversification of the rural economies at Khwai, Mababe and Sankoyo into other economic sectors like buying of shares, investment into property development and small-scale enterprises like horticulture, general dealers and bakeries, the study observes that sustainability of tourism development in remote areas such as Sankoyo, Mababe and Khwai is a subject of further tourism research.
- e) The lack of local skills (e.g. marketing, accounting, management) in the tourism industry by communities such as those of Khwai, Mababe and Sankoyo contributes to the continued dependence of tourism in remote areas of developing

countries on tourism companies from developed countries. Therefore, until communities acquire the necessary entrepreneurship skills in the tourism business, tourism development in remote communities will for some time continue to be dominated by foreign companies who have the necessary skills and knowledge in tourism development. The joint venture partnership between communities and foreign companies is thus one of the approaches that communities can use to benefit from tourism development. This is likely to be the case until such a time when communities would have developed the necessary skills and knowledge to manage tourism enterprises to meet international standards on their own.

5.3 Conclusion

This research has established that communities of Khwai, Mababe and Sankoyo have a long tradition of interaction with wildlife resources in their local environment. In pre-colonial Botswana, these communities hunted wildlife resources like giraffe (*Giraffa camelopardalis*) and sable (*Hippotragus niger*) for meat and skins which they used for subsistence purposes. They also harvested *Cymbopogon excavatus* for thatching huts they lived in. Through social capital exemplified by trust at a community level, people were able to develop traditional norms and rules which all community members observed in the use of natural resources. For example, breeding animals were not hunted, hunting expeditions were controlled by the chief on behalf of his community, hunting targeted old male animals, and, after a hunt the community shared meat until the meat

was finished. Everyone was expected to observe these traditional customs and rules of resource use. Chiefs acted as custodians of resources in their communities.

The existence of traditional customs and local institutions like the *kgotla* (a village square where villagers meet to discuss issues of community development) headed by the chief in resource use often resulted in improved livelihoods and conservation. However, these were affected by the introduction of European trade and the subsequent colonization of Botswana by the British in 1885. That is, natural resources like wildlife became commodified and were harvested for the wildlife safari hunting industry. The centralization of wildlife resources by both the colonial and post-colonial governments caused resource conflicts and led to negative attitudes of communities of Khwai, Mababe and Sankoyo towards wildlife conservation. As a result, illegal hunting and over harvesting of wildlife resources emerged and this contributed to wildlife decline in the Okavango Delta. What emerge from this scenario is that social capital and the role of local customs and institutions of resource management were undermined by the commodification and centralized control of resources. Chiefs lost their power in resource management as their power was transferred to the central government. The centralization of resources excluded local communities from the decision making process on resource use in their local areas. As resource conflicts between local people and resource managers increased the failure of conventional approaches to achieve improved livelihoods and conservation in the Okavango Delta increased as well.

In post-colonial Botswana, resource degradation especially of wildlife such as sable antelope and giraffe led to a bottom-up approach in resource use known as the

Community-Based Natural Resource Management (CBNRM) program being adopted at Khwai, Mababe and Sankoyo in the late 1990s. The growth of international tourism in the Okavango Delta created a window of opportunity to implement this bottom-up approach in resource use amongst the local communities. Bottom-up approaches like the CBNRM program enhance social capital in a community and this often results in communities networking with other stakeholders like government agencies (e.g. Tawana Land Board, Agricultural Resource Board and the Department of Wildlife and National Parks). The community's enhanced social capital through CBNRM has led to decentralization of resources to rural communities.

The decentralization of natural resources at Khwai, Mababe and Sankoyo through the CBNRM program has led to these communities deriving economic benefits from safari hunting and photographic tourism activities. Such benefits include: the creation of employment opportunities, income generation, provision of social services like water reticulation, availability of game meat, scholarship of students in hospitality courses, acquisition of skills in the tourism business and the establishment of facilities like recreation halls and sponsorship of local sporting activities. Since local employment opportunities did not exist before CBNRM in these communities, people migrated to Maun or into safari camps in the Delta for employment opportunities. However, the reverse has been possible as people now migrate back to their communities for employment opportunities particularly in the tourism peak season. In this regard, tourism development through the CBNRM program has widened and augmented local livelihood options. With the small population sizes in the three villages, changes in livelihoods

activities particularly high employment opportunities and income accruing to communities, these benefits are significant. In addition, results indicate that most of the households now benefit from tourism development in their local environment. Results in this study have shown that livelihoods were worse of and poverty was higher before tourism development at Khwai, Mababe and Sankoyo villages. Based on the significant benefits these communities derive from tourism, the improved quality of life and livelihoods, it can be argued that CBNRM or tourism development is achieving the goal of improved livelihoods at Khwai, Mababe and Sankoyo. As such, tourism development can be used as a tool to achieve improved livelihoods in the Okavango Delta and in developing countries rich with biodiversity.

While tourism development can be credited for contributing to improved livelihoods at Khwai, Mababe and Sankoyo, it can also be blamed for several social changes. For example, tourism development in the three communities is emerging as the single most important livelihood option in many households. There is either a decline or an abandonment of traditional livelihood options such as subsistence hunting, the collection of rangelands products, crop and livestock farming in favor of tourism influenced livelihoods options. The dependency on tourism as the single livelihood option problematic because economic declines or failures in developed countries of North America, Europe, Australia and New Zealand where tourists who visit the Okavango Delta originate affects tourism development in the Okavango Delta. For example, there was a decline in tourist numbers in the Okavango Delta between 1999 and 2003 as a result of the following factors: the political instability in Zimbabwe, the

bombing of the World Trade Centre in the United States on 11th September 2001, the outbreak of SAR virus and that of the Iraq War in 2003 (Mbaiwa, 2005). This suggests that even though modernization of the economy at Khwai, Sankoyo and Mababe through tourism development currently appears lucrative, livelihoods that rely on CBNRM can be affected due to global socio-economic and political disturbances. As such, the rapid change in livelihoods activities at Khwai, Mababe and Sankoyo raises questions on issues of sustainable tourism development in the Okavango Delta. That is, in the event of a shock like September 11th, and the SAR virus or any political or economic instability in developed countries where most tourists that visit the Okavango Delta originate, how can CBNRM communities survive? In this regard, the sustainability of international tourism in remote areas of developing countries and its ability increase livelihood security in the long-term becomes questionable.

Despite the questionability of CBNRM and tourism development in remote areas like Mababe, Khwai and Sankoyo, studies (e.g. Ghamire, 2001; Mbaiwa et al, 2007) argue that dependence on international tourism is partly because governments in developing countries give a limited support to domestic tourism. This is because domestic and regional tourists have a low spending power when compared to tourists from developed countries. In this regard, tourism planning in developing countries follows a relatively unsustainable path of receiving wealthy foreign visitors from developed countries ignoring domestic and regional tourists who would otherwise increase prospects for sustainable tourism development in developing countries. Therefore, there is need for the change of attitudes on the part of governments in

developing countries to include a systematic planning and promotion of domestic tourism as well as the provision of the infrastructure and social facilities to meet the needs of domestic tourists. This means that the diversification of tourism development at Khwai, Mababe and Sankoyo should reduce dependence on international tourism and focus on the domestic and regional tourist market. This approach has the potential to promote sustainable tourism development in the Okavango Delta.

In addition, the sustainability of livelihoods at Khwai, Mababe and Sankoyo can be achieved by a diversification into the buying of shares at the stock market exchange, investment into property development and small-scale enterprises by communities. Investment into other income generating activities particularly small-scale enterprises, property development in urban centers like Maun as proposed by the Khwai Development Trust has the potential to sustain livelihoods in that villages even when tourism industry in the Okavango Delta can suffer from a shock. This shows that changes in livelihoods at Khwai, Mababe and Sankoyo and the vulnerability associated with dependence on tourism demonstrates that CBNRM is not the panacea to all the poverty and rural development problems found in rich biodiversity areas of developing countries like the Okavango Delta.

Sustainable tourism also becomes questionable in the three communities of Khwai, Mababe and Sankoyo in that tourism development in these villages and indeed in the entire Okavango Delta is controlled and dominated by foreign companies, foreign skills in management positions and imported food (Mbaiwa, 2005). As such, if CBNRM has not been able to develop local skills particularly in marketing, management,

professional guiding and apprenticeship in the last decade of its existence, then it implies that CBNRM has not yet achieved sustainable tourism in the Okavango Delta.

Dependency on foreign skills, food and companies results in the repatriation of revenue from destination areas like the Okavango Delta to foreign countries, presumably developed nations and little or no transfers of skills between tourism companies and local people as expected from joint venture partnerships. This therefore creates resentment on local communities and antagonisms between local people and foreign companies (Mbaiwa, 2005). All these factors are indicators of unsustainable tourism development in a destination area.

This study recognize that the high level of marketing of the Okavango Delta by the Botswana Tourism Board and private tourism companies. As a result, it is safe to assume that tourism and tourist numbers will continue to grow in the next 10-15 years. This means that skill development on the part of local communities of Khwai, mababe and Sankoyo needs priority in order to conform to the ideals sustainable tourism development and sustainable livelihoods. As a result, joint venture partnerships appear to be the viable option that communities can pursue in their CBNRM projects until they are equipped with the necessary entrepreneurship skills and capability to manage tourism enterprises on their own. This means that tourism development in the Okavango Delta will continue to depend on skills from other countries particularly South Africa and developed countries of Europe, North America and Australia.

Attitudes of local communities towards tourism development and conservation are the first building blocks in achieving conservation in rich biodiversity areas like the

Okavango Delta. That is, attitudes of communities living in rich biodiversity areas towards tourism development and conservation determine whether resources in that area can be conserved or not by resident communities. Results have shown that enhanced social capital and decentralization of natural resources at Khwai, Mababe and Sankoyo enabled these communities to have a role in management of resources around them. In addition, collective action has resulted in these communities deriving economic benefits from the same natural resources through the CBNRM program. These factors have led to the development of positive attitudes by communities towards conservation and tourism development ever since CBNRM was implemented in the three communities in the mid-1990s. Prior to CBNRM being adopted in the Okavango Delta, local communities had negative attitudes towards tourism development and conservation. Communities had hostile attitudes towards wildlife and tourism agencies (Mbaiwa, 1999). The negative attitudes were a result of the fact that communities of Khwai, Mababe and Sankoyo did not have a role in resource management around them nor were they deriving any economic benefits from such resources (Mbaiwa, 1999). However, this study found that the negative attitudes are changing ever since the introduction of CBNRM in the three communities. This study therefore shows that conditions at Sankoyo, Khwai and Mababe have been established to satisfy Ostrom (1990) and Bromley (1992)'s principles of common property resource management such as: the autonomy and recognition of the community as an institution; proprietorship and tenurial rights; rights to make the rules and viable mechanisms to enforce them, and, ongoing incentives in the form of benefits that exceed costs. This therefore explains the positive

attitudes of communities towards tourism development and conservation with particular reference to sable antelope, giraffe and thatching grass has have developed in the communities in the last decade.

Collective action through the CBNRM program has enabled the people of Khwai, Mababe and Sankoyo villages to have a role in the decision making process in resource management and in conservation particularly on sable antelope, giraffe and thatching grass. As a result, these communities are now able to make regulations about resource harvesting and monitoring in their respective concession areas. For example, communities have agreed among themselves that thatching grass should be harvested when it is dry in the winter season. A chief should declare the harvesting period at a public gathering at *kgotla* and everyone observes the dates and the amount of grass to be harvested. In addition, the hunting of sable antelope and giraffe in the three communities remains suspended until such a time when numbers for these species have increased. The suspension in the hunting of sable antelope and giraffe is a conservation decision agreed upon between the respective communities and government particularly the Department of Wildlife and National Parks. These conservation regulations are observed by all community members and enforced by community employed “resource rangers” known as Community Escort Guides (ECGs). Those who fail to observe rules agreed upon by the community have their membership and benefits from CBNRM suspended until such a time that the community is satisfied that the culprit has redeemed themselves.

The cooperation and the relationship of trust among individual communities in observing community established regulations in resource use demonstrates the high level of social capital at Khwai, Mababe and Sankoyo villages. This means CBNRM provides the opportunity upon which rules and norms that worked before tourism was introduced in the Okavango Delta are formalized to achieve effective collective action, monitoring and sanctioning behavior for those who fail to conform to agreed rules. Prior to tourism development, collective behavior and local institutions of resource management at Khwai, Mababe and Sankoyo were informal and existed in the minds of community members. Collective action on resource use through CBNRM shows that where social capital is higher within a community, there is likelihood that conservation practices will be adopted and observed by community members.

Apart from the fact that species like giraffe and sable antelope in the Okavango Delta are generally on decline, the elephant population has been on the increase. The increase in elephant numbers is partly blamed on tourism development and on the Convention of International Trade in Endangered Species of Wild Fauna and Flora (CITES) which has banned trade on elephant products. This research suggests that CBNRM can be one of the tools that can be used to reduce the ever increasing elephant population in the wetland. The high elephant population is noted for causing the decline of wood resources in Botswana. The depletion of wood resources is one of the main environmental concerns in Botswana (National Conservation Strategy, 1990). In the case of CBNRM, the high elephant population can be reduced by an increase in the annual

elephant quota to communities. This approach can in the long-term bring elephant numbers in the Okavango Delta to manageable and sustainable levels.

Despite the negative and positive aspects of tourism development at Khwai, Mababe and Sankoyo, the overall results in this study suggest that CBNRM is an effective tool that can be used to achieve improved livelihoods and conservation in the Okavango Delta. Decentralization of resources to local people, collective action in resource use, and benefits communities derive from wildlife-based tourism determine the success of the CBNRM program. The case of CBNRM at Khwai, Mababe and Sankoyo suggest an achievement of decentralization of resources and collective action by communities. As such, local people are now able to derive tourism benefits from resources and have control over their use. This, therefore, confirm claims by Mwenya *et al* (1991) who argue that successful wildlife conservation is an issue of “who owns wildlife” and “who should manage it”. If people view wildlife resources as “theirs” because they realize the benefits of “owning” wildlife resources, and understand that wildlife management needs to be a partnership between them and the government, there is a higher potential for them to conserve wildlife species in their areas. Communities of Khwai, Mababe and Sankoyo were found to be recognizing that natural resources around them are theirs and they feel obliged to conserve these resources.

Finally, if tourism development through CBNRM contributes to improved livelihoods and biodiversity conservation at Khwai, Mababe and Sankoyo, then the applicability of Hardin’s theory of “tragedy of the commons” (Hardin, 1968) in the Okavango Delta becomes questionable. Hardin argued that common ownership of

resources cannot succeed, as the innate human desire to maximise individual benefits will inevitably cause the over utilisation of common resources leading to the ultimate resource degradation. The case of Khwai, Mababe and Sankoyo contradicts these claims since communities cooperate and have developed rules and regulations that govern the harvesting of these resources in their CHAs. This therefore enables them to achieve biodiversity conservation in their respective CHAs. In addition, the case of Khwai, Mababe and Sankoyo contradicts arguments against community conservation and development programs that such programs fail to achieve conservation and improved livelihoods goals (e.g. Brandon, 1998; Oates, 1999; Terborgh, 1999). These scholars call for the return to authoritarian and centralized forms of resource management.

The contribution of tourism development through the CBNRM program to conservation and livelihoods as demonstrated by the case of Khwai, Mababe and Sankoyo indicates arguments against community conservation and development programs are misleading. It is also erroneous to generalize and conclude that community conservation and development programs are failing to achieve conservation and rural livelihoods without consideration of the socio-economic and political dynamics of particular communities. Wilshusen et al (2002) also dismisses arguments that call for the government authoritarian practices of resource management because they are made in isolation of the political, social and economic factors in particular areas. Therefore, the case of Khwai, Mababe and Sankoyo suggests that tourism development through CBNRM is an effective tool to achieve conservation and improved livelihoods.

REFERENCES

- Adams, J.S. & McShane, T.O. (1992). *The Myth of Wild Africa: Conservation Without Illusion*. Norton and Company, New York.
- Agrawal, A. & Gibson, C. (1999). Enchantment and Disenchantment: The Role of Community in Natural Resource Conservation. *Wildlife Development*, 27 (4): 629-49.
- Agrawal, A. & Redford, K. (2006). Poverty, Development and Biodiversity Conservation: Shooting in the Dark? Working Paper No.26, Wildlife Conservation Society, Bronx, NY.
- Albertson, A. (1998). *Northern Botswana Veterinary Fences: Critical Ecological Impacts*. Okavango People's Wildlife Trust, Maun, Botswana, 98pp.
- Albrecht, D.E. (2004). Amenities, Natural Resources, Economic Restructuring, and Socioeconomic Outcomes in Nonmetropolitan America. *Journal of the Community Development Society*, 35(2): 36-52.
- Alexander, S. E. (2000). Resident Attitudes Towards Conservation and the Black Howler Monkeys in Belize: The Community Baboon Sanctuary. *Environmental Conservation*, 27 (4): 341-350.
- Anderson, C. L., Locker, L. & Nugent, R. (2002). Microcredit, Social Capital and Common Pool Resources. *World Development*, 30:95-105.
- Andriotis, K. (2003). Tourism in Crete: A Form of Modernization. *Current Issues in Tourism*, 6(1): 23-53.

- Arntzen, J., Buzwani, B., Setlhogile, T, Kgathi, D.L. & Motsolapheko, M.K. (2007). *Community-Based Resource Management, Rural Livelihoods and Environmental Sustainability*. Centre for Applied Research, Gaborone.
- Arntzen, J., Molokomme, K., Tshosa, O., Moleele, N., Mazambani, D., & Terry, B. (2003). *Review of CBNRM in Botswana*. Centre for Applied Research, Gaborone.
- Arntzen, J.W. (2006). Case Studies on Successful Southern Africa NRM Initiative and their Impacts on Poverty and Governance: Country Case Study Botswana. Washington DC: IRG and USAID.
- Ashley, C. (2000). The Impacts of Tourism on Rural Livelihoods: Namibia's Experience. Working Paper 128, Overseas Development Institute, 31 pages, http://www.odi.org.uk/publications/working_papers/wp128.pdf
- Bankston, C.L. & Zhou, M. (2002). Social Capital as a Process: The Meaning and Problems of a Theoretical Metaphor. *Sociological Inquiry*, 72:285-317.
- Barnes, J. (1998). Alternative Uses for Natural Resources in Botswana: Wildlife Utilisation. In Hermans, J. & Nteta, D. (Eds), *Botswana in the 21st Century*, Botswana Society, Gaborone, pp. 323-339.
- Bendsen, H., & Meyer, T. (2002). The Dynamics of the Land use Systems in Ngamiland and Changing Livelihood Options and Strategies. In Bernard, T., Mosepele, K. & Ramberg, L. (Eds.), *Environmental Monitoring of Tropical Wetlands, Proceedings of a Wetland Conference*, Maun, Botswana, December 4-8, 2002, Harry Oppenheimer Okavango Research Centre, Maun, pp 278-304

- Bhandari, B.S. & Grant, M. (2007). Analysis of Livelihood Security: A Case study in the Kali-Khola Watershed of Nepal. *Journal of Environmental Management*, 85: 17-26.
- Boggs, L.P. (2000). Community Power, Participation, Conflict and Development Choice: Community Wildlife Conservation in the Okavango Region of Northern Botswana. Discussion Paper No. 17, IIED, Maun, Botswana.
- Bolaane, M. (2004).The Impact of Game Reserve Policy on the River BaSarwa/Bushmen of Botswana. *Social Policy and Administration*, 38(4):399 - 417.
- Bookbinder, M.P., Dinerstein, E., Rijal, A. & Cauley, H. (1998). Ecotourism's Support of Biodiversity Conservation. *Conservation Biology*, 12(6): 1399-1404.
- Brandon, K. (1998). Perils to Parks: The Social Context of Threats. In Redford, K., Brandon, K., and Sanderson, S. (Eds.), *Parks in Peril: People, Politics, and Protected Areas*, Washington DC: The Nature Conservancy and Island Press, pp. 415-439.
- Bromley, D. (1992). *Making the Commons Work*. San Francisco: Institute for Contemporary Studies.
- Bruch, E. (2007). Rationality and Resource Use Among Hunters: Some Eskimo Examples. In Harkin, M. and Lewis, D. (Eds.), *Native Americans and the Environment: Perspectives on the Ecological Indian*, Lincoln: University of Nebraska Press, pp.123-154.

- Campbell, A.C. 1995. Utilisation of Wildlife in Botswana from Earliest Times to AD 900. In Kalahari Conservation Society and Chobe Wildlife Trust (Eds.), *The Present Status of Wildlife and its Future in Botswana*. Kalahari Conservation Society and Chobe Wildlife Trust, Gaborone, pp.45-67
- Campbell, L.M., 1999. Ecotourism in Rural Developing Communities. *Annals of Tourism Research*, 26(3), 534-553.
- Central Statistic Office, CSO (2002). *National Population and Housing Census*. Ministry of Finance and Development Planning, Gaborone.
- Central Statistic Office, CSO (2005). *Wildlife Statistics 2004*. Ministry of Finance and Development Planning, Gaborone.
- Chambers, R. (1987). Sustainable Livelihoods, Environment and Development: Putting Poor Rural People First. IDS Discussion Paper No. 240 Institute of Development Studies, University of Sussex, Brighton.
- Chambers, R. & Conway, G. (1992). Sustainable Rural Livelihoods: Practical Concepts for the 21st Century. Institute of Development Studies (IDS) Discussion Paper 296, Brighton: University of Sussex.
- Claridge, T. (2004). *Social Capital and Natural Resource Management: An Important Role for Social Capital*. Unpublished Master of Natural Resources Thesis. School of Natural and Rural Systems Management, University of Queensland, Australia.
- Daniere, A., Takahashi, L.M. & NaRanong, A. (2002). Social Capital, Networks and Community Environments in Bangkok, Thailand. *Growth and Change*, 33:453-484.

- Darkoh, M.B.K. & Mbaiwa, J.E. (2005). *Natural Resource Utilization and Land Use Conflicts in the Okavango Delta, Botswana*. Department of Environmental Science and Harry Oppenheimer Okavango Research Centre, University of Botswana, Gaborone, 112 pp.
- Diamond, J. (2003). *Collapse: How Societies Choose to Succeed or Fail*. New York, Viking.
- D'Hease, L. & Kirsten, J. (2003). *Rural Development: Focusing on Small Scale Agriculture in Southern Africa*. Pretoria: Universities of Ghent & Antwerp and University of Pretoria.
- Dhesi, A.S. (2000). Social Capital and Community Development. *Community Development Journal*, 35(3): 199-214.
- Edwards, V.M. (2004). The Commons in an Age of Global Transition: Challenges, Risks and Opportunities. The 10th Biennial Meeting of the IASCP Oaxaca, Mexico, August 9-13 2004, 30pp.
- Ellis, F. (2000). *Rural Livelihoods and Diversity in Developing Countries*. Oxford: Oxford University Press.
- Farrington, J., Carney, D. Ashley, C. & Turton, C. (2004). Sustainable Livelihoods in Practice: Early Applications of Concepts in Rural Areas. In Jones, S. & Carswell, G. (Eds.), *The Earthscan Reader in Environment, Development and Rural Livelihoods*. London: Earthscan.

- Fiallo, E.A. & Jacobson, S.K. (1995). Local Communities and Protected Areas: Attitudes of Rural Residents towards Conservation and Machalilla National Park, Ecuador. *Environmental Conservation*, 22 (3): 277-292.
- Fidzani, B., Mlenga, W.S., Athlopheng, M., & Shatera, M.M. (1999) *Socio-Economic Effects of CBPP in Ngamiland*. Division of Agricultural Planning and Statistics, Ministry of Agriculture, Gaborone.
- Finlayson, C.M., & Moser, M. (1992). *Wetlands, Facts on File*. Oxford: Oxford University Press.
- Finlayson, C. M. & Rea, N. (1999). Reasons for the Loss and Degradation of Australian Wetlands. *Wetland Ecology and Management*, 7, pp 1-11.
- Flora, C. & Flora, J. (2003). Entrepreneurial Social Infrastructure: A Necessary Ingredient. *The Annals of the American Academy*, 529:48-58
- Flores, D. (2007). Wars Over Buffalo. In Harkin, M. & Lewis, D. (Eds.), *Native Americans and the Environment: Perspectives on the Ecological Indian*, Lincoln: University of Nebraska Press, pp.153-172.
- Fortman, L., Roe, E. & Van Eeten, M. (2001). At the Threshold Between Governance and Management: Community-Based Natural Resource Management in Southern Africa. *Public Administration and Development*, 21:171-185.
- Frankenberger, T., Luther, K. & Becht, J. (2002). *Household Livelihoods Security Assessments: A Toolkit for Practitioners*. CARE USA, PHILS Unit, Atlanta, Georgia, 42 pages.

- Fukuyama, F. (2001). Social Capital, Civil Society and Development. *Third World Quarterly*, 22:7-20.
- Gaolatlhe, B. (2006). *The Budget Speech of 2003/4*. Ministry of Finance and Development Planning, Gaborone.
- Ghimire, K.B., (2001). *The Native Tourist: Mass Tourism Within Developing Countries*. London: Earthscan.
- Ghimire, K.B. & Pimbert, M.P. (1997). *Social Change and Conservation: Environmental Politics and Impacts of National Parks and Protected Areas*. London, Earthscan.
- Gibson, C.C. & Marks, S.A. (1995). Transforming Rural Hunters into Conservationists: An Assessment of Community-Based Wildlife Management Programs in Africa. *World Development*, 23(6):340-350.
- Government of Botswana. (1990). The National Conservation Strategy. Government Paper No. 2 of 1990, Government Printer, Gaborone.
- Grootaert, C. (2001). Social Capital: The Missing Link. In Uslaner, E.M. (Ed.), *Social Capital and Participation in Everyday Life*, London: Routledge, pp.9-29.
- Gumbricht, T. & McCarthy, T.S. (2002). Hierarchical Processes and Patterns Sustaining the Okavango: An Integrated Perspective for Policy and Management. In Bernard, T., Mosepele, K. & Ramberg, L. (Eds.), *Environmental Monitoring of Tropical Wetlands*, Proceedings of a Conference in Maun, Botswana, December 4-8, 2002, Harry Oppenheimer Okavango Research Centre, pp.181-195.
- Hardin, G. (1968). The Tragedy of the Commons. *Science*, 162:1243-1248.

- Harrison D. (1992). International Tourism and Less Developed Countries: The Background. In: Harrison, D. (Ed.), *Tourism and the Less Developed Countries*. London: John Wiley and Sons Ltd.
- Herrold-Menzies, M. (2006). Integrating Conservation and Development: What we can Learn from Caohai, China. *The Journal of Environment and Development*, 15(4):382-406.
- Hitchcock, J.L. (1995). Centralization, Resource Depletion, and Coercive Conservation among the Tyua of the Northeastern Kalahari. *Human Ecology*, 23 (2): 169-198.
- Hunn, E. (1982). Mobility as a Factor Limiting Resource Use in the Columbian Plateau of North America. In Williams, N. & Hunn, E. (eds.). *Resource Mangers: North American and Australian Foragers*, Denver: Westview Press, pp.17-43.
- Infield, M. (1988). Attitudes of a Rural Community Towards Conservation and a Local Conservation in Natal, South Africa. *Biological Conservation*, 45:21-46.
- Ipara, H.I., Akonga, J.J. & Akama, J.S. (2005). The Tenure Factor in Wildlife Conservation. *International Journal of Environmental Studies*, 62(6):643-653.
- Ite, U.E. (1996). Community Perceptions of the Cross River National Park, Nigeria. *Environmental Conservation*, 23 (4): 351-357.
- Kgathi, D.L., Bendson, H., Blaikie, P., Mbaiwa, J.E., Ngwenya, B.N.& Wilk, J. (2004). *Rural Livelihoods, Indigenous Knowledge Systems, and Political Economy of Access to Natural Resources in the Okavango Delta, Botswana*. Harry Oppenheimer Okavango Research Centre, University of Botswana, Maun, 169pp.

- Kgathi, D.L., Ngwenya, B.N., & Wilk, J. (2007). Shocks and Rural Livelihoods in the Okavango Delta, Botswana. *Development Southern Africa*, 24 (2): 289-308.
- Koka, B. R. & Prescott, J.E. (2002). Strategic Alliances as Social Capital: A Multidimensional View. *Strategic Management Journal*, 23:785-816.
- Kolding, J. (1996). *Feasibility Study and Appraisal of Fish Stock Management Plan in Okavango*. Department of Fisheries and Marine Biology, University of Bergen, Bergen, Norway, 73pp.
- Krech, S. (1981). *Indians, Animals, and the Fur Trade: A Critique of Keepers of the Game*. Athens: University of Georgia Press.
- Krech, S. (2007). Afterword. In: Harkin, M & Lewis, D. (Eds.), *Native Americans and the Environment: Perspectives on the Ecological Indian*, Lincoln: University of Nebraska Press.
- Labonte, R. (1999). Social Capital and Community Development. *Australian and New Zealand Journal of Public Health*, 23: 430-433.
- Leach, M., Mearns, R. & Scoones, I., (1999). Environmental Entitlements: Dynamics and Institutions in Community-Based Natural Resources Management, *Wildlife Development* 27, 225-47.
- Lowry, S.W. (1994). Structural Adjustment and Natural Resources in Sub-Saharan Africa. *Society and Natural Resources*, 7: 383-387.
- Magole, L.I., & Gojamang, O. (2005). The Dynamics of Tourist Visitation to National Parks and Game Reserves in Botswana. *Botswana Notes and Records*, 37, 80-96.

- Mbaiwa, J.E. (1999). *Prospects for Sustainable Wildlife Resource Utilization and Management in Botswana: A Case Study of East Ngamiland District*. M.Sc. Thesis, Department of Environmental Science, University of Botswana, Gaborone.
- Mbaiwa, J.E. (2002). The Sustainable Use of Wildlife Resources Among the Basarwa of Khwai and Mababe in Ngamiland District, Botswana: The Past and Present Perspectives. *Pula: Botswana Journal of African Studies*, 16(2): 110-122.
- Mbaiwa, J.E. (2005). Wildlife Resource Utilization at Moremi Game Reserve and Khwai Community Area in the Okavango Delta, Botswana. *Journal of Environmental Management*, 77(2): 144-156.
- Mbaiwa, J.E., Toteng, E.N. & Moswete, N.N. (2007). Problems and Prospects for the Development of Urban Tourism in Maun and Gaborone, Botswana. *Development Southern Africa Journal*, 24(5): 725-739.
- McNeely, J.A. (1993). People and Protected Areas: Partners in Prosperity. In Kemf, E., (Ed.), *Indigenous Peoples and Protected Areas: The Law of The Mother*. Earthscan, London, pp249-257.
- Mehta, J.N. & Kellert, S.R. (1998). Local Attitudes Towards Community-Based Conservation Policy and Programmes in Nepal: A Case Study of the Makalu-Barun Conservation Area. *Environmental Conservation*, 25 (4): 320-333.
- Moganane, B.O. & Walker, K.P. (1995). *The Role of Local Knowledge in the Management of Natural Resources with Emphasis on Woodlands, Veldt Products and Wildlife: Botswana Case Study*. Gaborone: Forestry Association of Botswana.

- Monna, S.C. (1999). A Framework for International Cooperation for the Management of the Okavango Delta and Basin. Ramsar COP7 DOC 205. The Ramsar Convention on Wetlands. http://www.ramsar.org/cop7_doc_20.5_etm
- Mordi, R. (1991). *Public Attitudes Towards Wildlife in Botswana*, Garland Publishing, New York.
- Mubangizi, B.C. (2003). Drawing on Social Capital for Community Economic Development: Insights from a South African Rural Community. *Community Development Journal*, 38(2): 140-150.
- Murphree, M.W., (1993). *Communities as Resource Management Institutions*. Gatekeeper Series No. 36, Sustainable Agricultural Programme of the International Institute for Environment and Development, London, pp.1-13.
- Mwenya, A.N., Lewis, D.M., & Kaweche, G.B. (1991). *Policy, Background and Future: National Parks and Wildlife Services, New Administrative Management Design for Game Management Areas*. United States Agency for International Development, Lusaka, Zambia.
- Newmark, W.D. & Hough, J.L. (2000). Conserving Wildlife in Africa: Integrated Conservation and Development Projects and Beyond. *BioScience*, 50 (7):585-592.
- Niehof, A. (2004). The Significance of Diversification for Rural Livelihoods Systems. *Food Policy*, 29:321-338.
- North West District Council, NWDC. (2003). *District Development Plan Six 2003/4-2008/9*. Maun: North West District Council.

- Oates, J.F. (1999). *Myth and Reality in the Rainforest: How Conservation Strategies are Failing in West Africa*. Berkeley: University of California Press.
- Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action*. New York: Cambridge University Press.
- Othomile, M.B. (1997). Illegal Offtake and Anti-Poaching Strategies for the 21st Century. *Proceedings of a National Conference on Conservation and Management of Wildlife in Botswana*. Department of Wildlife and National Parks & Kalahari Conservation Society, Gaborone: Botswana, pp. 169-175.
- Parry, D. & Campbell, B. (1992). Attitudes of Rural Communities to Animal Wildlife and its Utilization in Chobe Enclave and Mababe Depression, Botswana. *Environmental Conservation*, 19(3):245-51.
- Perkins, J.S., (1996). Botswana: Fencing out of the Equity Issue, Cattleposts and Cattle Ranches in the Khalahari Desert. *Journal of Arid Environments*, 33:503-517.
- Perkins, J.S. & Ringrose, S.M. (1996). *Development Co-operation's Objectives and the Beef Protocol: The Case of Botswana, A Study of Livestock/Wildlife/Tourism /Degradation Linkages*. Department of Environmental Science, University of Botswana, Gaborone.
- Pilkington, P. (2002). Social Capital and Health: Measuring and Understanding Social Capital at a Local Level Could Help to Tackle Health Inequalities More Effectively. *Journal of Public Health Medicine*, 24: 156-159.
- Pretty, J. (2005). *The Earthscan Reader in Sustainable Agriculture*. London: Earthscan.

- Pimbert, M. & Pretty, J. (1995). Parks, People, and Professionals: Putting Participation into Protected Area Management, UNRISD Discussion Paper No. 57, Geneva: UNRISD.
- Pretty, J. & Ward, H. (2001). Social Capital and the Environment. *World Development*, 29: 209-227.
- Pretty, J. & Smith, D. (2003). Social Capital in Biodiversity Conservation and Management. *Conservation Biology*, 18 (3): 631-638.
- Putman, R. (1995). Turning In, Turning Out: The Strange Disappearance of Social Capital in America. *Political Science and Politics*, XXVIII (4): 664-683.
- Rabinowitz, A. (1999). Nature's Last Bastions: Sustainable Use of Tropical Forests May be Little More than Wishful Thinking. *National History*, 108:70-72.
- Redford, K. (1991). The Ecologically Noble Savage. *Cultural Survival Quarterly*, 15:46-48.
- Redford, K., Brandon, K., & Sanderson, S. (1998). Holding Ground. In Redford, K., Brandon, K., & Sanderson, S. (Eds.), *Parks in Peril: People, Politics, and Protected Areas*, Washington DC: The Nature Conservancy and Island Press, pp.455-463.
- Rihoy, E., (1995). From State Control of Wildlife to Co-management of Natural Resources-the Evolution of Community Management in Southern Africa. In Rihoy, E., (Ed.), *The Commons Without Tragedy? Strategies for Community-based Natural Resources Management in Southern Africa. Proceedings of the Regional*

- Natural Resources Management Programme Annual Conference, Southern Africa Development Community Wildlife Technical Coordinating Unit, Kasane, pp.1-36*
- Ritchie, M. (2000). Social Capacity, Sustainable Development, and Older People: Lessons from Community-based Care in Southeast Asia. *Development in Practice*, 10:638-651.
- Schuster, B. (2007). Proceedings of the 4th National CBNRM Conference in Botswana and the CBNRM Status Report. 20-23rd of November 2006. IUCN Botswana, Gaborone, Botswana.
- Scoones, I. (1998). Sustainable Rural Livelihoods: A Framework for Analysis. Institute of Development Studies, Discussion Paper 296, Brighton: University of Sussex, United Kingdom.
- Sekhar, N.U. (2003). Local People's Attitudes Towards Conservation and Wildlife Tourism around Sariska Reserve, India. *Journal of Environmental Management*, 69:339-347.
- Support Services and Ecosurv Consultants. (2005). *Management Plan/Development Plan for the Mababe Zokotsama Community Development Trust-Report of Survey*. Support Services and Ecosurv, Maun, Botswana, 200 pp.
- Szreter, S. (2000). Social Capital, The Economy, and Education in Historical Perspective. In Schuller, T. (Ed.), *Social Capital: Critical Perspectives*, Oxford: Oxford University Press.
- Taylor, M. (2000). *Life, Land and Power, Contesting Development in Northern Botswana*, Ph.D. Dissertation, University of Edinburgh.

- Terborgh, J. (1999). *Requiem for Nature*. Washington DC: Island/Shearwater.
- Thakadu, O.T. (2005). Success Factors in Community-Based Natural Resource Management Projects' Mobilization in Northern Botswana: Lessons from Practice. *Natural Resource Forum*, 29 (3): 199-212.
- Thakadu, O.T., Mangadi, K., Bernard, F.T. & Mbaiwa, J.E. (2005). The Economic Contribution of Safari Hunting to Rural Livelihoods at Sankoyo Village in the Okavango, Botswana. *Botswana Notes and Records*, 37: 22-39.
- Tlou, T. (1985). *History of Ngamiland: 1750 – 1906: The Formation of an African State*. Gaborone: Macmillan Publishing Company.
- Tsing, A.L., Brosius, J.P. & Zerner, C. (1999). Assessing Community-Based Natural Resource Management. *Ambio*, 28, 197-8.
- Twyman, C. (2000). Participatory Conservation? Community-Based Natural Resource Management in Botswana, *The Geographical Journal*, 166 (4): 323-335.
- United Nations Development Program, UNDP. (2005). *Human Development Report 2005*. United Nations Development Program: New York, United States.
- Uphoff, N. (1999). Understanding Social Capital: Learning from the Analysis and Experience of Participation. In Serageldin, I. (Ed.), *Social Capital: A Multifaceted Perspective*, Washington DC: World Bank.
- Walpole, M.L. & Goodwin, H. J. (2001). Local Attitudes Towards Conservation and Tourism Around Komodo National Park, Indonesia. *Environmental Conservation*, 28(2):160-166.

- Watson, G.W. & Papamarcos, S.D. (2002). Social Capital and Organizational Commitment. *Journal of Business and Psychology*, 16:537-552.
- Weladji, R.B., Stein, R. M. & Vedeld, P. (2003). Stakeholder Attitudes Towards Wildlife Policy and the Bonoe Wildlife Conservation Area, North Cameroon. *Environmental Conservation*, 30 (4): 334-343.
- Western, D., Wright, M., & Strum, S. (Eds.), (1994). *Natural Connections: Perspectives in Community-Based Conservation*, Washington DC: Island Press.
- Whigan, D.F., Dykjoava, D. & Hejny, S. (Eds.), (1993). *Wetlands of the World: Inventory, Ecology, and Management. Handbook of Vegetation Science*. Dordrecht: Kluwer Academic Publishers.
- White, R. 1995. Licensing, Utilization and Public Attitudes to Wildlife. In: *The Present Status of Wildlife and its Future in Botswana. Proceedings of the Kalahari Conservation Society and Chobe Wildlife Trust Conference, 7-8th November 1995*, Gaborone, Botswana, pp 79-87.
- White, R. & Cronon, W. (1988). Ecological Change and Indian-White Relations. In: Washburn, W.E. (ed). Vol. 4, *History of Indian-White Relations*. Pp 417-29. Washington DC, Smithsonian Institution Press.
- Wilshusen, P.R., Brechin, S.R. & West, P.C. (2002). Reinventing a Square Wheel: Critique of a Resurgent “Protection Paradigm” in International Biodiversity Conservation. *Society and Natural Resources*, 15:17-40.
- World Tourism Organization-WTO. (2003). *Tourism Market Trends, Africa: 1999*. WTO, Madrid, Spain.

World Travel & Tourism Council, (2007). *Botswana: The Impact of Travel and Tourism on Jobs and the Economy*. London: World Travel & Tourism Council.

APPENDIX I. HOUSEHOLD QUESTIONNAIRE

Dissertation Research Title: Tourism Development, Rural Household Livelihoods and Conservation in the Okavango Delta, Botswana

A. DEMOGRAPHIC DATA

- | | |
|--|---|
| 1. Gender/Sex | |
| ? Male | 1 |
| ? Female | 2 |
| 2. Age ___years | |
| 3. Where you born in this village? | |
| ? Yes | 1 |
| ? No | 2 |
| ? Other (specify) _____ | 3 |
| If you immigrated into this village, where did you originate and why did you come into it? | |
| 4. What is your maximum educational level? | |
| ? None | 1 |
| ? Primary low | 2 |
| ? Primary high | 3 |
| ? Junior Secondary | 4 |
| ? Senior Secondary | 5 |
| ? Tertiary (specify) _____ | 6 |
| ? Other (specify) _____ | |
| 5. Marital status | |
| ? Married | 1 |
| ? Never married | 2 |
| ? Divorced | 3 |
| ? Widowed | 4 |
| ? In separation | 5 |
| ? Living together | 6 |
| ? Other (specify) _____ | 7 |
| 6. What is your ethnic group? | |
| ? Motawana | 1 |
| ? Wayei | 2 |
| ? Hambakushu | 3 |
| ? Herero | 4 |
| ? Mokgalagadi | 5 |
| ? Mosarwa | 6 |
| ? Other
(specify) _____ | |

7. How many people currently live in your household_____

No of Adults_____ No of Children_____

Ages of children_____ Ages of Adults_____

B. PERCEPTIONS TOWARDS TOURISM DEVELOPMENT

8. Would you be happy to see more tourists visiting the Okavango Delta?
- | | |
|-------|---|
| ? Yes | 1 |
| ? No | 2 |
- Explain you opinion_____
9. Would you be happy to see your children or members of your household work in the tourism industry?
- | | |
|-------|---|
| ? Yes | 1 |
| ? No | 2 |
- Explain you opinion_____
10. Should tourism development in the Okavango Delta be stopped and have the area reserved for traditional uses by local people?
- | | |
|-------|---|
| ? Yes | 1 |
| ? No | 2 |
- Explain you opinion_____
11. How do you rank your level of satisfaction with tourism in your village?
- | | |
|--|---|
| ? Highly satisfied | 1 |
| ? Satisfied | 2 |
| ? Neither satisfied nor dissatisfied (neutral) | 3 |
| ? Dissatisfied | 4 |
| ? Highly dissatisfied | 5 |
- Explain you opinion_____
12. What is your view about community-based tourism development (i.e. CBNRM)?
- | | |
|------------------------------|---|
| ? Its an excellent programme | 1 |
| ? It's a good programme | 2 |
| ? It's a fair programme | 3 |
| ? It's a poor programme | 4 |
| ? It's a very poor programme | 5 |
- Explain you opinion_____

C. PERCEPTIONS TOWARDS BIODIVERSITY CONSERVATION

a. Sable antelope (*kwalata*)

13. How do you describe the availability of the sable antelope (*kwalata*) in your Controlled Hunting Area?
- | | |
|-------------|---|
| ? Excellent | 1 |
| ? Good | 2 |
| ? Fair | 3 |
| ? Poor | 4 |
| ? Very poor | 5 |

14. What are the threats to the survival of the sable antelope (*kwalata*) in your Controlled Hunting Area?

15. Should the hunting of the sable antelope (*kwalata*) be suspended to allow this species to multiply?

- ? Yes 1
? No 2

Explain your opinion _____

16. Should some revenue generated from tourism by your Trust be donated for the conservation of sable antelope (*kwalata*)?

- ? Yes 1
? No 2

Explain your opinion _____

17. Should members of your household be taught about the conservation of sable antelope (*kwalata*)?

- ? Yes 1
? No 2

Explain your opinion _____

b. Giraffe

18. How would you describe the availability of giraffe (*thutwa*) in your local environment?

- ? Excellent 1
? Good 2
? Fair 3
? Poor 4
? Very poor 5

Explain your opinion _____

19. What are the threats to the survival of the giraffe (*thutwa*) in your local environment?

20. Should your household be allowed to hunt the giraffe (*thutwa*) without restrictions?

- ? Yes 1
? No 2

Explain your opinion _____

21. Should members of your household be taught about the conservation of the giraffe?

- ? Yes 1
? No 2

Explain your opinion _____

22. Should some of the revenue generated by your Trust be donated towards the conservation of the giraffe?

- ? Yes 1
 ? No 2

Explain your opinion _____

c. Thatching grass

23. How would you describe the availability of thatching grass in your Controlled Hunting Area?

- ? Excellent 1
 ? Good 2
 ? Fair 3
 ? Poor 4
 ? Very poor 5

Explain your opinion _____

24. What are the threats to the survival of thatching grass in your Controlled Hunting Area?

25. Should your household be allowed to harvest thatching grass without restrictions all year round?

- ? Yes 1
 ? No 2

Explain your opinion _____

26. Should thatching grass harvesters pay a fee to the Agricultural Resource Board (ARB)/Village Development Community (VDC) towards the conservation of this grass species?

- ? Yes 1
 ? No 2

Explain your opinion _____

27. Should your household be taught about conservation methods of harvesting thatching grass?

- ? Yes 1
 ? No 2

Explain your opinion _____

C. CURRENT LIVELIHOOD PRACTICES/STATUS

28. Which of the following assets do your household own?

<i>Item</i>	<i>Own?Yes/no</i>	<i>Price at Purchase</i>	<i>Year of Ownership</i>
Radio			
Television			
Donkey cart			
Boat			
Cell phone			
Wheelbarrow			
Rifle			
Wrest Watch			
Gas stove			
Fishing nets			
Wheel barrow			
Plough			
Generator			
Standpipe in compound			
Fridge			
Bicycle			
Borehole			
Other (<i>Specify</i>)			

29. From the list provided below, kindly tick some of the livelihood activities which your household do? Please make *additions* of livelihoods not included under *other*.

- | | |
|---|----|
| ? Livestock farming | 1 |
| ? Dryland crop farming | 2 |
| ? Molapo crop cultivation | 3 |
| ? Basket making | 4 |
| ? Fishing | 4 |
| ? Remittances | 5 |
| ? Collection reeds for sale | 6 |
| ? Thatching grass for sale | 7 |
| ? Government handouts e.g. RAD programme | 8 |
| ? Employment in a community tourism project e.g. CBNRM | 9 |
| ? Formal employment in tourism operators in the Okavango | 10 |
| ? Informal employment in tourism (e.g. dance, stories etc for tourists) | 11 |
| ? Formal employment in other agencies in our village | 12 |
| ? Employment in drought relief projects | 13 |
| ? Home made beer-brewing | 14 |
| ? Collection of other veld products (specify)_____ | 15 |
| ? Other (specify)_____ | |

30. From the above mentioned livelihood activities rank from 1 to 8 the most important in your household (starting with the most important and generating more income)

If you practice agriculture, name the crops you grow, hectares of your field and annual earnings

Crop/cultivar	# hectares OR # trees/plants	Subsistence, Sale, both?	Earnings last year?
Maize			
Millet			
Beans			
Sorghum			
Pumpkins			

If you practice livestock farming, tick the animals you have, number and annual sale earnings

Type of Animal	Tick	Number	Subsistence, Sale, both?	Estimated earnings last year (include eggs, milk, meat, etc.)
Cattle				
Sheep				
Goats				
Donkeys				
Horses				
Chickens				
Other (specify)				

If you collect veld products, complete the table below

Wild species	Harvest rate [quantity gathered per month]	Sale Price	Est earnings last year

If you are involved in fishing, state the name and number of fish you catch

Species	Harvest rate [on average, how many animals per month, how many sold]	Sale Price	Estimated earnings last year

If you or household member is involved in wage employment, complete the table below

Position	Relationship	Wage per hour/day/week	Estimated earnings last year

On average, how much does your family spend per week on expenses? [Ask people to identify expenses for themselves, without prompting. This will include food, transportation, rent, etc.]

Item	Estimated weekly amount spent
1-	
2-	

D. LIVELIHOOD CHANGES CAUSED BY TOURISM DEVELOPMENT

31. Which of the following livelihoods activities has your household abandoned in the last 5-10 years?

- | | |
|--|----|
| ? Livestock farming | 1 |
| ? Dryland crop farming | 2 |
| ? Molapo crop cultivation | 3 |
| ? Basket making | 4 |
| ? Fishing | 4 |
| ? Collection reeds | 6 |
| ? Collection of thatching grass | 7 |
| ? Subsistence hunting | 8 |
| ? Collection of other veld products (specify)_____ | 9 |
| ? Other (specify)_____ | 10 |

32. Give reasons why your household abandoned some of the livelihood activities you mentioned in the above question?

Name of Livelihood Activity	Reasons for Abandonment
1.	
2.	

33. Make a list of livelihood activities that have emerged caused by tourism in your community?

- | | |
|--|---|
| ? Mekoro driving/owning it | 1 |
| ? Informal employment in cultural activities (e.g. story telling, dancing etc) | 2 |
| ? Formal employment activities | 3 |
| ? Sale of craft (e.g. baskets) to tourists | 4 |
| ? Sale of veld products to tourists | 5 |
| ? Other
(specify)_____ | |

34. Name some of the good things caused by tourism development in your village?

35. Name some of the bad things caused by tourism development in your village?

36. Think of your life before tourism and after tourism, how have things changed?
- | | |
|---------------------------------|---|
| ? Has significantly changed | 1 |
| ? Has fairly Changed | 2 |
| ? Has somehow changed | 3 |
| ? Has not changed | 4 |
| ? Has significantly not changed | 5 |

Explain your
opinion_____

37. How would you describe the impact of tourism development on livelihood security?
- | | |
|---|---|
| ? Has significantly increased livelihood security | 1 |
| ? Has fairly increased livelihood security | 2 |
| ? Has somehow increased livelihood security | 3 |
| ? Has not increased livelihood security | 4 |
| ? Has significantly not increased livelihood security | 5 |

Explain your
opinion_____

D. CHANGES IN THE USE OF THE THREE SPECIES

a. Sable Antelope

38. Was the sable antelope important to this village before tourism development?
- | | |
|-------|---|
| ? Yes | 1 |
| ? No | 2 |

If yes/no how was it important/not
important_____

39. Were there any community rules in the use of the sable antelope before tourism development?
- | | |
|-------|---|
| ? Yes | 1 |
| ? No | 2 |

If yes, name and describe some of these community rules.

40b. Who established these rules?_____

- 40c. Do people follow these rules?
- | | |
|-------|---|
| ? Yes | 1 |
| ? No | 2 |

41d. What happened if people broke these rules?_____

42. Is the sable antelope important to this village today?
- | | |
|-------|---|
| ? Yes | 1 |
| ? No | 2 |

If yes/no, how is it important/not important?

- 42b. Are there any present community rules about the use of sable antelope?
- | | |
|-------|---|
| ? Yes | 1 |
| ? No | 2 |

If yes, what are they?

- 42c. Who established these rules? _____
- 42d. Do people follow these rules?
- ? Yes 1
- ? No 2
- 42e. What happens if people break these rules? _____
- 42f. Can you think of an example when this happened? _____
- b. Giraffes
43. Was the giraffe important to this village before tourism development?
- ? Yes 1
- ? No 2
- If yes/no, how were they important/not important? _____
- 43b. Were there any community rules in the use of giraffes before tourism development?
- ? Yes 1
- ? No 2
- If yes, name and describe some of these community rules.
- 43c. Who established these rules? _____
- 43d. Do people follow these rules?
- ? Yes 1
- ? No 2
- 43e. What happened if people broke these rules? _____
44. Is the giraffe important to this village today?
- ? Yes 1
- ? No 2
- If yes/no, how is it important/not important?
- 44b. Are there any present community rules about the use of the giraffe?
- ? Yes 1
- ? No 2
- If yes, what are they?
- 44c. Who established these rules? _____
- 44d. Do people follow these rules?
- ? Yes 1
- ? No 2
- 44e. What happens if people break these rules? _____
- 44f. Can you think of an example when this happened? _____
- c. Thatching grass

45. Was the thatching grass important to this village before tourism development?
 ? Yes 1
 ? No 2
 If yes/no, how was important/not important_____
45. Were there any community rules in the harvesting of thatching grass before tourism development?
 ? Yes 1
 ? No 2
 If yes, name and describe some of these community rules.
- 45b. Who established these rules?_____
- 45c. Do people follow these rules?
 ? Yes 1
 ? No 2
- 45d. What happened if people broke these rules?_____
46. Is the thatching grass important to this village today?
 ? Yes 1
 ? No 2
 If yes/no, how is it important/not important?
- 46b. Are there any present community rules about the harvesting and use of thatching grass?
 ? Yes 1
 ? No 2
 If yes, what are they?
- 46c. Who established these rules?_____
- 46d. Do people follow these rules?
 ? Yes 1
 ? No 2
- 46e. What happens if people break these rules?_____
- 46f. Can you think of an example when this happened?_____

E. EFFECTS OF TOURISM DEVELOPMENT ON LOCAL LIVELIHOODS & CONSERVATION

a. Effects on livelihoods

47. Has your life changed in any way as a result of tourism development?
- | | |
|-------|---|
| ? Yes | 1 |
| ? No | 2 |
- Explain your opinion _____
48. What have your livelihoods *gained* due to tourism development?
49. What have your livelihoods *lost* due to tourism development?
50. How do you describe your household income from tourism development in the last 5-10 years?
- | | |
|---|---|
| ? Has significantly increased | 1 |
| ? Has fairly increased | 2 |
| ? Has remained constant | 3 |
| ? Has fairly decreased | 4 |
| ? Has significantly decreased | 5 |
| ? I receive no income from tourism related activities | 6 |
51. What is the average monthly income your household generates from tourism? _____
52. What do you do with the income from tourism?
53. What do you hope to do with your future earnings from tourism?
54. What other benefits has your household so far derived from your community-based tourism project? *Please tick those that apply to you*
- | | |
|---|----|
| ? Assistance to funerals (e.g. funds, vehicles etc) | 1 |
| ? Support for local sport activities | 2 |
| ? Scholarships for students | 3 |
| ? Services and houses for elderly people | 4 |
| ? Assistance for orphans | 5 |
| ? Assistance for disabled people | 6 |
| ? Provision of communication tools such as radios | 7 |
| ? Provision of transport services particularly in the use of vehicles | 8 |
| ? Installation of water stand pipes in households | 9 |
| ? Provision of kiosk/shops in our area | 10 |
| ? Availability of game meat | 11 |
| ? Provision of loans | 12 |
| ? Other (Specify) _____ | |

b. Effects on conservation

(i) Sable antelope

55. Who do you think is responsible for the management of the sable antelope?
- | | |
|--|---|
| ? Myself and members of my household | 1 |
| ? Members of my Community | 2 |
| ? Department of Wildlife and National Parks (DWNP) | 3 |
| ? DWNP and members of my Community | 4 |
| ? Other (specify)_____ | |

Explain your
opinion_____

56. What do you think has been *gained* in the conservation of sable antelope due to tourism development?

57. What do you think has been *lost* in the conservation of sable antelope due to tourism development?

(ii) Giraffes

58. Who is supposed to be responsible for the management of the giraffe?
- | | |
|--|---|
| ? Myself and members of my household | 1 |
| ? Members of my Community | 2 |
| ? Department of Wildlife and National Parks (DWNP) | 3 |
| ? DWNP and members of my Community | 4 |
| ? Other (specify)_____ | |

Explain your
opinion_____

59. What has been *gained* in the conservation of the giraffe due to tourism development?

60. What has been *lost* in the conservation of the giraffe due to tourism development?

(iii) Thatching grass

61. Who is suppose to be responsible for the management of the thatching grass?
- | | |
|--------------------------------------|---|
| ? Myself and members of my household | 1 |
| ? Members and my Community | 2 |
| ? Agricultural Resource Board (ARB) | 3 |
| ? ARB and members of my Community | 4 |
| ? Other (specify)_____ | |

62. What has been *gained* in the conservation of thatching grass due to tourism development?

63. What has been *lost* in the conservation of thatching grass due to tourism development?

COLLECTIVE ACTION, CONTROL & DECISION MAKING

64. If you could change something here in the village, what would it be?____ Why would you like to change it_____

65. In the past 12 months, have you worked with others in your community to do something for the benefit of the community?
- ? Yes 1
- ? No 2
- If yes, what were three such activities in the past 12 months?
- If yes, was participation in these community activities voluntary or required?
- ? Yes 1
- ? No 2
66. Has the community ever cooperated to solve a problem?
- ? Yes 1
- ? No 2
- What kinds of problem(s) did you solve, give examples?
67. Has the community ever cooperated to build something? Explain.
- ? Yes 1
- ? No 2
- Explain you
opinion_____
68. Has the community ever cooperated to protect something?
- ? Yes 1
- ? No 2
- Explain you
opinion_____
69. What proportion of people in this community generally work together to solve problems?
- ? Everyone 1
- ? More than half 2
- ? About half 3
- ? Less than half 4
- ? No one 5
70. Does anything happen to people who do not participate in community activities? Are they criticized or sanctioned?
- ? Yes 1
- ? No 2
- Explain you
opinion_____

71. How much control/influence do you feel you have in making decisions that affect this community?

- | | |
|---------------------------|---|
| ? Has significant control | 1 |
| ? Fair amount of control | 2 |
| ? Neutral | 3 |
| ? Has no control at all | 4 |

Explain your opinion _____

72. How much impact do you think you have in making this community a better place to live?

- | | |
|------------------|---|
| ? A big impact | 1 |
| ? A small impact | 2 |
| ? No impact | 3 |

Explain your opinion _____

73. How do you define a good life? _____

74. Do you have a good life?

- | | |
|-------|---|
| ? Yes | 1 |
| ? No | 2 |

Explain your opinion _____

Comments

APPENDIX II. KEY INFORMANTS QUESTIONNAIRE

Dissertation Research Title: Tourism Development, Rural Household Livelihoods and Conservation in the Okavango Delta, Botswana

A. Demographic Data

1. Gender/Sex

- | | |
|-----------|---|
| a. Male | 1 |
| b. Female | 2 |

2. Age _____ years

3. What is your

occupation/position _____

4. What is your maximum educational level?

- | | |
|-----------------------------|---|
| a. None | 1 |
| b. Primary low | 2 |
| c. Primary high | 3 |
| d. Junior Secondary | 4 |
| e. Senior Secondary | 5 |
| f. Tertiary (specify) _____ | 6 |
| g. Other (specify) _____ | |

B. Community attitudes towards tourism & conservation

5. How would you describe community attitudes towards tourism development in the Okavango Delta?

- | | |
|---------------------|---|
| a. Highly positive | 1 |
| b. Positive | 2 |
| c. Somehow positive | 3 |
| d. Somehow negative | 4 |
| e. Negative | 5 |
| f. Highly negative | 6 |

Explain your opinion _____

6. How would you describe community attitudes towards biodiversity conservation in the Okavango Delta?

- | | |
|---------------------|---|
| a. Highly positive | 1 |
| b. Positive | 2 |
| c. Somehow positive | 3 |
| d. Somehow negative | 4 |
| e. Negative | 5 |
| f. Highly negative | 6 |

Explain your

opinion _____

7. How you describe community attitudes towards the conservation of the sable antelope in the Okavango Delta?

- | | |
|---------------------|---|
| a. Highly positive | 1 |
| b. Positive | 2 |
| c. Somehow positive | 3 |
| d. Somehow negative | 4 |
| c. Negative | 5 |
| d. Highly negative | 6 |

Explain your
opinion_____

8. How you describe community attitudes towards the conservation of the giraffe in the Okavango Delta?

- | | |
|---------------------|---|
| a. Highly positive | 1 |
| b. Positive | 2 |
| c. Somehow positive | 3 |
| d. Somehow negative | 4 |
| c. Negative | 5 |
| d. Highly negative | 6 |

Explain your
opinion_____

9. How would you describe community attitudes towards the conservation of thatching grass in the Okavango Delta?

- | | |
|---------------------|---|
| a. Highly positive | 1 |
| b. Positive | 2 |
| c. Somehow positive | 3 |
| d. Somehow negative | 4 |
| c. Negative | 5 |
| d. Highly negative | 6 |

Explain your
opinion_____

C. Livelihoods Changes

10. Make a list of some of the common assets that most households in your community own?

11. Make a list of some of the key livelihood activities that your community has been practising in the last 5-10 years?

12. Make a list of some of the livelihoods activities practiced in your community before tourism development became the dominant economic activity?

13. Make a list of some of the livelihood activities that have since been abandoned in your community after tourism became the dominant economic activity?

14. Give reasons why livelihood activities you mentioned above have been abandoned by your community.

15. Make a list of some of the livelihood activities caused by tourism development in your village?

16. Think of your life before and after tourism development, how have things changed?

- | | |
|---------------------------------|---|
| ? Has significantly changed | 1 |
| ? Has fairly Changed | 2 |
| ? Has somehow changed | 3 |
| ? Has not changed | 4 |
| ? Has significantly not changed | 5 |

Explain your opinion_____

17. How would you describe the impact of tourism development on livelihood security?

- | | |
|---|---|
| ? Has significantly increased livelihood security | 1 |
| ? Has fairly increased livelihood security | 2 |
| ? Has somehow increased livelihood security | 3 |
| ? Has not increased livelihood security | 4 |
| ? Has significantly not increased livelihood security | 5 |

Explain your opinion_____

C. Changes in the use of sable antelope, thatching grass and Giraffe

a. Sable antelope

18. Make a list of some of the uses of *sable antelope* by your community before tourism became the dominant economic activity?

18b. Were there any community rules in the use of sable antelope before tourism development?

18c. Who established these rules?_____

18d. Do people follow these rules?

- | | |
|-------|---|
| ? Yes | 1 |
| ? No | 2 |

18e. What happened if people broke these rules?_____

19. Make a list of some of the current uses of *sable antelope* caused by tourism development in your community?

19b. Are there any community rules in the use of sable antelope in this era of tourism development?

19c. Who established these rules?_____

19d. Do people follow these rules?

- | | |
|-------|---|
| ? Yes | 1 |
| ? No | 2 |

19e. What happens if people break these rules?_____

19f. Can you think of an example when this happened?_____

b. Giraffe

20. Make a list of some of the uses of the giraffe by your community before tourism became the dominant economic activity?

20b. Were there any community rules in the use of the giraffe before tourism development?

20c. Who established these rules? _____

21d. Do people follow these rules?

? Yes 1

? No 2

If yes,

why _____

21e. What happened if people broke these rules? _____

22. Make a list of some of the new uses of giraffes caused by tourism development?

22b. Are there any community rules in the use of giraffes in this era of tourism development?

22c. Who established these rules? _____

22d. Do people follow these rules?

? Yes 1

? No 2

22e. What happens if people break these rules? _____

22d. Can you think of an example when this happened? _____

c. Thatching grass

23. Make a list of some of the uses of *thatching grass* before tourism became the dominant economic activity?

23b. Were there any community rules in the use of thatching grass before tourism development?

23c. Who established these rules? _____

23d. Do people follow these rules?

? Yes 1

? No 2

23e. What happened if people broke these rules? _____

24. Make a list of some of the new uses of *thatching grass* caused by tourism development?

24b. Are there any community rules in the use of thatching grass in this era of tourism development?

24c. Who established these rules? _____

24d. Do people follow these rules?

? Yes 1

? No 2

24e. What happens if people break these rules? _____

24f. Can you think of an example when this happened? _____

D. Combined Effects of tourism development and conservation

25. Name gains in livelihoods that your community derive from tourism development?

26. Name costs in livelihoods that your community lost due to tourism development?

27. Do you think tourism development has improved livelihood security in your village?

? Yes 1

? No 2

Explain you opinion _____

28. Name some of the gains in the conservation of sable antelope resulting from tourism development?

29. Name some of the costs in the conservation of sable antelope resulting from tourism development?

30. Name some of the gains in the conservation of the giraffe resulting from tourism development?

31. Name some of the costs in the conservation of the giraffe resulting from tourism development?

32. Name and describe some of the benefits in the conservation of thatching grass resulting from tourism development?

33. Name some of the costs in the conservation of thatching grass resulting from tourism development?

Comments _____

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