The effects of tourism development on rural livelihoods in the Okavango Delta, Botswana

Joseph E. Mbaiwaa* and Amanda L. Stronzab

^a Harry Oppenhemier Okavango Research Centre, University of Botswana, Maun, Botswana;
^b Department of Recreation, Park and Tourism Sciences, College Station, Texas A&M University, Texas, USA

The Community-Based Natural Resource Management (CBNRM) program in Botswana aims to achieve biodiversity conservation and rural development in rich biodiversity areas like the Okavango Delta. CBNRM assumes that if rural communities derive benefits from natural resources, they will be obliged to use such resources sustainably. Using the sustainable livelihoods framework, this study analyzes the effects of tourism development through CBNRM on rural livelihoods at Khwai, Sankoyo and Mababe in the Okavango Delta, Botswana, using primary and secondary data sources. Results of long-term surveys and in-depth interviews indicate that the three communities have forgone traditional livelihood activities such as hunting and gathering, livestock and crop farming to participate in tourism through CBNRM. Livelihoods in these villages have been improved as a result. Basic needs such as shelter, employment and income and social services like water supply systems, transportation, scholarships and payment of funeral expenses are now provided to community members and funded with income from CBNRM. Social capital has been built up in order to agree, manage and develop the CBNRM process. These results show that tourism development in these villages is achieving its goal of improved livelihoods, contradicting claims that community development projects are failing to achieve rural development.

Keywords: Community-Based Natural Resource Management program; sustainable rural livelihoods; community tourism benefits; costs

Introduction

Since the 1980s, tourism development in Botswana has found a niche in conservation and rural development. Approaches such as ecotourism and Community-Based Natural Resource Management (CBNRM) are used to achieve the goal of rural development and conservation. Both ecotourism and CBNRM assume that once local communities derive benefits from natural resources in their local area, their livelihoods will be improved and this will make them obliged to promote conservation (Mbaiwa, 2005b; Stronza & Gordillo, 2008). Community-based approaches came about in Botswana owing to the introduction of integrated conservation and development projects which sought to reconcile biodiversity conservation with economic development in the 1980s (Herrold-Menzies, 2006). However, in recent years, community-based approaches have come under heavy criticism from some conservationists (e.g. Brandon, 1998; Kellert, Mehta, Ebbin, & Lichtenfeld, 2000; Li, 2002; Oates, 1999; Terborgh, 1999). These conservationists argue that community-based

approaches are failing to achieve fundamental objectives of conservation and economic development. For example, Rabinowitz (1999) argues that community-based approaches channel away significant portions of available funding, yet produce minimal results in terms of biodiversity conservation and economic development. Critics of community-based approaches argue that conservation approaches should shift and place emphasis on authoritarian protection of protected areas to safeguard critically threatened habitats worldwide.

In their paper "Reinventing a square wheel: Critique of a resurgent protection paradigm in international biodiversity conservation", Wilshusen, Brechin and West (2002) note that arguments against community-based approaches are made in isolation of the political, social and economic factors of particular areas and projects. As a result, it is misleading to generalize and conclude that all community-based programs are failing to achieve their goals. The objective of this study, therefore, is to analyze the impacts of tourism development carried out through CBNRM on livelihoods at Khwai, Mababe and Sankoyo villages in the Okavango Delta, Botswana. This study is informed by the sustainable livelihoods framework (SLF).

Community-Based Natural Resource Management

There is widespread literature published on CBNRM in Africa (e.g. Blaikie, 2006; Leach, Mearns, & Scoone, 1999; Magole & Magole, 2005; Mbaiwa, 2004; Swatuk, 2005; Taylor, 2000; Thakadu, 2005; Thakadu, Mangadi, Bernard, & Mbaiwa, 2005; Tsing, Brosius, & Zerner, 1999; Twyman, 2000). There is, however, controversy on whether CBNRM is a paradigm shift or a program. In this study, CBNRM is treated both as a paradigm shift and as a program. As a paradigm shift, CBNRM is described as a participatory and community-based approach to natural resource management initiatives (Twyman, 2000). These participatory approaches began in the late 1980s. Scholars of CBNRM (e.g. Leach et al., 1999; Tsing, et al., 1999; Twyman, 2000) argue that CBNRM aims at achieving conservation and rural economic development through local community participation in natural resource management. The CBNRM paradigm is built upon common property theory, which argues that common pool resources can be sustainably utilized 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 adoption of CBNRM in southern and eastern Africa, particularly in countries like Botswana, is based on these principles of common property theory (Mbaiwa, 2008; Thakadu, 2005).

Central to the CBNRM paradigm are the theory and assumptions underlying the political decentralization of natural resources (Boggs, 2000). 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; Thakadu, 2005). This is a shift from the so-called top-down to a bottom-up approach in natural resource management. The CBNRM paradigm thus reforms the conventional "protectionist conservation philosophy" and "top-down" approaches to development (Mbaiwa, 2004). The decentralization of resources to local communities is assumed to have the potential to promote conservation and rural development (Blaikie, 2006; Mbaiwa, 2005b; Taylor, 2000, 2002; Thakadu, 2005). Conservationists and scholars perceive the decentralization of natural resources as a remedy for the chronic wildlife decline resulting from the central government's failure in resource management (Boggs, 2000). Local institutions where local

people have a role to play in resource management and derive benefits from such resources around them are 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 than do centralized or distant government or private management institutions (Taylor, 2000; Tsing et al., 1999; Twyman, 2000). CBNRM credits local institutions and people with having a greater understanding of, as well as a vested interest in, their local environment and hence can effectively manage natural resources through local or traditional practices (Leach et al., 1999; Tsing et al., 1999; Twyman, 2000). The underlying assumption of CBNRM is 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 and ultimately lead communities to the use of natural resources found around them sustainably (Leach et al., 1999; Tsing et al., 1999; Twyman, 2000).

Botswana adopted CBNRM in the late 1980s. During this period, the management of natural resources, particularly wildlife, by the central government was experiencing frequent and chronic declines (Moganane & Walker, 1995; Mordi, 1991; Perkins, 1996). These authors argue that the centralization of natural resources by the national government in Botswana alienated local communities from resource management. Gibson and Marks (1995) argue that the 1970s and 1980s resulted in the traditional approaches to nature protection declared by governments and conservationists as insufficient and ineffective at protecting biodiversity in Africa. Local communities were excluded from resource management in favor of centralization and privatization of resources. Centralization of natural resources in Botswana began during British colonial rule and continued under postcolonial governments (Mbaiwa, 1999). CBNRM in Botswana is designed to reverse problems caused by the centralization of natural resources, which include wildlife resource decline.

The CBNRM paradigm has advocates and critics. Its critics note the following weaknesses: the lack of a clear criteria by which to conclude whether CBNRM projects are sustainable and meet conservation and development targets (Western, Wright, & Strum, 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, Roe, & Van Eeten, 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 (Twyman, 2000). Campbell et al. (2001) allege that much of the literature on CBNRM is falsely optimistic and high expectations have not been achieved; as a result, southern African villages are largely not benefiting from CBNRM. Lawry (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 CBNRM.

In Botswana, several studies (e.g. Bolaane, 2004; Kgathi, Ngwenya, & Wilk, 2007; Magole & Magole, 2005; Mbaiwa, 2003, 2004; Swatuk, 2005; Taylor, 2000; Thakadu et al., 2005; Twyman, 2000) criticize CBNRM for a number of issues. For example, Blaikie (2006) and Swatuk (2005) argue that CBNRM has not achieved its objectives of conservation and rural development, and instead it is a tool used by donor conservation agencies and governments from developed countries to perpetuate the global domination of developing countries; Taylor (2000) writes of the marginalization of minority groups like the Basarwa of Gudigwa from benefiting from CBNRM; Twyman (2000) argues that CBNRM in the Kalahari region is also not fully developed to yield significant benefits to residents. Mbaiwa

(2005a) argues that tourism in Botswana is largely enclave in nature and is dominated by foreign companies. As a result, the majority of local people derive insignificant benefits from tourism in the Okavango Delta. Mbaiwa argues that local community attempts to benefit from tourism development either through CBNRM or by citizen companies are characterized by a host of problems (e.g. lack of capital, entrepreneurship and marketing skills), which make such attempts achieve lower benefits when compared with those of their foreign company competitors. Despite these criticisms, CBNRM is one approach which is introducing local participation and benefits from tourism development particularly in rich wildlife habitats like the Okavango Delta (Arntzen et al., 2003; Kgathi et al., 2007; Mbaiwa, 2004; Thakadu, 2005). While this is the case, existing research on CBNRM (e.g. Arntzen et al., 2003; Magole & Magole, 2005; Mbaiwa, 2005b; Thakadu, 2005) has not adequately shown the extent to which individual CBNRM projects in the Okavango Delta have improved rural livelihoods or alleviated poverty. This limitation in the literature occurs at a time when related studies (e.g. Central Statistic Office, 2008; Fidzani, Mlenga, Atlhopheng, & Shatera, 1999; North West District Council, 2003) argue that most people in the Okavango Delta live in poverty.

The literature that criticizes CBRNM cannot be ignored because it contains some of the strong points about challenges facing CBNRM implementation. However, Wilshusen et al. (2002) argue that critics of CBNRM largely make their arguments in isolation of the political, social and economic context of a particular project. So, to avoid missing other key aspects of CBNRM, particularly its achievements, we need to deal with projects on individual basis. This paper, therefore, makes an analysis on the impacts of CBNRM on livelihoods at Khwai, Sankoyo and Mababe villages appropriate.

The sustainable livelihoods framework

Improved livelihoods in rural settings such as the Okavango Delta can be measured using the SLF. Some studies (e.g. Kgathi et al., 2007; Mbaiwa & Sakuze, 2009; Taylor, 2000, 2002) in the Okavango Delta have used the livelihoods framework. Taylor (2000, 2002) argues that the San or Basarwa of Gudigwa and Khwai have their access to livelihoods opportunities restricted by centralization of natural resources, particularly through the establishment of Moremi Game reserve. Mbaiwa and Sakuze (2009) used the framework to analyze how the Basarwa of XaiXai can use their culture to derive economic benefits from tourism development. Mbaiwa (2004) analyzed how basket production contributes to household livelihoods; Kgathi et al. (2007) describe different livelihoods options found in the Okavango Delta as well as related challenges, shocks and adaptation made by rural communities. Kgathi et al. (2007) argue that natural-resource-based activities in the Okavango Delta can be arable farming, livestock farming, collection of rangeland products, basketmaking, fishing and community-based tourism. Mbaiwa et al. (2008) studied lack of access to natural resources by rural communities and how this affects their livelihoods. All these studies have not adequately researched how wildlife-based tourism through CBNRM can improve rural livelihoods. As a result, research should establish whether CBNRM has since its inception in the Okavango Delta made any significant contribution to livelihoods in villages where it is embraced.

The SLF recently became central to the discourse on poverty alleviation, rural development and environmental management (Ellis, 2000; Scoones, 1998). According to Chambers and Conway (1992, p. 7) "a livelihood comprises the capabilities (stores, resources, claims and access) and activities required for a means of living". Ellis (2000, p. 19) also points out that "a livelihood comprises the assets (natural, physical, human, financial and social

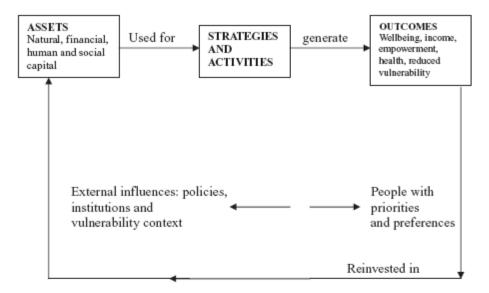


Figure 1. Sustainable livelihoods framework. Source: Ashley (2000).

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 and Conway (1992, p. 5) note that, "a livelihood in its simplest sense is a means of gaining a living".

The SLF is a suitable tool for analysis of livelihoods in this study because it links the broader socioeconomic components of household assets, livelihood activities, outcomes of livelihoods activities and factors mediating access to livelihood activities (Ellis, 2000; Scoones, 1998). Activities are strategies or various ways in which households generate their livelihoods (Ellis, 2000; Kgathi et al., 2007). The SLF therefore seeks an accurate understanding of people's assets and capital endowments and the processes and conversion of these into desirable livelihood outcomes (Mubangizi, 2003). The SLF 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; D'Hease & Kirsten, 2003; Scoones, 1998). Figure 1 simplifies the SLF. This study uses the framework to demonstrate how three communities collectively use natural resources, their knowledge and skills through tourism development to achieve commonly shared goals of improved livelihoods in their respective villages.

Figure 1 shows that assets and resources are inputs to a livelihood system and 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 SLFs to identify entry points for understanding root causes of poverty and potential interventions for improving people's lives (Scoones, 1998). The SLF thus brings together the notions of wellbeing, security and capability, through in-depth analysis of existing poverty (wealth), vulnerability and resilience, as well as natural resource sustainability (Bhandari & Grant, 2007). Bhandari and Grant argue that the concept of livelihood security emerged in response to the question of whether people's lives become better or worse at family and community levels. Livelihood security is the adequate and sustainable access to income and other resources to enable households to meet basic needs (Frankenberger, Luther, & Becht,

2002). Frankenberger et al. argue that basic needs include adequate access to food, potable water, health facilities, educational opportunities, and housing and time for community participation and social integration. In this paper, the extent to which tourism development at the study communities uses natural resources such as wildlife, forest resources, grass species and birds to improve rural livelihoods is analyzed using the SLF. Niehof (2004, p. 322) argues that "livelihood is a multi-facetted concept, being what people do and what they accomplish by doing it, referring to outcomes as well as activities". In this paper, the SLF helps examine what people do in tourism development through the CBNRM program, what they accomplish from participating in CBNRM projects and the outcomes in terms of contribution to improved livelihoods in the Okavango Delta.

Study area

This study was carried out in the Okavango Delta in northwestern Botswana (Figure 2). The delta is formed by the inflow of the Okavango River from the Angolan Highlands to form a wetland known as the Okavango Delta, a conical and triangular-shaped alluvial fan of about 16,000 square kilometers (Tlou, 1985).

Like the Nile in Egypt, the Okavango River and its delta sustain life in an otherwise inhospitable semidesert environment. The Okavango Delta is characterized by large amounts

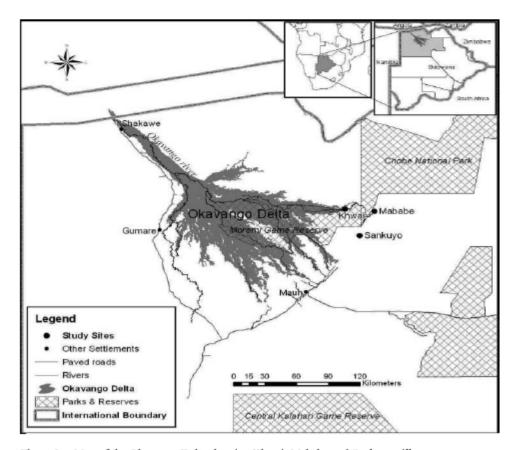


Figure 2. Map of the Okavango Delta showing Khwai, Mababe and Sankoyo villages.

Table 1. 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 km²)	Hunting & photographic	Land rentals, sale of wildlife quota Operating campsite, sale of subsistence hunting quota, sale of meat
Mababe	NG 41 (2181 km²)	Hunting & photographic	Land rentals, sale of wildlife quota Operating campsite, sale of subsistence hunting quota, sale of meat

Note: CHA, controlled hunting area.

of open water and grasslands, which sustain human life and a variety of flora and fauna. Because of its rich fauna and flora, the Okavango Delta became a wetland of international importance and was listed as a Ramsar Site in 1997. Owing to its rich wildlife diversity, wilderness nature, permanent water resources, rich grasslands and forests, the delta has become one of the key international tourism destinations in Botswana. It is, therefore, a suitable site to investigate whether tourism can be used as a tool to achieve conservation and improved livelihoods.

Three villages, Sankoyo, Khwai and Mababe, were selected as study sites (see Figure 2). All three are involved in CBNRM and have adopted a wildlife-based tourism approach which includes consumptive (e.g. safari hunting) and nonconsumptive (e.g. photographic tourism) wildlife utilization (Table 1). Sankoyo is located approximately 95 kilometers north of Maun. It has a population of 372 people (CSO, 2002). The Botswana Government allocated land to Sankoyo's people for photographic and hunting purposes. Khwai is located approximately 140 kilometers north of Maun. Moremi Game Reserve borders the village in the south and Chobe National Park in the north. The majority of Khwai's 360 people are Basarwa or the so-called Bushmen of the Bagakhwe clan (Bolaane, 2004; Taylor, 2002). However, other ethnic groups have since settled in the village, including Batawana, Basubiya and other Basarwa from different clans. Mababe (population 290) is also located approximately 150 kilometers north of Maun between Moremi Game Reserve and Chobe National Park. The people of Mababe are Basarwa of Tzexa or Ts' exa clan (Taylor, 2002). The Basarwa of Mababe also lived a nomadic life of hunting and gathering until recently.

The villages of Khwai, Mababe and Sankoyo were purposively selected for several factors. We assumed that measuring the effectiveness of tourism development in achieving livelihood change required sites where a long-term (at least 10 years) ethnographic dataset is available. The authors of this paper have long-term ethnographic data for the three villages dating back to 1998 and have closely observed and conducted several surveys there in the last decade.

Methods

This study made use of the above longitudinal data, which made it easy to analyze livelihood changes caused by 10 years of tourism development. Additionally, data were collected from

Villages	Household sample	Total households	Total village population
Sankoyo	30	76	372
Sankoyo Khwai	30	56	360
Mababe	30	57	290
Total	90	186	1022

Table 2. Household samples in the study area.

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, representing 48.4% of all households in the villages (Table 2).

A household list in each of the villages kept at Community Trust was used to randomly pick interviewees, giving a total of 54 females and 36 males who were at the time of the interview household heads or representatives. Their ages ranged from 18 to 70 years. Only five were beyond Botswana's retirement age of 65 years. Average household size was nine people.

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 were not limited to 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. These included but were 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 were 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 total, 14 key informants were interviewed. In-depth interviews with key informants were essential for gaining long-term knowledge on livelihood changes in each of the villages and for knowing 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 to keep it focused. This allowed respondents to talk at length about particular topics.

Unstructured focus group discussions were also conducted with the VDC and Board of Trustees in each village to further understand these changes. Open-ended questions focused on communities' livelihoods did before tourism development, present livelihoods options and how they are affected by tourism development and what participants assumed to be the effects of tourism development to improve livelihoods in their communities. Secondary data sources such as published and unpublished literature on effects of tourism development on livelihoods in the Okavango Delta were also used from libraries and documentation centers in Botswana. Secondary sources utilized included research reports, policy documents, journal papers, theses and dissertations on CBNRM and annual reports of the CBNRM projects at Khwai, Mababe and Sankoyo and in the Okavango Delta as a whole.

Results

Shifts in livelihood options caused by tourism development

Results indicate a shift from traditional livelihood activities to a cash-based economy driven by wildlife-based tourism through CBNRM (see Table 3).

Household interviews indicate that hunting, gathering, crop and livestock farming, the main livelihood activities before tourism development, were drastically affected by tourism development. Subsistence hunting was never mentioned by any household as a livelihood activity: it has been abandoned in favor of the wildlife quota system sold to safari hunters. All 90 households interviewed in the villages noted that they no longer collect rangeland resources such as wildlife fruits, berries and insects to supplement their diet. The majority (96.7%) also noted that livestock farming is no longer an important livelihood activity; 82.2% no longer practice crop farming. Many households noted that bigger crop fields have been abandoned because of wildlife damage to crops and lack of interest in crop farming, especially by young people. Conversely, 64.4% of respondents noted that tourism development through CBNRM now occupied first position in meeting their daily household needs; 23 (25.6%) noted that it is the second most important livelihood activity; 5 (5.6%) placed it third; and only 4 (4.4%) noted that it had no impact in their households. Tourism development through the CBNRM program has become the main livelihood in these three villages. Table 3 shows some of the tourism-influenced livelihood activities identified in the study including the following: the collection and sale of thatching grass to safari companies for thatching lodges and camps; the production and sale of crafts, especially baskets, other wood carving and beads to passing tourists; employment opportunities in CBNRM projects, companies that lease their community areas and other safari companies in the Delta.

Tourism-influenced livelihood options have replaced many traditional livelihood activities, especially subsistence hunting and collection of rangeland products, livestock and crop farming. However, communities do not view these changes as causing any livelihood insecurity. These claims are illustrated by numerous comments made by respondents. An old woman at Sankoyo noted, "CBNRM has helped us; most of our children in Sankoyo are now working. It's 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

Table 3. Shifts in livelihood activities following the advent of tourism.

Decrease	Increase		
Special game licenses suspended	Hunting quota system introduced under CBNRM		
 Subsistence hunting either reduced or abandoned 	 Commercial hunting and photographic tourism has become the main livelihood option 		
Collection of rangelands products (gathering) either reduced or abandoned	 Employment and income generation from CBNRM and other tourism enterprises 		
Livestock and crop farming areas either minimized or abandoned	 Area now reserved for wildlife conservation and tourism development 		
Little interest on collecting local foods (e.g. berries, frogs, tubers)	 Generation of income to afford modern western foods (e.g. rice, macaroni, spaghetti, potatoes) 		
Floodplain crop and livestock farming either reduced or abandoned	Income from CBNRM enterprises		

said, "Our wellbeing 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." The communities believe that these changes have increased livelihood security instead of reducing it.

Although CBNRM marked the onset of local participation in tourism development, informal interviews with elders in the villages indicate that local people worked as casual workers in tourism companies before CBNRM. For example, the people of Khwai worked at Tsaro Lodge, Khwai River Lodge and Machaba Lodge before CBNRM was adopted. However, only a few people benefited from this employment. In 1998, only three people were employed at Tsaro Lodge from Khwai Village (Mbaiwa, 1999), confirming that tourism in the Okavango Delta was enclave in nature and had insignificant benefits for local people (Mbaiwa, 2003, 2005a).

Other factors causing shifts in livelihoods activities

The shift from traditional livelihood activities to tourism-influenced options in the delta is also reported in other studies. Arntzen, Buzwani, Setlhogile, Kgathi and Motsolapheko (2007) note that the main livelihood activities before the introduction of CBNRM at Sankoyo were cattle rearing, arable farming, hunting through single game licenses and gathering. They argue that some of these activities are now restricted or have been abandoned because of the completion of the Southern Buffalo Fence in 1996, which restricts Sankoyo residents rebuilding their cattle herds after the slaughter policy following the outbreak of cattle lung disease in 1995. Zoning into wildlife management areas and disease control regulations do not allow cattle rearing in the areas around the three villages. Other factors besides CBNRM have caused traditional livelihoods activities to decline.

Impacts of tourism on livelihoods

The impact of tourism development through CBNRM on livelihoods at Khwai, Mababe and Sankoyo was analyzed using indicators such as employment opportunities, financial benefits, household dividends, access to game meat and other social benefits like funeral assistance, old age pensions and the provision of housing for the elderly and poor, transportation services and other intangible benefits like skill development. These indicators measure the outcomes of wellbeing, income, empowerment, health and reduced vulnerability as described in the sustainable livelihoods framework (see Figure 2).

Employment opportunities

Employment was found to be one of the main benefits that has improved livelihoods in the villages. It is provided both by the safari companies that sublease community areas and by village trusts. Table 4 shows that 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 5 people in 2000 to 74 people in 2007.

At Mababe 22.8% are now employed; at Khwai it is 21% and 28% at Sankoyo. These percentages are very high considering the numbers of elderly, school-going children (under 18), the sick and pregnant mothers. The Mababe trust manager remarked, "[G]o 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

Table 4. 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. JVP is for joint venture partnership.

the most important economic activity that provides employment opportunities in the three villages. Most are semiskilled (e.g. cooks, cleaners, storekeepers and escort guides). Table 5 shows that most of the households interviewed have a member working in their CBNRM project in the Okavango Delta.

That only 3.3% of the households have no members employed in tourism demonstrates the impact of tourism development at Khwai, Sankoyo and Mababe. Employment can be described as an individual benefit; however, 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, the majority (91.1%) of workers from both community-based organizations (CBOs) and safari operators noted that the main use of their income is buying food, building houses, buying toiletries and clothes, supporting parents and helping meet expenses associated with school for children. Only 8.9% noted that they save their tourism-derived income for future uses such as paying dowry, sponsoring themselves to schools and household emergencies. Such income was not available before CBNRM was introduced in the Delta.

The importance of employment opportunities created by CBNRM for community members can be noted in many comments respondents made in the 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." A 30-year-old man noted, "[W]e no longer get scattered like it was

Table 5. Number of people employed in CBNRM from each household.

No. of people employed in a household	No. of households	Percentage 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
Total	90	100

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."

Financial benefits from tourism development

In CBNRM projects, financial benefits accrue to the particular community but finally end at household level as wages to individual employees and through social services or benefits. Tourism revenue that accrues to communities from subleasing of the hunting area, sale of 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 6 shows the financial benefits that accrue to each village from when the projects started up to 2007. Revenue from CBNRM in the three villages has on average increased

Table 6. Revenue (BWP) generated by Sankoyo, Khwai and Mababe, 1997-2007.

	. , ,			
Year	Land rental	Quota	Others*	Total
Sankoyo T	swaragano Manage	ement 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 Dev	elopment Trust			
2000	0	1,057,247	72,536	1,129,783
2001	0	585,220	248,305	833,525
2002	0	1,211,533	36,738	1,214,567
2003	0	348,778	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 Z	okotsama 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.

Table 7. 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
Total	90	100.0

annually. Khwai had variations between 2000 and 2003, possibly because Khwai did not then have a joint venture partner and sold their wildlife quota by auction. Interviews with the Khwai trust manager indicate that proper recording was not done during this period; there was no trust manager or accountant, and mismanagement and misappropriation of funds was high in each of the communities by then.

Data given in Table 5 show that land rentals and quotas have increased in each village. Thus at Sankoyo, land rentals increased from P285,750 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. Some of the community tourism income passes on to the households as dividends. For example, between 1996 and 2001, each household at Sankoyo village was paid P200, increasing to P250 in 2002, P300 in 2003 and P500 between 2004 and 2007 (see Table 7). Overall, 93.3% of the households noted an increase of household income due to tourism in the last 10 years.

Only 3.3% of the respondents noted that their income has been reduced by the adoption of CBNRM. During interviews with other community members, it was established that respondents who argued that CBNRM had a negative impact are those who committed offenses, and collective action by respective communities resulted in imposed sanctions where they are denied participation and benefits from CBNRM for a period of five years. For example, at Sankoyo, the former chairperson of the trust was denied participating or deriving benefits from CBNRM for a period of five years after he was found having illegally killed a buffalo. Collective action, which includes sanctioning of wrong doers in a community, is part of the social capital described in the SLF.

The provision of social services

The ability of people in the three villages to agree in kgotla meetings on how to use income they generate from tourism development indicates enhanced social capital, which is one of the inputs (assets) in the SLF. Pretty and Smith (2003, p. 631) 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". Social capital in the villages of Khwai, Mababe and Sankoyo was found to be higher. As a result, these three villages, through their membership of their local tourism institutions (i.e. CBOs), 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 8 shows the social projects and amount used to fund each of these community development projects in the three villages.

Table 8. 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 (P150 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), Sankoyo and Mababe trust reports.

To illustrate some of the information provided in Table 7, collective decision-making in the three communities has led to the payment of funeral expenses for community members of P3,000 if an adult dies and P1,000 if a minor dies. Community vehicles would also be used to collect firewood used to prepare meals for mourners and transport them to and from Maun where all the three villages bury their dead persons. 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 if 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 Delta, where accessibility by public transportation is very difficult. Trust vehicles have, therefore, brought welcome improvement to the three villages.

Before tourism development, water supply and distribution was a problem in the villages. Income from tourism development has helped address this. 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 digging a trench from the Khwai River to provide water to the village. The other remarkable social service funded by CBNRM in the villages is in housing. At Sankoyo, CBNRM paid to build 7 houses for the poor; at Khwai 18 houses were built; at Mababe 10 houses were built for elderly and the poor. CBNRM also pays 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. For Khwai, all the villagers got insurance for funeral benefits. CBNRM in the villages has taken social responsibility for community members transforming their communities from being beggars who lived on handouts from the Botswana Government and foreign donor agencies into productive communities that are moving toward achieving sustainable livelihoods.

Intangible benefits

There are several intangible benefits that have important spin-off effects for rural development beyond the CBNRM projects. Informal interviews with board of trustees, VDC members and chiefs in the villages noted benefits including the following: the establishment of representative village institutions like CBOs (trusts) which encourage rural development and conservation initiatives in the delta; retaining youth in rural areas; development of tourism entrepreneurship skills; exposure to the private sector and business thinking; skill development; and improved working relations with the government and conservation and development organization. The acquisition of skills in tourism by residents was exemplified by the secretary of the board of trustees at Mababe, who 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 less than 10 years, interviews with this secretary shows that the interaction he has had with safari operators has provided him with the knowledge to own a business and sell game meat. A decade ago that idea would have been unknown in the remote villages of the Okavango Delta.

Some challenges of CBNRM and mitigation measures

CBNRM in the Okavango Delta has a number of challenges otherwise described as shocks in the SLF (see Figure 2). The villages have developed new strategies to mediate against these shocks and reduce vulnerability; they are discussed below:

The distribution of CBNRM benefits

The fair distribution of CBNRM benefits is a contentious issue in many CBNRM projects. Some CBNRM projects lack a mechanism for fair distribution (Mbaiwa, 2004). CBNRM benefits generally do not trickle down to households and other social groups (e.g. the elderly, women and youth) in most villages (Mbaiwa, 2004). In some cases the poor distribution of benefits results from poor coordination between the trust leadership and the general membership and the mismanagement and misappropriation of funds generated from CBNRM projects (Mbaiwa, 2004). The three communities have developed strategies to mediate against the poor distribution of benefits in their villages. For example, with employment benefits, the village board of trustees and households 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, and the members of that household are then considered for the job. This ensures that all households in each village should have at least one person employed by either the trust or the safari operator. Interviews with households and board of trustees members in all the villages revealed that in trust meetings an attendance register is kept. Employment opportunities are also determined by who attends meetings and the number of meetings an individual attends over time. This criterion 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 the success of CBNRM. 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. CBNRM communities have local institutions in the form of trusts or CBOs which have so far been able to mediate on community participation in tourism development.

Resource and internal community conflicts

The growth of enclave tourism in the delta and ideas that the Okavango should be kept as a complete wilderness area for tourism and wildlife management were a source of conflict between tour operators and the local communities for years (Darkoh & Mbaiwa, 2005). For example, the three lodges, Tsaro Game Lodge, Khwai River Game Lodge and Machaba Lodge, located along the Khwai River, conflicted with Khwai residents for many years (Mbaiwa, 1999). Tour operators in these lodges considered the Khwai Village to be situated within a wildlife and tourist area, as did officials from the Departments of Tourism in Maun and Wildlife and National Parks at North Gate in the Moremi Game Reserve (Mbaiwa, 1999). Game ranchers stated that the Khwai settlement destroys the wilderness atmosphere/image that tourist clients pay to experience. Domestic animals such as dogs and littering at Khwai was also perceived by operators as destructive to that image. The government and the industry proposed that the settlement should relocate elsewhere away from the Moremi Game Reserve, to help tourism development and wildlife management (Mbaiwa, 2005b). This problem was mediated by gazetting Khwai to be a permanent settlement in 2005. In addition, the entire area around the Khwai Village was made a concession area to be used by Khwai residents for wildlife-based tourism. Khwai villagers now control tourism development in the area. When Tsaro and Machaba's game lodge licences expired in 2006 they were not renewed; the lodges have been handed over to the community to manage. Very soon the community will be running the lodge. The same will apply to Khwai River Lodge when its licence expires in 2021.

Internal community conflicts between the different ethnic groups within villages was in the past a cause of instability of CBNRM in the Okavango Delta. For example, at Khwai, one dominant clan wanted to marginalize the participation of the other clan in CBNRM (Mbaiwa, 2005b). Other people who came to live in these villages were also discriminated against in participating and sharing benefits from CBNRM. In addressing this problem, the Botswana Government requested each of the CBNRM villages to have legally binding constitutions which do not exclude any community member. This is a prerequisite of obtaining a tourism license, wildlife quota or resource use rights granted by government. In addition, the three villages have come up with rules and regulations on who should participate and benefit from CBNRM in their respective villages. One of the common rules is that anyone who has lived continuously in the respective village for a period of over five years and is over 18 years of age is eligible to participate and benefit from CBNRM. This clause has reduced internal conflicts on CBNRM and helped benefit sharing. Conflicts between villages are also nonexistent; CBNRM activities are carried out in specific concession areas demarcated and allocated by the government with the consultation of all stakeholders, particularly the communities themselves.

The CBNRM policy of 2007

The CBNRM policy of 2007 threatens the survival of the CBNRM it aims at promoting. Article 10.3 notes, "Thirty-five percent (35%) of the proceeds of the sale of natural resource concessions and hunting quotas may be retained by the CBO. Sixty-five percent (65%) shall be deposited in the Fund for the financing of community based environmental management and ecotourism projects throughout the country. The Minister may however, vary these percentages depending on the circumstances and needs of the particular CBO". This implies that much of the revenue generated by CBNRM projects (i.e. 65%) will be deposited into a Government Conservation Fund unless the Minister of Environment, Tourism and

Wildlife gives the particular village a waiver. The reality is that no business venture can survive when 65% of its gross annual income is taken away. This clause came about because many CBNRM projects were reported to be mismanaging and misappropriating funds (Mbaiwa, 2004); hence the reaction to reduce the amount of revenue in CBNRM villages by depositing it into the government conservation fund. While mismanagement and misappropriation of funds are a problem in most CBNRM villages in the delta, most villages have now employed trained trust managers/accountants to manage their tourism business and revenue as a mitigation measure. As a result, it has been difficult for the government to implement the clause so far; many communities now have audited financial statements and can account for how CBNRM revenue is used. In addition, addressing the problems of lack of entrepreneurship skills, marketing and financial mismanagement, among others, in CBNRM projects, the three villages provide training for people to acquire the necessary skills to run CBNRM projects, and where they have limited capacity, they employ people from outside who have such skills.

Reliance on a single livelihood options

The rapid development of tourism through CBNRM has caused a collapse in traditional livelihood options. Dependency on tourism as the single livelihood option might be risky in the event of a shock or stress, particularly in developed nations where tourists who visit wetlands like the Okavango Delta originate. In mitigating against this potential future challenge, the three communities are diversifying their base into other economic sectors such as small-scale enterprises and estate property and are buying shares at the stock market. The Botswana Tourism Board is also assisting these communities to develop domestic tourism which is generally less venerable than international tourism (Ghimire, 2001, Mbaiwa, Toteng, & Moswete, 2007). Domestic tourism is also assumed to promote citizen companies to participate in tourism development, reduce the foreign domination and ownership of tourism and thus bring greater benefits to Botswana (Mbaiwa, 2005a). The diversification of livelihoods by the villages into other sectors using income from CBNRM increases the multiplier effects of tourism and thus directly impacts on livelihoods.

Discussion

The SLF indicates that assets (natural, financial, human and social capital) are inputs in a system where outcomes in the form of community wellbeing, income, empowerment, health and reduced vulnerability should be achieved. In this system, strategies and activities should be devised to achieve these outcomes (Ashley, 2000; Chambers & Conway, 1992; Ellis, 2000). 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 the government and the private sector through joint venture partnerships has enabled them to derive tourism benefits (i.e. income, employment, social services and the like) to improve the quality of life and livelihoods in their communities. This shows that social capital as described in the SLF in the three communities has been enhanced so that collective action where the common goal is improved livelihoods is being achieved through tourism development.

Livelihoods were lower and poverty was higher before tourism development in the three communities. Since CBNRM was adopted as the main livelihood option by these communities, the quality of life and livelihoods have improved. This is particularly so for socioeconomic benefits such as the creation of employment opportunities, income generation, provision of social services like water supply, availability of game meat, scholarships for students, skills acquisition and the establishment of facilities like recreation halls and sponsorship of local sporting activities. Arntzen et al. (2007) found similar results at the Sankoyo Village. They noted that poverty leading to out-migration has been stopped. Since CBNRM was implemented at Khwai, Mababe and Sankoyo, people now migrate back to these communities for employment, particularly in the tourism peak season. They noted that CBNRM at Sankoyo has widened and augmented local livelihood options through the development of community-based tourism and that these changes have been significant, and most households have benefited from employment and tourism development.

Longitudinal data indicate the change in fortunes. Residents at Khwai, Mababe and Sankoyo derived insignificant benefits from tourism in the past: in 1998, 71.6% of the households got no tourist benefits (i.e. income, employment and improved infrastructure like water supply and roads) in their local environment (Mbaiwa, 1999). A 25-year-old man at Khwai said in an interview in 1998, "[H]ow 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 (DWNP), who are making a request to us to re-locate from this place and give way to wildlife conservation" (Mbaiwa, 1999, p. 99). In 1998, 93.7% of the respondents said they did not have a role to play in policymaking regarding wildlife management in their local environment (Mbaiwa, 1999). At that time, there was hostility between the DWNP and community members in each of the villages because local people felt that the government was denying them access to land and benefits from its resources. The DWNP was 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). In an interview in 1998 an old woman in Mababe said, "[M]y grandchild, 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, p. 108).

The tourism-based economic benefits that now accrue to the villages of Khwai, Mababe and Sankoyo from CBNRM can be described as outputs that aim at improving the wellbeing and livelihoods of local people as shown in the SLF. These benefits are a result of the decentralization of resource use through CBNRM. Economic benefits and improved livelihoods at the villages thus contradict claims by scholars (e.g. Blaikie, 2006; Brandon, 1998; Swatuk, 2005) that community conservation and development projects are failing to achieve rural development. The success story of the villages thus confirms claims by Wilshusen (2002) that it is erroneous to generalize and conclude that community development projects are failing to achieve conservation and rural development.

The shift from traditional livelihood activities to tourism-influenced activities may not necessarily be a negative phenomenon caused by tourism. Instead, it shows the dynamism of culture. Culture is not static but dynamic, as are livelihood activities in any society. The shift observed in this study is thus a cultural and livelihood change that should not cause much alarm. Similar changes from traditional livelihood activities to tourism-influenced activities have been reported in other parts of the world; for example, Andriotis (2003) and Harrison (1996) argue that tourism has caused changes to livelihoods and the environment in Crete (Greece) and Boracay (Philippines), respectively. Harrison (1996) states that residents of Boracay subsisted on farming and fishing until the island became an international tourist destination in the 1980s. As tourism grew, farming and fishing in Boracay declined, as residents became incorporated into the world economic system characterized by infrastructure development, the expansion of the cash economy, wage labor and the introduction of Western norms and values. Andriotis (2003) notes that tourism in Crete has been

transformed into a primary source of income and employment generation. These benefits have, as a result, improved the quality of life for locals in Crete.

The overall results in this study suggest that CBNRM can be used as a tool to achieve improved livelihoods in the Okavango Delta. Decentralization of resources to local people, collective action in resource use and the benefits that the communities derive from wildlife-based tourism determine the success of CBNRM. If tourism development through CBNRM contributes to improved livelihoods at Khwai, Mababe and Sankoyo, it is possible therefore that conservation can be achieved in their concession areas. Advocates of community-based approaches (e.g. Wilshusen et al., 2002) argue that if local people derive economic benefits from natural resources in their local environment and their livelihoods are improved, they will be obliged to use them sustainably. The case of the villages brings hope to conservation.

Conclusion

The SLF indicates that assets (natural, financial, human and social capital) are inputs that can be used to achieve improved livelihoods as outcomes. In the case of Khwai, Mababe and Sankoyo, communities have assets in the form of natural resources (e.g. wildlife) which they use to benefit from tourism development through CBNRM. The SLF also indicates that strategies and activities should be devised by a community to achieve outcomes. In the case of the villages studied, tourism development is now an activity and CBNRM is the strategy to achieve their desired goal of improved livelihoods. Social capital is a key asset in the livelihoods framework. Therefore, the ability of residents to form local institutions (e.g. CBOs) and network with the government and the private sector through joint venture partnerships in order to participate in tourism development to improve their quality of life and livelihoods shows a higher level of social capital in these communities. This level of social capital has enabled these communities to take collective action in the participation and distribution of CBNRM benefits in their villages.

The SLF indicates that wellbeing, income, empowerment, health and reduced vulnerability are outcomes (Ashley, 2000; Chambers & Conway, 1992; Ellis, 2000; Scoones, 1998) in a development approach like CBNRM. Livelihoods and the quality of life at Khwai, Sankoyo and Mababe have improved after the introduction of CBNRM, particularly socioeconomic benefits such as the creation of employment opportunities, income generation, provision of services like water supply and distribution, availability of game meat, educational scholarships, acquisition of skills in the tourism business and the establishment of new local social facilities. It can be argued, therefore, that some CBNRM projects are achieving the goal of development, disputing the arguments that all community-based approaches and projects fail to achieve rural development.

Notes on contributors

Dr Joseph E. Mbaiwa holds a PhD in Tourism Sciences from Texas A&M University. He currently works as a Senior Research Fellow in Tourism Studies at the Harry Oppenheimer Okavango Research Centre, University of Botswana. His research interests are in tourism development, rural livelihoods and conservation with particular interest in the Okavango Delta, Botswana.

Dr Amanda L. Stronza holds a PhD in Anthropology from the University of Florida. She is currently an Associate Professor of Ecotourism at Texas A&M University. Her research interests are in ecotourism and conservation with particular interest in South America.

Note

1 Botswana Pula (P) ≈ 15 cents.

References

- Agrawal, A., & Gibson, C. (1999). Enchantment and disenchantment: The role of community in natural resource conservation. Wildlife Development, 27(4), 629–649.
- 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. Gaborone, Botswana: Centre for Applied Research.
- Arntzen, J., Molokomme, K., Tshosa, O., Moleele, N., Mazambani, D., & Terry, B. (2003). Review of CBNRM in Botswana. Gaborone, Botswana: Centre for Applied Research.
- Ashley, C. (2000). The impacts of tourism on rural livelihoods: Namibia's experience (Working Paper 128). London: Overseas Development Institute.
- 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.
- Blaikie, P. (2006). Is small really beautiful? Community-based natural resource management in Malawi and Botswana. World Development, 34(11), 1942–1957.
- 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). Maun, Botswana: IIED.
- Bolaane, M. (2004). The impact of game reserve policy on the river BaSarwa/Bushmen of Botswana. Social Policy and Administration, 38(4), 399–417.
- Brandon, K. (1998). Perils to parks: The social context of threats. In K. Redford, K. Brandon, & S. Sanderson (Eds.), Parks in peril: People, politics, and protected areas (pp. 415–439). Washington, DC: The Nature Conservancy and Island Press.
- Bromley, D. (1992). Making the commons work. San Francisco: Institute for Contemporary Studies.
- Campbell, B., Mandondo, A., Nemarundwe, N., Sithole, B., de Jong, W., Luckert, M., et al. (2001). Challenges to the proponents of common property resource systems: Despairing voices from the social forests of Zimbabwe. World Development, 29(4), 589–600.
- Central Statistic Office. (2002). National population and housing census. Gaborone, Botswana: Ministry of Finance and Development Planning.
- Central Statistic Office. (2008). Botswana census-based poverty map: District and sub-district level results. Gaborone, Botswana: Ministry of Finance and Development Planning.
- Chambers, R., & Conway, G. (1992). Sustainable rural livelihoods: Practical concepts for the 21st century (Discussion Paper 296). University of Sussex, Brighton, UK: Institute of Development Studies.
- Darkoh, M.B.K., & Mbaiwa, J.E. (2005). Natural resource utilisation and land use conflicts in the Okavango Delta, Botswana. Gaborone, Botswana: Department of Environmental Science and Harry Oppenheimer Okavango Research Centre, University of Botswana.
- D'Hease, L., & Kirsten, J. (2003). Rural development: Focusing on small scale agriculture in Southern Africa. Pretoria, South Africa: Universities of Ghent & Antwerp and University of Pretoria.
- Ellis, F. (2000). Rural livelihoods and diversity in developing countries. Oxford: Oxford University Press.
- Fidzani, B., Mlenga, W.S., Atlhopheng, M., & Shatera, M.M. (1999). Socio-economic effects of CBPP in Ngamiland. Gaborone, Botswana: Division of Agricultural Planning and Statistics, Ministry of Agriculture.
- 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. Atlanta, GA: CARE USA, PHLS Unit.
- Ghimire, K.B. (2001). The native tourist: Mass tourism within developing countries. London: Earth-scan.
- 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.
- Harrison, D. (1996). Sustainability and tourism: Reflections from a muddy pool. In L. Briguglio, B. Archer, J. Jafari, & G. Wall (Eds.), Sustainable tourism in islands and small states (pp. 69–89). London: Pinter.

- 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.
- Kellert, S.R., Mehta, J.N., Ebbin, S.A., & Lichtenfeld, L.L. (2000). Community natural resource management: Promise, rhetoric, and reality. Society and Natural Resources, 13, 705–715.
- 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.
- Lawry, S.W. (1994). Structural adjustment and natural resources in Sub-Saharan Africa. Society and Natural Resources, 7, 383–387.
- Leach, M., Mearns, R., & Scoone, I. (1999). Environmental entitlements: Dynamics and institutions in community-based natural resource management. World Development, 27(2), 225–247.
- Li, T.M. (2002). Engaging simplifications: Community-based resource management, market processes and state agendas in Upland Southeast Asia. World Development, 30(2), 265–283.
- Magole, L.I., & Magole, L. (2005). Ecotourism and socio-economic development of Basarwa: The case of Gudigwa village. Gaborone, Botswana: University of Botswana & University of Tromso Basarwa Collaborative Programme.
- Mbaiwa, J.E. (1999). Prospects for sustainable wildlife resource utilization and management in Botswana: A case study of East Ngamiland District. Unpublished master's thesis, Department of Environmental Science, University of Botswana, Gaborone, Botswana.
- Mbaiwa, J.E. (2003). The socio-economic and environmental impacts of tourism development on the Okavango Delta, north-western Botswana. Journal of Arid Environments, 54(2), 447–467.
- Mbaiwa, J.E. (2004). The success and sustainability of community-based natural resource management in the Okavango Delta, Botswana. South African Geographical Journal, 86(1), 44–53.
- Mbaiwa, J.E. (2005a). Enclave tourism and its socio-economic impacts in the Okavango Delta, Botswana. Tourism Management, 26, 157–172.
- Mbaiwa, J.E. (2005b). 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. (2008). Tourism development, rural livelihoods and conservation in the Okavango Delta, Botswana. Unpublished doctoral dissertation, Department of Recreation, Park and Tourism Sciences, Texas A&M University.
- Mbaiwa, J.E., Ngwenya, B.N., & Kgathi, D.L. (2008). Contending with unequal and privileged access to natural resources and land in the Okavango Delta, Botswana. Singapore Tropical Geographical Journal, 29(2), 155–172.
- Mbaiwa, J.E., & Sakuze, L.K. (2009). Cultural tourism and livelihood diversification: The case of Gcwihaba Caves and XaiXai Village in the Okavango Delta, Botswana. *Journal of Tourism and Cultural Change*, 7(1), 61–75.
- 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.
- 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.
- Mordi, R. (1991). Public attitudes towards wildlife in Botswana. New York: Garland Publishing.
- 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.
- Niehof, A. (2004). The significance of diversification for rural livelihoods systems. Food Policy, 29, 321–338.
- North West District Council. (2003). District development plan six 2003/4–2008/9. Maun, Botswana: North West District Council.
- Oates, J.F. (1999). Myth and reality in the rainforest: How conservation strategies are failing in West Africa. Berkeley, CA: University of California Press.
- Ostrom, E. (1990). Governing the commons: The evolution of institutions for collective action. New York: Cambridge University Press.
- 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.
- Pretty, J., & Smith, D. (2003). Social capital in biodiversity conservation and management. Conservation Biology, 18(3), 631–638.
- Rabinowitz, A. (1999). Nature's last bastions: Sustainable use of tropical forests may be little more than wishful thinking. National History, 108, 70–72.

- Scoones, I. (1998). Sustainable rural livelihoods: A framework for analysis (Discussion Paper 296). Brighton: Institute of Development Studies, University of Sussex.
- Stronza, A., & Gordillo, J. (2008). Community views of ecotourism: Redefining benefits. Annals of Tourism Research, 35, 444–468.
- Swatuk, L.A. (2005). From "project" to "context": Community based natural resource management in Botswana. Global Environmental Politics, 5, 95–124.
- Taylor, M. (2000). Life, land and power, contesting development in Northern Botswana. Unpublished doctoral dissertation, University of Edinburgh, Scotland.
- Taylor, M. (2002). The shaping of San livelihood strategies: Government policy and popular values. Development and Change, 33(3), 467–88.
- 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, Botswana: Macmillan Publishing Company.
- Tsing, A.L., Brosius, J.P., & Zerner, C. (1999). Assessing community-based natural resource management. Ambio, 28, 197–198.
- Twyman, C. (2000). Participatory conservation? Community-based natural resource management in Botswana. The Geographical Journal, 166(4), 323–335.
- Western, D., Wright, M., & Strum, S. (Eds.) (1994). Natural connections: Perspectives in communitybased conservation. Washington, DC: Island 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.