# ADAPTIVE LIVELIHOOD STRATEGIES OF THE BASARWA:

# A CASE OF KHWAI AND XAXABA, NGAMILAND DISTRICT, BOTSWANA

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# Abstract

This thesis looks into the land use and natural resource management systems of Basarwa communities in Ngamiland in the northwest of Botswana. The study specifically focuses on Basarwa communities living in and on the edges of the Okavango Delta. The link between these communities and their natural resources is explored using the Sustainable Rural Livelihoods Framework and the Adaptive Renewal Cycle. The core assumption in this thesis is that livelihood strategies are constantly renewed and adapted to promote resilience in ecological and social systems. Fieldwork data collected between May 2000 and July 2001 and secondary data is used to deliberate on this point.

The thesis confirms that the Basarwa's livelihood strategies were adaptive only in as far as traditional livelihoods are concerned. The thesis traces the changes that the Basarwa have experienced as a result of policy restrictions through the different phases of the adaptive renewal cycle. The period following Independence in Botswana saw a policy shift which resulted in the Basarwa becoming landless. With mainly land-based livelihood strategies, the Basarwa were faced with new forms of crises and vulnerability which their traditional adaptive strategies were not designed for. It comes to the conclusion that the Basarwa are currently stuck in a reorganisation phase; however, the CBNRM Draft Policy of Botswana offers a glimpse of hope as it provides an opportunity for the Basarwa to progress through the full cycle of reorganisation, renewal, conservation and release.

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# Chapter 1: General Introduction

## *1.1 Introduction*

This thesis looks into the land use and natural resource management systems of Basarwa communities in Ngamiland in the northwest of Botswana. The study specifically focuses on Basarwa communities living in and on the edges of the Okavango Delta. Basarwa is a term used in Botswana to refer to a group of people widely known as the San/Bushmen in academic terms. The link between these communities and their natural resources is explored. The study investigates the links between past and present social and ecological systems (Westley, *et al* 2002; Berkes and Folke, 1998) in the livelihood strategies, defined as activities that generate the means of household or individual survival through a combination and use of human, social, natural and physical assets (Ellis, 2000, DFID, 1999; Carney, 1998) of these communities. The core assumption in this thesis is that livelihood strategies are constantly renewed and adapted to promote resilience in ecological and social systems (Madzwamuse and Fabricius, 2004; Gunderson and Holling, 2002; Ellis, 2000; Berkes and Folke, 1998). The data used to deliberate this point were collected between May 2000 and July 2001.

The Okavango Delta is characterised by constant ecological change. Fire, flooding, drought, animal migration, and seasonal fluxes in the abundance and availability of plant and animal products are typical of this dynamic ecosystem. This state of flux imposes exceptional knowledge and adaptation requirements on humans wishing to subsist here permanently. The Basarwa people living in the area have over many years evolved a body of knowledge and practices about the Delta's ecosystems and their functions to enable them to deal with constant change in those ecosystems. These include a nomadic lifestyle (rarely followed today), flexible livelihood strategies, a heavy reliance on social capital (e.g. customs and traditional institutions), and adaptive ecosystem management (the deliberate use of fire to enhance wildlife habitat, selective and opportunistic harvesting methods, and lifestyles that are independent of financial capital (Madzwamuse, 1998; Saugestad, 1998; Cashdan, 1993 and Lee, 1972). The Basarwa's nomadic lifestyles have more recently been replaced by sedentary lifestyles

in rural settlements created under government-sponsored resettlement schemes. Land and conservation policies that have been introduced since Independence (in 1966) have undermined their traditional land use and natural resource management strategies. These factors have placed considerable constraints on their ability to cope with social and ecological changes.

A combination of the adaptive renewal cycle (Holling and Gunderson, 2001; and Folke and Berkes, 1998) (see Figure 1), and the sustainable rural livelihoods framework, formulated by DFID (1999), is used to analyse the renewal of the Basarwa's livelihood strategies. Based on the analysis, I submit that the Basarwa in the Okavango Delta are currently in a re-organisational phase, after experiencing a rapid collapse of their social and natural capital as a result of land and conservation policies in Botswana. The two methodologies are discussed in more detail in Section 1.2.l.

## *1.2 Statement of the Research Problem*

The livelihood strategies of the Basarwa in relation to their use of land and natural resources is affected by their resettlement, and lack of rights and access to land and natural resources. This is a result of the assumption held by Government that people and wildlife cannot live side-by-side (Gaborone, 1997) as this proximity will lead to a serious reduction in wildlife numbers. The Basarwa, on the other hand, argue that they have been living amongst wildlife for centuries without seeing wildlife numbers dwindle. In the case of the Central Kalahari Game Reserve (CKGR), a wildlife reserve of some 52 145km$^2$, set aside by the colonial government in 1961, for example, Government made the assumption that relocating people would ensure resource conservation (and thus promote tourism) in the Reserve. This assumption is in direct contradiction to the present Botswana Tourism Policy (Gaborone, 1997) as well as the concept of community based natural resource management that the Tourism policy aims to promote (ibid). Furthermore, it is not compatible with the draft Community Based Natural Resource Management Policy (2001), the Revised National Policy for Rural Development (2002), nor with Section 9n of the 1992 Wildlife and National Parks Act, (this calls for community stakeholder participation in the management of protected areas).

The position taken by the Government reflects, in my opinion, an incomplete understanding by policy makers and legislators of the Basarwa's land tenure system. According to Gaborone (1997), the CKGR, the third largest game reserve in the world, was originally established as a means of protecting both the rights of the residents (Basarwa) and natural resources. At the time of its declaration, approximately 5000 people, many of them Basarwa and Bakgalagadi, lived in the Reserve. There has been a steady exodus of Basarwa from the CKGR, which intensified in 1997 as a result of the Government of Botswana's decision made in 1986 to relocate them outside the reserve (Cassidy *et al*. 2001; Currington, 1999). This is perceived by some to be a government strategy to develop the tourism potential of the game reserve (Cassidy *et al.* 2001). More recently Government has been accused of relocating the Basarwa in order to open the area for diamond prospecting, although Government has denied such a causal link (Cassidy *et al*. 2001; Gaborone, 1997).

In Ngamiland the Basarwa have also experienced resettlement as a result of Government land policy, namely the establishment of the Moremi Game Reserve in 1963 (Bolaane, 2004; Alexandra, 1993). The community of Khwai, for instance, has been relocated twice in response to the creation of the Moremi Game reserve, and once outside this area they have continued to experience pressure on the land available to them as a result of competition from the tourism industry (Taylor, 2002; Bolaane, 2004). Some of the Basarwa were also relocated to "serviced" areas under the controversial Remote Area Development Programme (RADP) which was first established as the Bushman Development Programme in 1974 and changed to RADP in 1977 (Saugestad, 1998; Wily, 1994). RADP is a settlement scheme intended to provide Basarwa with access to land, water, clinics and schools and to provide land tenure (Saugestad, 1998). As a result of these forces the Basarwa communities often find themselves sandwiched between private land and protected areas, where access to land and land use is restricted and controlled (Taylor, 2002).

Other Government policies have disempowered Basarwa in a less obvious manner. Wildlife Management Areas (WMAs), for example, are areas reserved under Tribal Grazing Land Policy (TGLP) of 1975. They now cover roughly 22% of Botswana, in thinly populated, remote and poor western and northern parts of the country (Arntzen, 2003). Rozemeijer and Van der Jagt (2000) view the presence of the Basarwa in

WMAs as a blessing in disguise because natural resource utilisation is the main land use allowed within the WMAs, which matches the hunting and gathering lifestyle of the Basarwa. According to Rozemeijer and van der Jagt (2000), this situation puts the Basarwa in a better position to benefit from the CBNRM Policy because they occupy most of WMAs. However, the view that WMAs are a blessing for Basarwa communities is somewhat naïve, in the sense that it ignores the fact that hunting and gathering is hampered by restricted access to resources outside these designated community areas, which are substantially smaller than the traditional hunting and gathering territories of the concerned Basarwa communities. Furthermore, some WMAs, especially those in western Botswana, are resource-poor areas. Hence, the extent to which WMAs are able to sustain and improve local livelihoods is questionable (Arntzen, 2003). This point will be discussed further in Chapter 6, where it is argued that traditional resource use depends on extensive use of land to accommodate seasonal mobility.

The residents of Khwai have also been relocated after they were transferred out of the Moremi Game Reserve. They were again resettled because of a perceived incompatibility between people and wildlife (Alexandra, 1993), despite the fact that this area was the only land that was accessible to the Basarwa communities as they do not have any tribal land designated to them (each of the "major" tribes in Botswana, none of which is a Basarwa tribe, has a land area designated to them). This point is elaborated on further in Chapter 2.

The type of disempowerment discussed above obviously invites hostilities between Reserve authorities and local communities. From the perspective of Reserve officials and conservationists, the conflict is precipitated by livestock trespass, illegal hunting, wood theft and the perceived ecological costs of these transgressions. For local Basarwa communities, on the other hand, the conflict revolves around reduced access to ancestral lands, restrictions on customary resource use and crop damage caused by wildlife (cf. Neumann, 1998). This conflict also applies to the Basarwa who live within and on the borders of protected wildlife areas, such as the communities of Khwai and Xaxaba, who can be described as ecological refugees.

Although, as stated above, traditional communities such as the Basarwa have been dispossessed of their lands, it is widely recognised that they have excellent land use and natural resource management systems. Documentation of traditional land use and natural resource management systems should serve to inform current community based natural resources management projects, as it has been widely argued that the secret of the success of CBNRM lies in traditional knowledge and methods of natural resource management (Alcorn and Toledo 1998; Gunderson, 1997; Berkes and Folke 1994; 1998; Gadgil, *et al.* 1993; Berkes, 1989; Holling, 1986).

Local knowledge of the management of natural resources by the Basarwa and other indigenous communities has until recently been ignored. The draft CBNRM policy and related programmes in Botswana (GoB, 2001) is an indication that Government has recognised the ability of communities to manage their local resources, and has thus decentralised this responsibility. Several CBNRM projects are in operation throughout Botswana. There are projects in Ngamiland, the Chobe Enclave and in the Kgalagadi District (CBNRM Status Report, 2003) (Table 1). This recognition has great potential since the knowledge and practice that can be derived from traditional communities has yet to contribute in a systematic way to natural resource management policies and strategies. For example, the role played by traditional institutions in natural resource management, local beliefs relating to rights of access to resources, and Basarwa and other local communities' day to day interactions with their ecosystems, are generally overlooked. This in itself is a threat to the success of CBNRM, and while communities need to learn new ways of resource management, there is also a need to utilise and build on the knowledge that they already have.

It is widely recognised that indigenous people's knowledge is largely undocumented (Bock, 1998; Matowanyika and Sibanda, 1998; Matowanyika and Marongwe, 1998; Larson, 1998; IUCN-ROSA, 1997; Matowanyika, 1997; Matowanyika *et al*., 1995). Hence, efforts are being made to record this local knowledge and incorporate it into the mainstream natural resource management systems (Berkes, 1999; Folke and Berkes, 1998). Documenting traditional knowledge however has problems, stemming from the fact that this often has a political dimension (Berkes, 1999). Different actors relate in different ways to the resource, and define knowledge in different ways. Berkes (1999) argues that the use of indigenous knowledge is political because it threatens the power

relationship between indigenous groups and dominant society, governments, developers, conventional resource management scientists and dominant ethnic groups. The use of the term 'indigenous' itself in reference to the Basarwa in Botswana has been problematic, with politicians being quoted as stating that all Batswana[1] are indigenous to the country (Saugestad, 1998).

As mentioned earlier, communities are likely to participate actively and effectively when they employ methods of managing natural resources they are familiar with. Further, active participation is essential for the sustainability of CBNRM. Ideally, for CBNRM to be successful and sustainable, communities need to be involved in interactive participation and ultimately self-mobilisation participation (Fabricius, 2004; Adams and Hulme, 2001). In terms of interactive participation, people participate in joint analysis; for this to happen they need to be in a position to make use of their own knowledge and skills, and be in a position to apply local regulations and restrictions (Leach *et al.* 1997; Pretty *et al.* 1994). The ecosystem management rules held by communities are, however, changing, and the changes are influenced by several factors (climate; policies and laws; human, wildlife and livestock population trends; economic trends, etc). The implications are that the local communities have to adapt new livelihood strategies in order to cope with change (Ellis, 2000). It is, therefore, important to understand the roles played by local institutions in communities with regard to natural resource management, their beliefs and rules relating to access rights, and the learning process that helps to govern their interactions with the environment (Berkes and Folke, 2002; Ellis, 2000).

[1] Batswana in this thesis is used to refer to the people of Botswana, which includes the Basarwa, whereas Tswana is used to refer to an ethnic group.

**Table 1: A typology of participations**

| Type of participation | Description |
|---|---|
| 1. Passive participation | People being told what is going to happen or has already happened. Unilateral announcements without any listening to people's responses. The information being shared belongs to external professionals. |
| 2. Participation in information giving | People answering questions; questionnaire surveys or similar approaches. People do not have the opportunity to influence proceedings; findings are neither shared nor checked for accuracy. |
| 3. Participation by consultation | People are being consulted and external agents listen to views. External agents define both problems and solutions; may modify these in light of people's responses but are under no obligation to do so. |
| 4.Participation for material incentives | People participate by providing resources (e.g. labour) in return for food, cash or other material incentives. It is very common to see this being called "participation" yet people have no stake in prolonging activities when incentives end. |
| 5. Functional participation | People participate by forming groups to meet predetermined objectives. Such involvement tends to commence after major decisions have been made. This form of participation tends to be dependent on external initiators and facilitators. |
| 6. Interactive participation | People participate in joint analysis, which leads to action plans. Tends to involve interdisciplinary methodologies that seek multiple perspectives. These groups take control over local decisions, and so people have a stake in maintaining the structures. |
| 7. Self-mobilisation | People participate by taking initiatives independent of external institutions. |

(Source: Pretty *et al* (1994)

Traditional communities rely on local and ecological knowledge to build social and ecological resilience (Berkes and Folke, 1998; Berkes, 1999). Generational linkages are built upon this knowledge to enable communities to continue with livelihood strategies that are suitable to their local environment.

As most Basarwa are located in rural areas where livelihoods are still predominantly land-based, it has been argued that their land issues are issues of human rights and social justice (Wily, 1994). Land for the Basarwa is also an issue of access to and control over natural resources, which is crucial for adaptive livelihood strategies. Ng'ong'ola (1997) argues that the Basarwa have been depicted as the most marginalised of all ethnic groups in Botswana, and that securing rights to land and natural resources is critical for the improvement of their socio-economic and political position. Gulbrandsen (1991) attributes the miseries of the San not just to ecological encroachment but also to economic marginalisation.

Whereas local and indigenous communities such as the Basarwa are said to have knowledge that could contribute to sustainable natural resource management (Berkes, 1999; Berkes and Folke, 2002), these communities continue to be disempowered from managing natural resources in their areas. Their participation is often restricted and far removed from the decision-making structures responsible for natural resource management, while their livelihood strategies are directly and often dependent upon such resources. Community based natural resource management strategies strive to involve local communities in the management of natural resources, but the success of these strategies lies in addressing some of the fundamental questions that this thesis, using the Basarwa of Khwai and Xaxaba as a case study, seeks to address.

As Neumann (1998) argues, the establishment of national parks and associated protected areas has criminalised many customary land and natural resource uses for communities across Africa. In addition, the responsibility for managing natural resources has been shifted from communities to government structures. Some of the rules and regulations for land use within the game parks, such as the hunting regulations, are contradictory to the traditional land use systems applied by local communities such as the Basarwa. In this situation fundamental questions are;

a. What effect has the shift of management of natural resources from communities to Government had on natural resources use by the Basarwa?
b. How is CBNRM likely to influence their livelihood strategies?

A number of specific issues need to be addressed in order to arrive at answers to the questions above, such as:

a. What type of livelihood strategies were applied in the past?
b. What types of livelihood strategies do the Basarwa follow to maintain resilience?
c. How do past and present livelihood and management strategies affect the resilience of Basarwa's livelihood assets (natural, social, physical, and human capital)?
d. How have present livelihood and management strategies been influenced by changes in formal policies and institutions?
e. How can such policies and institutions be adapted to promote the resilience of the Basarwa's four types of livelihood assets?

It is argued in this thesis that the means for communities to effectively participate in managing land and natural resource-based livelihood strategies can be found in understanding their livelihoods and the factors which build their resilience, and thus make it possible for such communities to continue surviving. As the system approach (introduced in the previous section) postulates, the effective performance of natural resource management requires an emphasis on social aspects such as institutional roles, property rights and cultural practices, hence the relevance of questions d and e above. Furthermore, in order to formulate recommendations regarding improving the situation of poverty-ridden Basarwa, one needs to look into structural socio-economic issues such as lack of land rights that constrain the ability of the Basarwa to cope with social and ecological change.

The Basarwa communities studied in this thesis are constantly renewing and adapting their livelihood strategies in order to cope with the changes discussed above. However, it must be emphasised that often they are forced into these changes through rapid adaptation. The external nature of the causes of change, such as Government land policies, weakens the social resilience of the Basarwa, as they have no control over the

nature and pace of change. A key focus of the study is therefore the strategies that the Basarwa have adopted in a situation where flexibility in resources use, diversity and seasonal mobility is hampered by the restrictions imposed by land tenure and conservation laws and policies of Botswana.

The current shift in natural resource management policy towards more adaptive and participatory approaches warrants studying in greater detail the management strategies of indigenous peoples who have traditionally practised adaptive management. Hitchcock (1980) discusses the changes that have occurred in hunter-gatherer societies as a result of the local depletion of natural resources and sendentism (the abandonment of nomadic living patterns). These changes include a reduction in sharing, reciprocity and the size of the exchange network, as well as increased malnutrition and disease. Hitchcock does not, however, discuss the impacts these changes have had on the systems of land use or the management of natural resources. Osaki (1984) states that sedentarisation has brought along with it changes in hunting methods. Bows and arrows are no longer used by the CKGR Basarwa, who have now adopted horses and rifles for hunting. Meat obtained by this form of hunting is not shared with all members of the settlement because of the influence of trading, cash income and the increase in population around the settlement. The sharing Hitchcock refers to is, according to Kent (1993), a characteristic of many foragers and is often thought to mitigate the unevenness of hunting returns. Although there might be an economic component behind sharing patterns, the author suggests that the fostering of social returns is more important, as this form of egalitarianism reinforces the social bonds in forager societies. The findings by Cashdan (1980) nonetheless illustrate that this is not the case for all Basarwa communities in other forager societies. Contrary to most ethnographic data, the //Gana of the north-eastern Kalahari show evidence of economic and political inequity, which appears to have arisen from the fact that the //Gana, unlike other Basarwa groups, supplement their hunting and gathering strategy with keeping livestock and growing food. The result has been less sharing of food and a consequent weakening of the egalitarian forces found in those nomadic groups for whom sharing is a survival insurance strategy.

## *1.3 Conceptual Foundation*

This section discusses the theoretical framework for analysing land and natural resource management in the social milieu of traditional, subsistence societies. The section sets out a conceptual framework showing how the adaptive renewal cycle and the livelihood strategy framework are used in this study. The sustainable rural livelihoods framework (DFID, 1999) and adaptive renewal cycle (Folke and Berkes, 1998; Holling and Gunderson, 2002) are combined to address the questions this thesis sets out to address.

The adaptive renewal cycle provides one framework (although not the only one) through which management practices and their social mechanisms can be systematically investigated in order to explore the dynamics of ecosystem–social system linkages (Folke and Berkes, 1998; Gunderson & Holling 2001). Central to the adaptive renewal cycle, and of especial importance to this study, are the concepts of 'resilience' and 'surprise'.

**Resilience** refers to the buffer capacity or the ability of a system to absorb disturbances by changing the variables and processes that control its behaviour, before that system changes its structure. In other words, the scale or magnitude of a disturbance or disturbances that a society or ecosystem can absorb, before significant changes must be made, is a measure of its resilience. Resilience results in the conservation of institutional ecological and social memory (e.g. information, knowledge, skills such as hunting experience and wisdom), which makes organic re-organisation and innovation possible. It may also be seen as a measure of the opportunities conserved by the system for novelty and renewal. A social and/or ecological system conserves information, knowledge and experience, and can be referred to as the 'memory' of that system. Conserving this memory is a prerequisite for recovery from shock, stress or surprise (see below) and it also maintains opportunities for innovation and renewal in social and ecological systems (Gunderson *et al.* 1997 in Folke and Berkes 1998).

Berkes and Folke (1998) summarise resilience as simply the capacity of a system to buffer, incorporate and survive disturbance. Resilience expands as the phases of the adaptive cycle proceeds; it shrinks as the cycle moves towards K (see Figure 1) where

the system becomes more brittle and expands during the reorganisation phase (Holling and Gunderson, 2002). However, where resilience or the buffering capacity of the social and ecological system declines, flexibility is lost and therefore the linked social–ecological system becomes more vulnerable to surprises or crises (Berkes and Folke, 1998). Gunderson and Holling (2002) point out that resilience is not an ideal in itself as it may serve to preserve maladaptive systems, that the challenge to minimise a system's vulnerability to surprise instead lies in conserving the ability to adapt to change and to be able to respond to surprise and crises in a flexible way.

**Surprise -** Gunderson (1999) refers to three types of surprises:

- "local surprises" can be created by broader scale processes for which there is little or no previous knowledge (e.g. dealing with variability in natural resource availability as a result of global warming and climate change). A local surprise can be resolved by a broader scale of observations and historical accumulation of knowledge. Often indigenous communities are known to rely on their knowledge of the ecological system to deal with local level surprises (Folke, *et al.* 1998).
- "cross scale surprises" are the most common and controversial types of surprise, and are often the source of policy crises (see Chapter 6). These are similar to local surprises but differ in that larger scale fluctuations intersect with slowly changing internal variables to create an alternative stable (local) system state. For example, the sudden emergence of new diseases caused by large scale land use changes which may have taken place over a long period of time and human population growth coupled with expanding economic activities (Holling, Berkes and Folke, 1998).
- "true novelty surprise" refers to something that is genuinely unique, in which new variables and processes transform the system into a new state. In these surprises, little or no experience exists for either understanding the transformation or structuring management actions in response to that transformation.

In a nutshell Gunderson (1999) defines surprise as:

"…a qualitative disagreement between observations and expectations, when an ecosystem behaves in an unexpected manner".

The adaptive renewal cycle is also known as "Holling's figure eight". This model, first proposed by Holling (1973) to explain change in non-equilibrium ecosystems, was adapted by Gunderson, Holling and Light (1995), Folke and Berkes (1998) and Gunderson and Holling (2002) to explain changes in integrated social ecological systems (i.e. ecosystems in which people live and are used by people). The model suggests that social-ecological systems go through cycles of adaptive renewal, characterised by a build-up of "capital" (tangible assets, biomass) and "connectedness" (complex organisational hierarchies, species richness), to a point of climax ('K' in Figure 1), where after they inevitably release this built-up capital.

The release phase could be triggered by a surprise event like a fire in the case of ecosystem, or political change in the case of social systems. The cycle varies unpredictably: whereas one can be fairly certain that 'release' (Ω) will invariably follow 'conservation' (k), the timing between phases is largely unpredictable. The events that trigger a shift from one phase to the next also vary in their predictability. The 'knock-on' effect of events at higher spatial scales on local level processes (e.g. a major shift in policy, or regional climatic change) is also unpredictable and poorly understood. The release phase is often followed by a phase of reorganisation (α), firstly to rebuild stored capital, and secondly to build up connectivity. The adaptive renewal cycle enhances the ability of both social and ecological systems to recover after surprising events, such as forced removals, floods and droughts (Berkes and Folke, 1998; Holling and Gunderson, 2002).

The above model is represented by the systems approach and parts of evolutionary biology that extend the analysis of populations, ecosystems, landscape structure and dynamics, to include the interactions of social systems with natural systems (Berkes and Folke, 1998). Berkes and Folke (1998), for example, state that in a savannah ecosystem there is a dynamic four–stage cycle of exploitation, conservation, release and reorganisation. Exploitation is the stage where the establishment of pioneering species occurs, and conservation where accumulation and storage takes place (species mature and become complex), eventually becoming 'brittle' (Holling and Gunderson, 2002; Berkes and Folke, 1998). Such brittleness lowers the system's capacity to absorb environmental surprises such as fire, rainfall or the elephant over-population problem (in the case of northern Botswana). When surprise happens in resilient systems,

accumulated capital is suddenly released for other kinds of opportunity (creative destruction). An example of the so-called creative destruction is the practice of burning used in the past by the Basarwa groups in the Okavango Delta: these were known to burn off vegetation in order to unblock river channels and enable water to reach the lower streams, where it was used for their own domestic use and for attracting wildlife downstream (Mbaiwa, 1999). This very rapid state of change (release stage) was followed by reorganisation, in which nutrients released from the trees as a result of the burning fixed in other parts of the ecosystem, after which the exploitation stage starts over again (Holling 1986; Holling *et al.* 1995 quoted in Berkes and Folke 1998). See Figure 1 below.

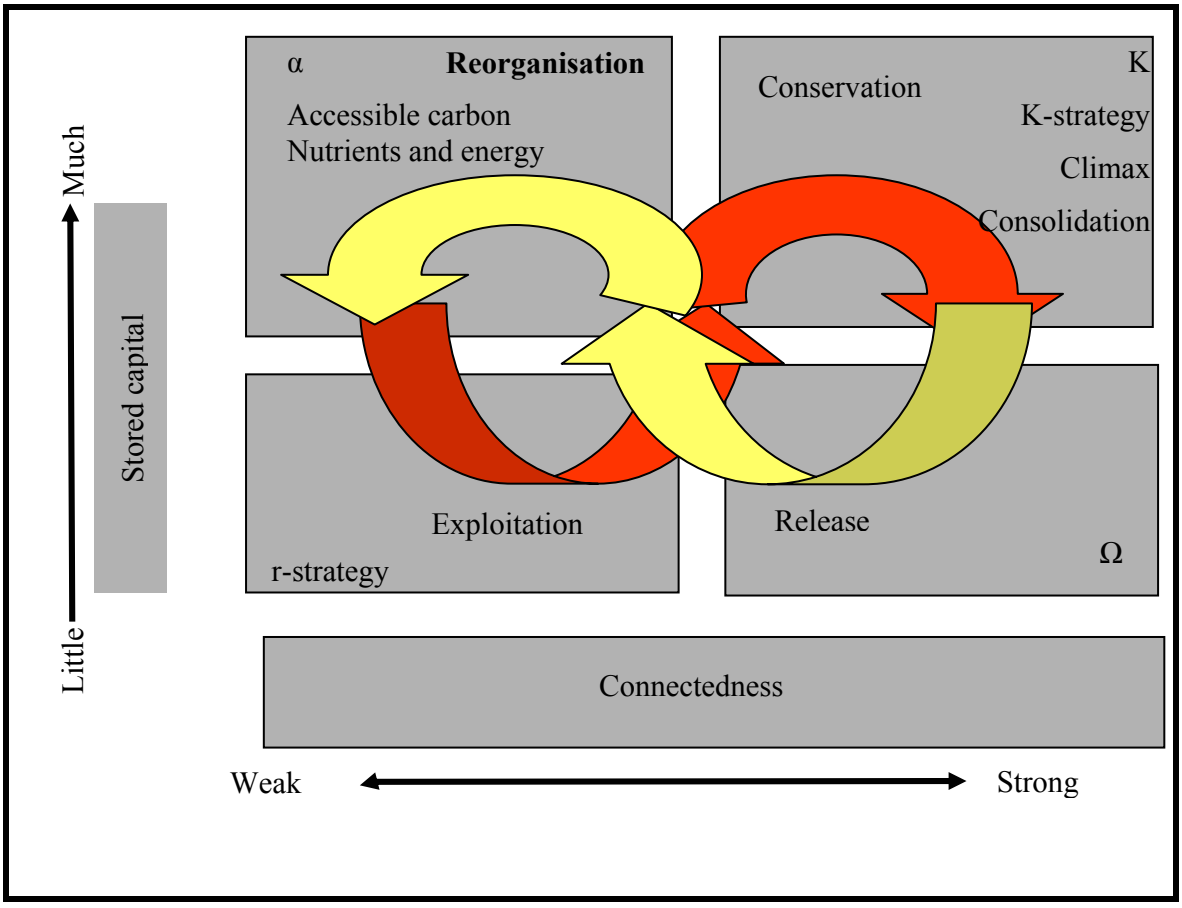



**Figure 1: The Adaptive Renewal Cycle (from Holling 1986; Gunderson 1997)**

- ***Exploitation and conservation phases of the adaptive renewal cycle***

The evolution from the exploitative to the conservative phase in Holling's 'figure eight' depicts the process conventionally thought of as ecological succession. The part of the adaptive renewal cycle corresponding to the two boxes of exploitation and conservation

resembles a logical curve typical of population growth and the stabilisation of individual species. It is this part of the figure eight with which conventional resource management concerns itself, whereby the sigmoid or S-curve reflects the single equilibrium model (Holling 1986, Gunderson *et al*. 1995, Folke and Berkes 1998).

- ***Release and reorganisation phases of the adaptive renewal cycle***

The adaptive renewal cycle stresses that the sequence of gradual change, depicted by the S-curve (exploitation through conservation phases), is followed by a sequence of rapid transformation triggered by disturbance.

The adaptive renewal cycle emphasises that disturbance is both endogenous and exogenous to ecosystem development, and that periods of gradual change and of rapid transformation coexist and complement one another (Folke and Berkes, 1998). Conventional natural resources management falls short of effectively addressing the release and reorganisation phases, and tends to regard climax and the carrying capacity as end points (ibid). Conventional resource management measures tend to support the phases of gradual change, i.e. exploitation and conservation, but strive to avoid rapid transformation (i.e. release and reorganisation). Such management aims to remove disturbance and reduce variability within the ecosystem. Thus, conventional measures would not recognise the negative influence of Botswana's conservation laws implemented since the 1960s (cf Chapter 5 and 6). This strategy leads to more brittle systems and eventually to a resource crisis. However, crises may also play a constructive role, triggering the opportunity for renewal and redesign in systems capable of learning and adapting (Holling and Gunderson, 2002).

All living systems, ecological as well as social, exhibit properties of the adaptive renewal cycle across different scales (Gunderson *et al.* 1997). In the same way that the ecosystem changes and recovers from shock and surprises, livelihood assets of a society affected by the same forces are constantly shifting. A community could, for example, be well-endowed with natural assets in good times, and suffer a shortage in times of droughts or environmental degradation. The need to link ecological and social systems in natural resource management strategies emanates from the fact that there is much evidence of poor management, and the conventional prescriptions of resource

management are not resulting in sustainability (Holling and Gunderson, 2002; Berkes and Folke, 1998).

Conventional prescriptions of natural resource management often have a preservationist attitude, aimed at eliminating agents of disturbance. The preservationist approach has tended to exclude social dimensions, and has consequently resulted in negative impacts on surrounding communities arising from the loss of income and livelihood (IIED, 1994). Civil authorities have correspondingly invested in considerable financial resources on policing protected areas and keeping communities from entering those areas. Furthermore, states are finding it difficult to provide adequate management at the local level, and, as wildlife resources are no longer 'owned' by any particular group, no one feels the responsibility for protecting them from uncontrolled exploitation (Barrow and Murphree, 2001; Berkes and Folke 1998; IIED, 1994). The traditional means by which natural resources have been protected by communities are also being lost, through lack of interest on the part of state authorities and through limited use by the communities themselves.

It has been pointed out that scientific resource management has its roots in a utilitarian and exploitative worldview, which presumes that humans have a right of dominion over nature (Berkes and Folke, 1998). In the historical process of converting the earth's life support system into mere commodities, resource management science was geared for the efficient utilisation of resources as if they were limitless (Berkes and Folke, 1998; McNeely, 1997; Gunderson, 1995; World Commission on Environment and Development, 1987). Conventional resource management has relied on the use of fixed rules for achieving constant yields; fixed rules for achieving the animal carrying capacity of a given area; and fixed maximum sustainable yields for harvesting flora and fauna (Constanza, *et al.* 1993; Arrow *et al.* 1995).

The systems approach is replacing the view that resources can be treated as discrete entities in isolation from the rest of the ecological and social system (Gunderson and Holling, 2002; Berkes and Folke, 1998). Here it is perceived that improving the performance of natural resource management requires an emphasis on more qualitative aspects, such as institutions and property rights and cultural practices, as a complement to quantitative analysis (ibid). Sustainable natural resource management can be best

achieved in a holistic manner by looking at both quantitative and qualitative aspects (Jiggins and Roling, 2002; Matowanyika and Sibanda, 1998).

Improving the performance of natural resource systems requires an emphasis on institutions and property rights; this obliges us to study the natural resource management practices of local communities (Berkes and Folke, 2002; Berkes, 1999; Berkes and Folke, 1998; Hanna, *et al.* 1996; McNeely, 1997; Stevens, 1997). Many traditional societies, such as the Basarwa, nurture sources of ecosystem renewal by creating small scale disturbance (e.g. through harvesting thatch grass that promotes new growth). It is believed that such adaptations have been made possible through management practices that are founded on ecological knowledge and understanding, generated, accumulated and transferred through a trial and error learning process. (Colding, 2003; Berkes, 1999; Berkes and Folke, 1998). These resource management practices help conserve sufficient memory for a resumption of the adaptive renewal cycle and thereby generating a critical flow of natural resources and ecosystem change on which social and economic development depends (see Figure 1).

This thesis is further informed by the Sustainable Rural Livelihoods Framework (SRLF) (DFID, 1999). The Framework defines sustainable livelihoods as "ways of combining and using assets that are open to people in pursuit of beneficial livelihood outcomes that meet their own livelihood objectives" (DFID, 1999). The SRLF was used in an attempt to provide an understanding of the adaptive renewal cycle with reference to social systems and livelihood strategies. The Sustainable Rural Livelihoods Framework presents the main factors that affect people's livelihoods and the typical relationships between these (ibid). It is based on the following assumptions:

- First, it postulates that people operate in a context of vulnerability, within which they have access to certain assets or poverty reducing factors (Carney, 1998; DFID, 1999). The vulnerability context frames the external environmental context in which people exist, and identifies the shocks, seasonality and trends over which the community has no control (Carney, 1998; Creham, 1992; DFID, 1999). An example of such shocks and trends is the migration of livestock and people, encroaching into the lands previously occupied by the Basarwa. Population growth also puts

increased pressure on land and its natural resources: An increase in population may also lead to an increase in conflicting land uses.

Other examples include the future impact of climate change and environmental degradation which will result in a reduction in wildlife populations, changes in the types and distribution of veld products as well as increased water scarcity (Hulme, 1996; Ministry of Transport Works and Communication, 2001). Trends in governance, including politics (policies, laws, acts and programmes) and seasonality in job opportunities, also frame the external environment in which the Basarwa exist. The Government of Botswana pushed for centralised economic growth instead of people-centred development immediately after independence, which has resulted in further impoverishment of certain poverty-stricken groups such as the Basarwa. Furthermore the fact that the Basarwa are voiceless in terms of politics results in them lacking representation in the political arena (Good, 1992; 1994; Mogwe, 1992; Suzman, 2001a).

- Second, poverty-reducing factors gain their meaning and value through the prevailing social, institutional and organisational environment. For instance, in the case of Basarwa, historically poverty-reducing factors gained meaning through clearly defined territories and rules which governed rights of access to land and natural resources, and the size and membership of the group holding those rights.
- Third, the institutional, social and organisational environments also influence livelihood strategies in so far as livelihood options are determined by the existing institutional, social, and organisational structures. These structures include national and international policies, the role and actions of government or the private sector, and cultural systems and processes (Farrington *et al.* 1999).
- Fourth, a livelihood is sustainable when it can cope with and recover from stresses and shocks, and maintain or enhance its capabilities and assets both now and in the future, without undermining the natural resources base (Scoones, 1998 in Farrington *et al.* 1999). For example, in the past the Basarwa were able to live side-by-side with wildlife, and their seasonal mobility ensured that resources were never entirely depleted. This mobility allowed the natural assets in one area to be replenished while harvesting was taking place in a different area (Saugestad, 1998). Variations

in environment and rainfall correlate with the changing patterns of seasonal mobility and social organisation (Saugestad, 1998; Thakadu, 1997; Mbaiwa, 1999).

For the purpose of this study, it is assumed that the Basarwa's culture and tradition and concepts of land are central to their land use and natural resource management strategies. These, in turn, are influenced by trends in resource availability, population growth, and changes in national politics and government policies, economic development, and their historical relationship with the dominant Tswana ethnic tribes. While recognising that all forms of capital play a role in people's livelihoods, I will, for the purpose of this study, concentrate on four livelihood assets - social capital, human, financial and natural capital. The rationale for this choice is firstly, that the livelihood outcomes of the Basarwa are largely derived from the shared use of land and natural resources. Secondly, the Basarwa also depend on their human capital in the form of local knowledge and financial capital from the tourism industry for their livelihoods.

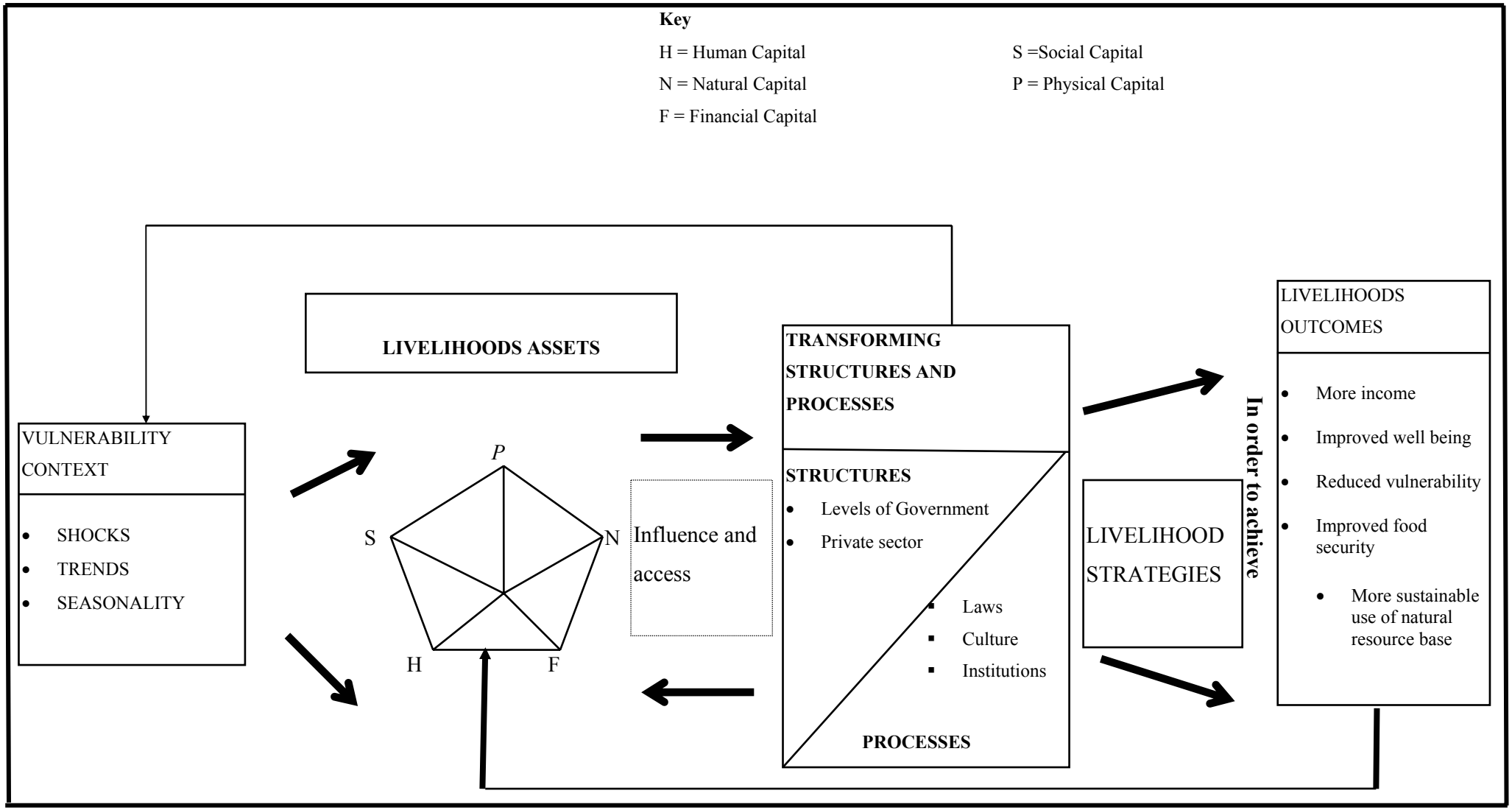



**Figure 2: The Sustainable Rural Livelihoods Framework (Source: Ashley and Carney (1999)**

The framework can be used in planning both new development activities and in assessing the contribution to livelihood sustainability made by existing activities (DFID, 1999). In this study the framework will be used for the latter purpose.

### *1.4 The structure and layout of the thesis*

This thesis is divided into six chapters. **Chapter 1** outlines the theoretical framework of the study, discussing the assumptions made in both the Sustainable Livelihoods Framework and the adaptive renewal system. The chapter examines how the framework and the adaptive renewal cycle can be used to complement each other in an analytical model used to understand the renewal of the different types of livelihood capital (human, social, financial, physical and natural). The chapter also outlines the research problem and the research questions.

**Chapter 2** (Study Area and History of the People) provides a descriptive overview of the study area and the social, geographical and ecological environments. The socio-economic context of the villages of Khwai and Xaxaba, the two research communities, is also described. The chapter also examines the situation of the Basarwa as an ethnic group in Botswana, both in historical and present terms, in relation to land and natural resources.

**Chapter 3** (Methods) discusses in detail the research model and the relationships between the different model components, as well as the field methods employed and data analysis methods.

**Chapter 4** (Past and Present Vulnerabilities Facing the Basarwa) discusses the vulnerabilities the Basarwa have been and are exposed to. The findings of this study are complemented with reference to published research from other sources.

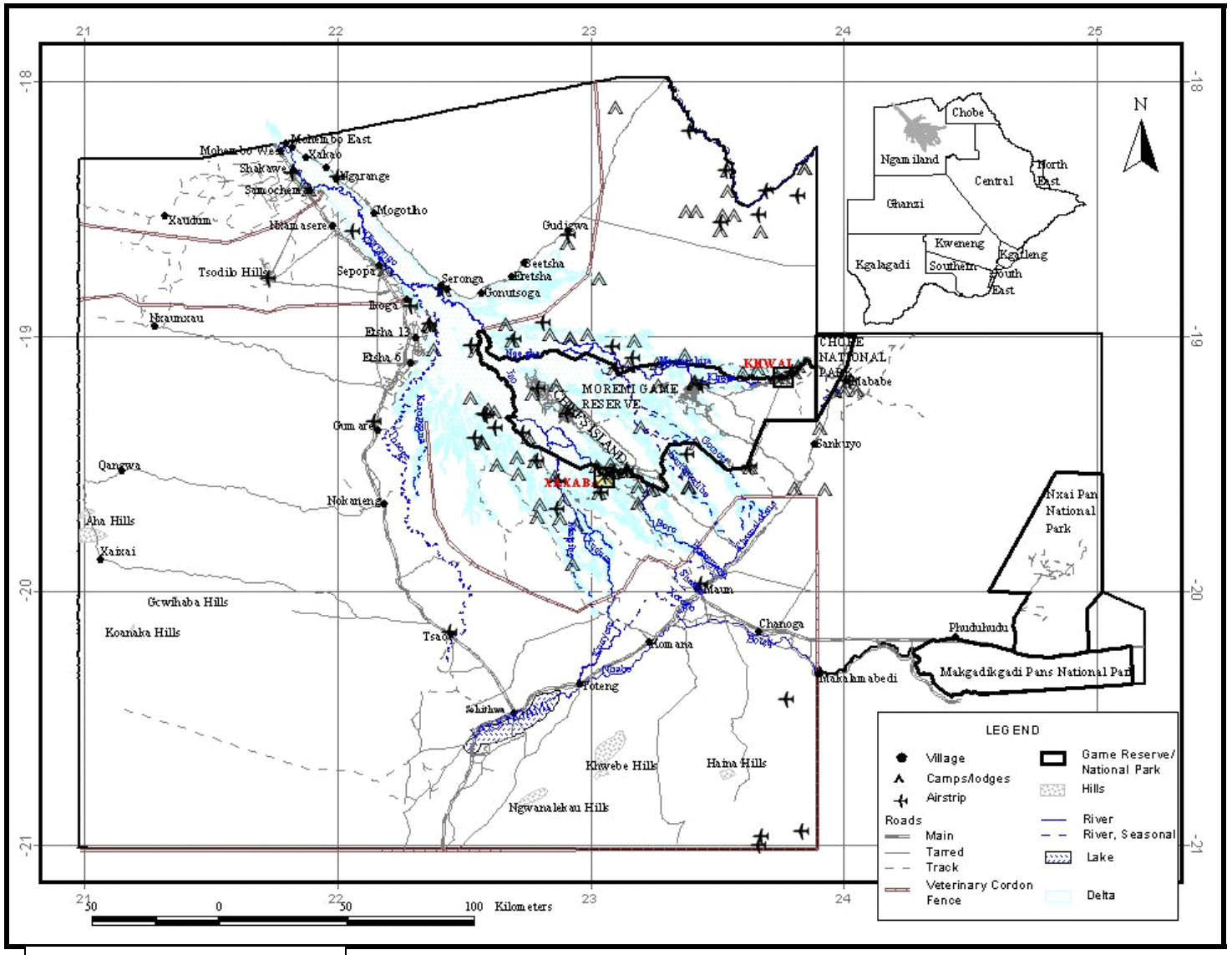
**Chapter 5** (Resilience and Livelihood Strategies) examines the coping strategies of the Basarwa communities. It explores the diversity of livelihood strategies the Basarwa are applying in and looks at how these communities are building social and ecological resilience.

**Chapter 6** evaluates the impact of policies and regulations on the livelihood strategies of the Basarwa. The impact of these on the access to and availability of the different forms of capital (social, natural, human and financial) is analysed. In this chapter, the research results in the findings and key issues discussed in the previous chapters are drawn together, and conclusions are made. This chapter looks at the opportunities that are presented by the Draft CBNRM Policy and addresses implications for policy.

# Chapter 2: Study Area and History of the People

The field study was carried out in Khwai and Xaxaba, which are Basarwa settlements in the Ngamiland District in Botswana (see Map 1). Ngamiland District occupies the northwest corner of Botswana. Its northern and western boundaries are part of the border between Botswana and Namibia. The Chobe, Central and Gantsi Districts border it in the east, southeast and south, respectively. Ngamiland District lies between latitudes $18^{o}$ 30`S – $20^{o}$ 00`S and longitudes $23^{o}$ 15`E – $24^{o}$ 30`E. Ngamiland is one of the largest districts in the country with an area of about 109,000 $km^2$. It has one administrative sub-district, the Okavango, occupies the northwest and western parts of the District. Both Khwai and Xaxaba are located in the Okavango sub-district.

Ngamiland is endowed with rich natural resources. Perhaps the richest is the Okavango Delta, which is important as a tourism resource because of the wildlife it sustains and its scenic beauty. Between 1993 and 1997 the number of tourists per annum visiting the Delta increased at an average rate of 14.5%, from 106,800 to 184,475 respectively (Scott Wilson Resource Consultants, 2000). Sixty percent (around 13,500) of employed people in Ngamiland work in the tourism industry. Tourism is a major and growing component of the Botswana economy, contributing about 5% of the Gross Domestic Product (Department of Tourism, 2001).




**MAP 1: Study Sites**

## *2.1 The Ecology of the Okavango Delta*

The Okavango Delta is a vast inland delta system that receives an annual flood from the highlands of Southern Angola. It fluctuates in area from 15,000km$^2$ during the flood to 6,000-8,000km$^2$ during the dry season. Geologically the Okavango is a young system (approximately 10, 000 years old), which before major geologic uplifting formed a drainage channel into a great lake called the Makgadikgadi (Merron, 1991). The Okavango Delta consists of a mosaic of wetlands and dry lands overlying Kalahari sands of the basement complex and Karoo systems. In terms of extent of flooding and associated vegetation, five zones are commonly defined: perennial swamp, seasonal swamp, seasonal grassland, intermittently flooded land and dry land (Scudder *et al.* 1993)

The Okavango is the only large river of the world ending in an inland delta (Merron, 1991). The floodwaters arrive in the northern riverine floodplain in January, and take approximately six months to traverse the delta, reaching the drainage rivers in the south in June, which results in flooding in the otherwise dry winter months. By the time the floodplains and rivers in the southern areas are full, the water level is low again in the northern regions. The regular flooding and draining of the Okavango Delta are determined largely by the period and amount of annual rainfall in the highlands of Angola (Merron, 1991). The cycle described above is the typical but there are variations in this cycle. The timing, magnitude and duration of the flood is not constant from year to year. In consequence, the inundated area of the delta varies widely depending on the seasonal variations in incoming water flow and precipitation (McCarthy, 2002). Merron (1991), however, contends that the Okavango is predictable in the sense that it is driven by an annual flood cycle. What is irregular is the water retention and flow rates and these affect fish and other fauna downstream of the flood waters. Figures 3 and 4 give an indication of the variations from year to year.

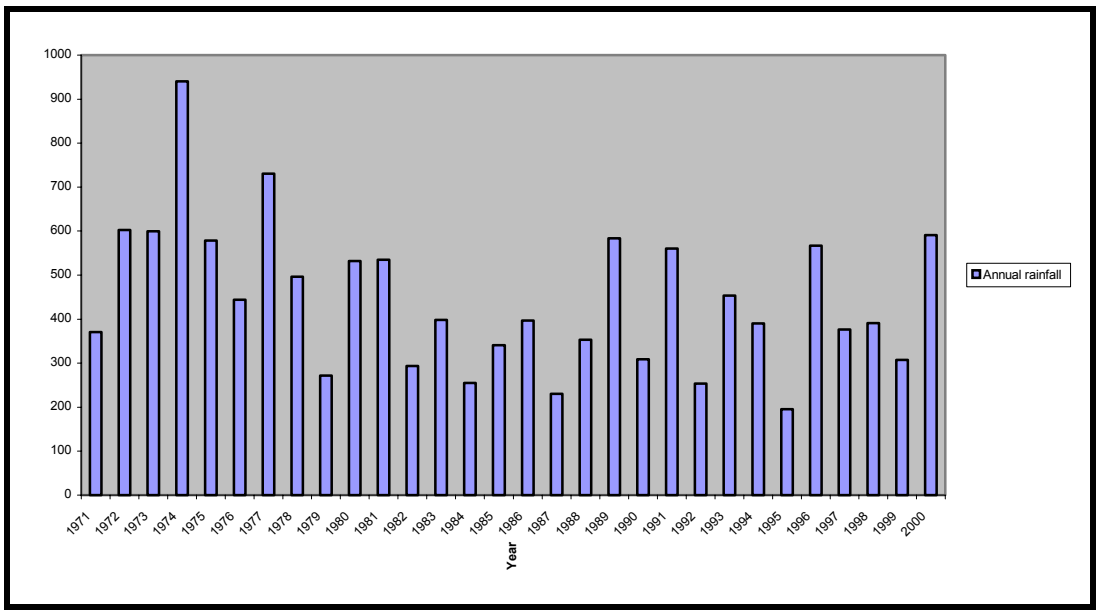



**Figure 3: Annual rainfall, Maun Station**

**Source of data Department of Meteriological Servies, GoB, 2001**

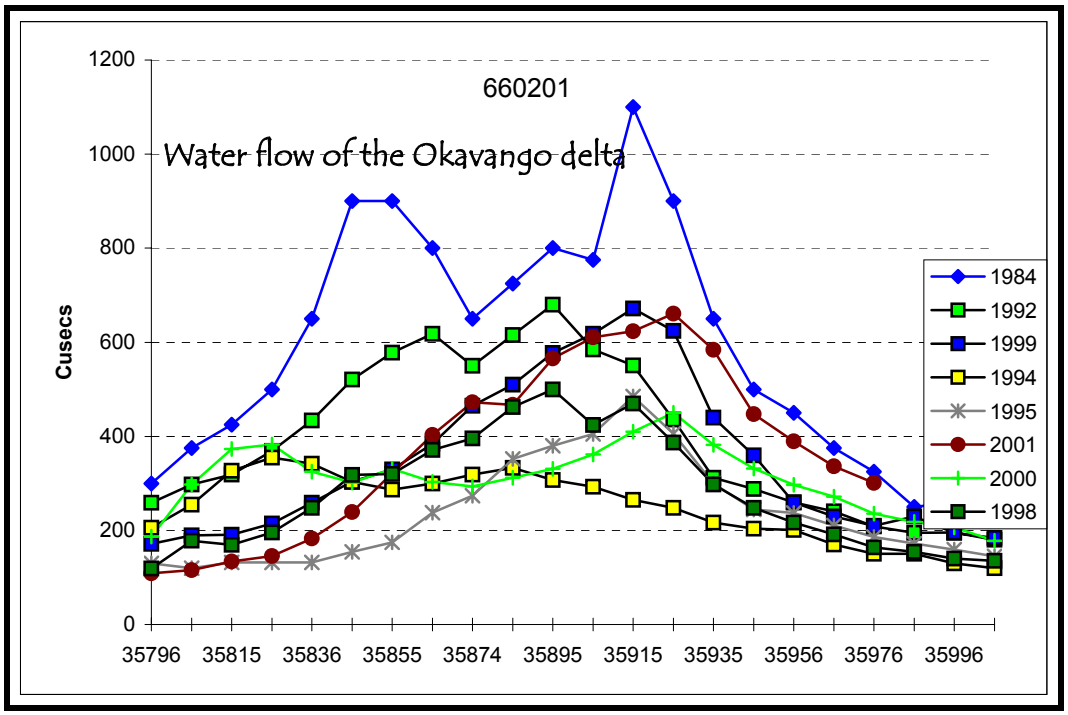



**Figure 4: Okavango Delta Water Flow**

It is estimated that the mean annual inflow is 11,000 million cubic metres, and this is augmented by an average of 5,000 million cubic metres of rainfall on the Delta itself (McCarthy, 2002). Of this only 300 million cubic metres leaves the Delta through ground water flow and some 15,400 million cubic metres is lost to the atmosphere by evapo-transpiration, reflecting the semi-arid nature of the region where evaporation is 3-4 times greater than precipitation. Figure 5 indicates the temperature patterns in the Okavango Delta, with a variation of roughly 15 degrees between night time and daytime temperatures. The temperature patterns around the Okavango Delta are influenced by the dry and arid nature of its surroundings.

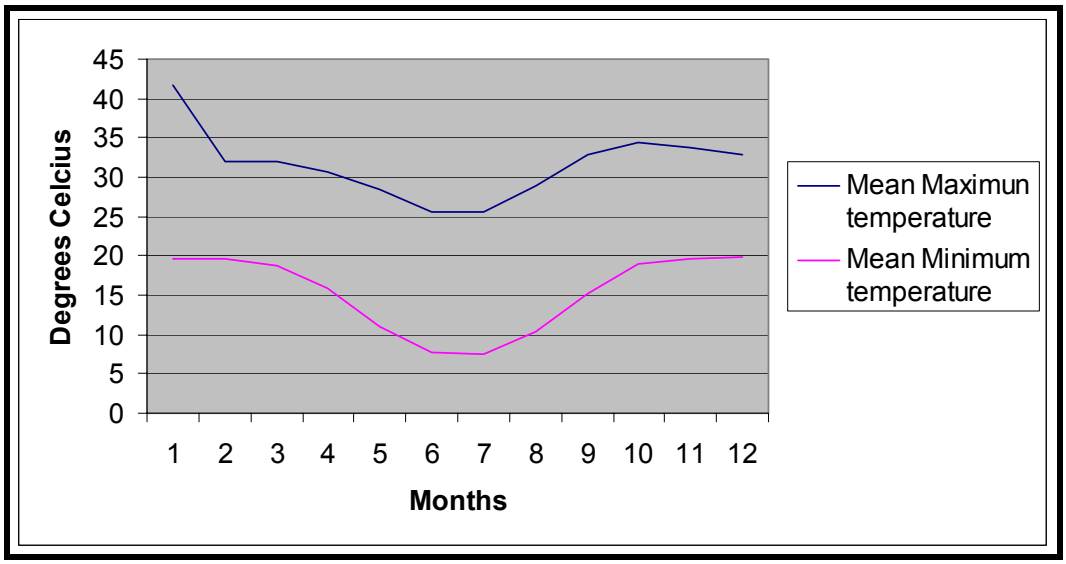



**Figure 5: Mean Monthly Temperatures (1971-2001, Jan-Dec) Source of data- Department of Meteorological Services**

The Okavango Delta is located in a rapidly developing country, and a semi-arid environment. Both of these circumstances are placing pressure on the utilisation of the Delta's resources, especially a very fast population growth of 2.8% (Heiden, 1991)[2]. Due

[2] The population growth rate of Botswana is currently at 0.6%, having dropped from a growth rate of 2.8% between 1975-2000 as a result of the HIV/AIDS pandemic. The percentage of adults (age 15-49) living with AIDS in 2001 was 38.8% (United Nations Human Development Report, 2002)

to a combination of wetland and dry land habitats, the Okavango Delta has rich wildlife resources. The waters of the Okavango Delta nurture a wide variety of riverine, fauna and flora in what would otherwise be considered desert (Hasler, 2000). The biodiversity of the Okavango Delta is considered a valuable world heritage, as is evident from Botswana's signing of the Ramsar Convention on Wetlands of 1971 (Hasler, 2000). It provides good breeding areas for a range of birds, mammals and fish. The Okavango system deserves its reputation as one of the world's premier wildlands, with magnificent scenery, game viewing and bird watching. Although the species diversity is not exceptional, the area has nearly all large mammal species still existing in southern Africa, and the largest resident population of two species that are endangered elsewhere, i.e. sitatunga (*Tragelaphus spekei*) and lechwe (*Kobus leche*) (Heiden, 1992). Other large herbivores include giraffe, zebra, roan, sable, buffalo, gemsbok, a large and expanding population of elephants and many other water-dependent animals such as hippopotamus. The Delta is a low nutrient/low productivity system, with small local patches of higher production and with good diversity of macro and micro invertebrates but no strong evidence of endemism[3] (Scudder *et al*., 1993). The waters of the Okavango Delta support economic activities like arable agriculture, livestock husbandry and wildlife utilisation. The Delta is thus of a high biological, hydrological and economic value to the Ngamiland district and the country as a whole.

The hydrological peculiarity of the Okavango system, having its largest volume of water and the largest area extent in the midst of the dry season, results in a marked seasonal migration of wildlife (Scudder *et al*., 1993). These animals move to the dry land surrounding the Delta in the wet season, taking water from rain-filled pools and pans (ibid). The Khwai settlement is in one of the areas through which wildlife migrate in the wet season, while Xaxaba is in an area of dry season migration.

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[3] Endemism refers to the situation in which a species is restricted to a particular geographic region (Oxford Dictionary of Ecology)

## *2.2 The History of the People*

The ethnic Basarwa have been historically associated with hunting and gathering, which makes them different from the dominant Tswana ethnic group and the less dominant Kalanga, both of whom have been associated with an agro-pastoral way of life. Although there are other tribal groups in the Delta, these will only be dealt with in reference to their contact and interaction with the Basarwa. The language Basarwa speak is simplistically referred to as SeSesarwa, although there are in fact several different languages indigenous to the Basarwa. Much of the interest in Basarwa has arisen from their remarkable adaptation to one of the harshest environments in the world, the Kalahari Desert (Saugestad, 1998). Their ability to survive in an environment that for large parts of the year provides no surface water has depended on a locally appropriate combination of hunting and gathering techniques and a form of social organisation that allowed for the flexible use of large territories that were adjusted to seasonal changes (Madzwamuse, 1998; Saugestad, 1998; Cashdan, 1993 and Lee, 1972). The cultural differences between the Basarwa and the dominant Tswana agro-pastoral society have been important in defining the relations between the two groups, and the way each related to and used land. The agro-pastoral Batswana, for instance, came to dominate the hunter-gatherer Basarwa, thus imposing a system of land tenure that gave precedence to the agro-pastoral use of land. This has been reflected in the definition of land rights in Botswana's Constitution in and the Tribal Land Act of 1968 and its 1993 Amendment. Wily (1981) states that in the modern Republic of Botswana, cattle-raising has been the traditional mainstay of local livelihood since pastoral Tswana tribes first settled in the region in the 18$^{th}$ and 19$^{th}$ century. Until then the only occupants of this semi-arid land were the hunting and gathering San (Basarwa), who had lived for centuries without livestock, subsisting on the abundant wildlife and wild food resources.

Some 20% of Botswana's 50,000 Basarwa live in Ngamiland. The so-called 'River Bushmen' (referred to in Setswana as *Banoka*) live in and around the Delta. They are said to be the earliest inhabitants of the Delta. Although Basarwa populations are

becoming increasingly concentrated in a few areas, recent historic records (such as Stigand's map of 1922) show that they were scattered over all parts of what is now Ngamiland (Cassidy *et al.* 2001).

The River Bushmen include groups such as the Bateti, named after the Boteti River; the BaXhanikwe[4], found north of the Delta (e.g. Xaxaba), the BaBugakhwe[5] to the south and middle of the Delta (e.g. Khwai), and several smaller groups like the Bagumaii who lived scattered throughout the delta area (Tlou, 1976). According to Tlou (1976) it appears that originally the Basarwa of Ngamiland were concentrated to the south of the Boteti River and Lake Xau region. Over the years they moved up the river, fanned out along the many channels of the Delta, and settled there. Further penetration into the swamps resulted from a new mobility acquired when they learned how to use dug-out canoes (*Mekoro*) from later immigrants, the Bayei and Hambukushu who came from an area in present day Zambia and Angola (ibid).

The Basarwa's way of life has gone through a transition. According to Lee, (1984; 1971) and Hitchcock (1987), archival records indicate that the Basarwa can no longer be considered as pure foragers, as they have long been involved in a complex set of interactions with cattle owners, traders and others. The Bayei were the first Bantu-speakers to migrate to the Okavango (around 1750) from their home of Diyei, an area just west of the confluence of the Chobe and the Zambezi rivers, now within the Namibia Caprivi Strip (Tlou, 1976). They met and intermingled with the BaBugakhwe, with whom they intermarried. This intermixing continued over the years to the extent that the two groups now regard each other as classificatory cousins (ibid). To date the Bayei remain the most numerous ethnic group in Ngamiland. The Hambukushu (who also migrated to the Delta in the nineteenth century) contributed to the life of the Delta by introducing technology, i.e *Mekoro* and fishing equipment. During the 1800s, the politically ascendant Batawana arrived in Ngamiland (Taylor, 2000; Bolaane, 2004). According to Tlou (1976), the main contributions of the Batawana to the culture of the

[4] Sometimes spelt BaQhanikhwe.

[5] Also known as BaBugakhwe

Delta were in political institutions, law, language and pastoralism. They came to rule over the other ethnic groups found in Ngamiland. Infestation of tsetse fly through much of the Delta kept most of these immigrants and their stock in the periphery of the Delta (Taylor, 2000; Merron 1991).

This interaction with other ethnic groups has often been to the disadvantage of the Basarwa communities. One disadvantage has been the failure by other ethnic groups to recognise hunting and gathering as a legitimate land use, which in turn has had far-reaching consequences for the ethnic Basarwa, such as loss of land and land rights.

Most government officials and policy makers have assumed that the Basarwa did not have a clearly defined traditional land use system (Ng'ong'ola, 1997; Ng'ong'ola and Moeletsi, 1995). This has resulted in Basarwa being made landless and has increased their poverty given that land is the basic means of production, for rural households that depend on agricultural production or the gathering of wild foods in order to survive (Arntzen *et al*. 1982; Mogwe, 1994; Ratcliffe, 1976; Selolwane, 1995; Wily, 1994;).

Because of the problem of defining land rights, tracts of land 'belonging' to the Basarwa were incorporated into State lands, national parks and game reserves, wildlife management areas, and even "private" lands (such as the Tribal Grazing Land Policy (TGLP) ranches) (Bolaane, 2001; Ellis, 2001; Saugestad, 1998; Wily, 1994). The landlessness of the Basarwa is in part the result of unintended consequences of government policies and programmes, such as the TGLP, the Fauna Act and the Tribal Land Act. Government policy can be seen as a formalisation of British colonial actions, during the colonial era, when Botswana was a protectorate under British rule. Cecil Rhodes settled Boer and English pioneers on the Gantsi ridge in the western part of the country, which were intended to act as a buffer against German expansion from South West Africa (today Namibia) (Ng'ong'ola and Moeletsi, 1995). During colonial rule, native reserves were mainly delineated for the Tswana-speaking tribes or communities. Crown land (land retained under the Bechuanaland Protectorate administration) was essentially those land areas belonging to Basarwa, Bakgalagadi and other voiceless

minority ethnic groups not incorporated into the recognised Tswana tribes and territories. Furthermore, by virtue of living on what was referred to as Crown land, the Basarwa were those most directly affected by the evolution and implementation of conservation laws. The numerous and complicated rules and regulations of these laws were formulated and implemented without consultation with the Basarwa, nor with sufficient regard of the importance of hunting and gathering to the affected communities (Ngo'ngo'la and Moeletsi, 1995).

The TGLP was intended to address the problem of overgrazing and land degradation associated with the open access to resources, the so-called "tragedy of the commons". Privatisation and the fencing off of land was promoted, resulting in the loss of land by many rural poor, such as Batswana small stock cattle owners and the Basarwa, as it involved the fencing of portions of the commonage. By the time the (TGLP) was introduced in 1975, the Basarwa comprised an ethnic and socio-economic minority of 6% in predominantly Tswana pastoral society (Wily 1981). While about a third of the 30, 000 Basarwa were still able to live by traditional means of subsistence hunting and gathering (until the recent relocation of the Basarwa from the Central Kalahari Game Reserve), the majority have long seen their lifestyle give way to Tswana settlement and grazing patterns (ibid).

Today Basarwa effectively live as landless squatters on the edge of farms, cattle posts or cattle ranches owned by other citizens, or in resettlement schemes started under the Remote Area Development Programme since the 1970's (ibid). Those in Ngamiland live on the edges of game reserves, national parks and so-called concession areas (areas managed by private safari companies.) The fencing component of the new Agricultural Policy will make matters worse for the landless Basarwa, as more communal land will be fenced up for private grazing areas.

Unlike the Basarwa in other parts of the country, the Basarwa in Ngamiland live in areas that have always been a part of their territories, although they have access to much smaller areas than previously. Social services have been provided for in their traditional

settlements, without the need for relocation (as has been applied to Basarwa living in the CKGR). This has been an important reason why the Basarwa in Ngamiland are fairly independent and self-contained compared to those in the south western part of the country (Le Roux pers comm).

## *2.3 Land Tenure in Ngamiland*

Before Independence in 1966, there were three categories of land tenure in Botswana. These were tribal land, which was under the effective control of each of the major tribes, and constituting about 47% of the land area; crown lands, under the administration of the Protectorate Government or recognised as not being under any tribe and constituting about 40% of the land area; and freehold farms, occupying the remaining 6% (Ngo'ngo'la and Moeletsi, 1995). European settlers occupied the freehold farms, for which tribal chiefs made grants and concessions to these lands.

Land tenure today includes freehold land (5%), largely farms and ranches such as those in the Ghanzi area and the Eastern edge of the country; State land, which covers about a quarter of the country and is comprised of national parks, game reserves and Wildlife Management Areas (19.4% - both Khwai and Xaxaba are in WMAs), forest reserves (1%); and all urban land (4.6%). The majority of the land (70%) is tribal land and is largely allocated for communal grazing. These areas take the form of Tribal Grazing Land Policy farms, with a small number of commercial arable blocks (Government of Botswana, 2003).

Ngamiland District has two major land tenure categories, tribal land and state land. Land use categories within tribal and state lands are Wildlife Management Areas, game reserves, national parks, settlements, communal grazing lands, commercial farming lands and arable lands (Table 2).

**Table 2: Summary of Land Uses in Ngamiland**

| Designated Land Use | Area | Percentage |
|---|---|---|
| National Parks and Game Reserves | 6340 $km^2$ | 5.7% |
| CBNRM in Ungazetted WMAs | 10,233 $km^2$ | 9.2% |
| Commercial and CBNRM wildlife use in gazetted WMAs | 60,617 $km^2$ | 54.5% |
| Commercial farming | 5,116 $km^2$ | 4.6% |
| Communal pastoral activities (of which pastoral with possible CBNRM use) | 28, 918 $km^2$ | 26.0% |
| **Total Ngamiland** | **111,233 km2** | **100%** |

***[Source: Environmental Assessment of Veterinary Fences in Ngamiland: Summary Report (2000)]***

The Okavango sub-district is a rural area. Agriculture is therefore the predominant activity, with subsistence arable agriculture and livestock rearing along the delta and rivers. Handicrafts supplemented by fishing are important for female heads of the households as an income generating activity. The largest economic activity in the sub-district is tourism (Cassidy *et al*. 2001).

### 2.3.1 Community Based Natural Resource Management (CBNRM)

Community Based Natural Resource Management in Botswana has been accepted by the Botswana Government as a rural development and conservation strategy. The aim of CBNRM is to improve the living conditions of people residing with natural resources, to the point that they see the value of conserving those resources for future generations (CBNRM Draft Policy, 2001**)**. A wide range of CBNRM activities (see table 3 below), such as commercial hunting, photographic tourism, ecotourism, craft production, basketry, the processing of veld products and game skin tanning, are managed by community based organisations with the assistance of Government, local NGOs and international donors (Rozemeijer, 2001; Boggs, 1998;).

'Formal' Community Based Natural Resource Management (Fabricius 2004) is the major land use for the communities of Khwai and Xaxaba. Formal CBNRM operates through a legal entity – a community based organisation (CBO) - that is established to manage, for

the benefit of the community as a whole, the natural resources within wildlife management areas (WMA) entrusted to that community (Cassidy *et al*. 2001).

CBNRM is based on the ideals of equality, natural resource conservation and social development. The policy is designed to:

- Provide for broad stakeholder coordination at District and National level;
- Give communities incentives to engage in sustained development and conservation activities;
- Establish clear links between the reception of community benefits and the existence of natural resources;
- Encourage the investment of community benefits gained from natural resources into activities that will not adversely affect those resources or otherwise hinder the viability of ecological systems;
- Enhance community autonomy through programmes directed towards community self-reliance and where participation uses democratic and transparent mechanisms; and
- Ensure respect for the needs of all members of society

(CBNRM Draft Policy, 2001).

To qualify for Government support for CBNRM, a community has to form a representative, accountable and legal entity called a Community Based Organisation, (also referred to as Village Trust Committees). Village Trust Committees (VTCs) are set up at village level to oversee the CBNRM project activities. The VTC must be managed using a participatory process sanctioned by District Authorities. Communities in controlled hunting areas (CHAs) are granted resource leases over wildlife and tourism on their land for a period of up to 15 years. Although CBNRM allows communities to enjoy increased and direct management of natural resources, the Government retains the ultimate authority to protect species and ecological systems, and continues to regulate their use (CBNRM Draft Policy, 2001).

**Cgaecgae Tlhobololo Trust**: registered in 1997

| | |
|---|---|
| **Size of Area/** | 2640 $km^2$ |
| **CBO Pop** | 360 |
| **CHA** | NG4, use of quota of NG5 |
| **Villages covered** | Xaixai |
| **Activities** | Selling concessions to the safari Operators, Subsistence hunting of part of quota, Management of cultural tourism operation, management of craft marketing operation, management of village shop |

| | Year | Revenue Received through Trust | No. of Jobs Created |
|---|---|---|---|
| **Annual Benefits in Pula** | **2003** | - | - |
| | **2002** | 180,000 | - |
| | **2001** | 21,5000 | 30 |
| | **2000** | 63,000 | 23 |
| | **1999** | 68,000 | 45 |

**Khwai Community Trust: registered in**

| | |
|---|---|
| **Size of Area** | 1918 $km^2$ |
| **CBO Pop** | 350 |
| **CHA** | NG18 |
| **Villages covered** | Khwai |
| **Activities** | Marketing hunts, Subsistence hunting of part of the quota, Grass and crafts marketing |

| | Year | Revenue Received through Trust | No. of Jobs Created |
|---|---|---|---|
| **Annual Benefits in Pula** | **2003** | 389,000 | 20 |
| | **2002** | 1,211,533 | 22 + 3 by safari company per hunting package |
| | **2001** | 600,000 | 22 + 3 by safari company per hunting package |
| | **2000** | 1,200,000 | 3 people per hunting package |
| | **1999** | - | - |

**Okavango Community Trust:** Registered in March 1995

| | |
|---|---|
| **Size of Area** | 929$km^2$ |
| **CBO Pop** | 2200 |
| **CHA** | NG22 (hunting in WMA)<br>NG23 (photographic in WMA) |
| **Villages covered** | Beetsha Eretsha Gudigwa Seronga Gunitsonga |
| **Activities** | Selling concessions to the safari operator |

| | Year | Revenue Received through Trust | No. of Jobs Created |
|---|---|---|---|
| **Annual Benefits in Pula** | **2003** | 1,500,000 | 76 |
| | **2002** | 1,450,000 | 76 |
| | **2001** | 1,400,000 | 130+ |
| | **2000** | 950,000 | 130+ |
| | **1999** | 600,000 | 29 |

**Table 3: Some of the Active CBOs Operating in Ngamiland. Source: National CBNRM Forum in Botswana, 2004; 2001 and 2000**

| Okavango Jakotsha Community Trust: (registered in 2000) | | | |
|---|---|---|---|
| **Size of Area** | 589 $km^2$ | | |
| **CBO Pop** | 700 | | |
| **CHA** | NG24 (Photographic area in WMA) | | |
| **Villages covered** | Etsha 1-13, Ikoga, Jao flats | | |
| **Activities** | Photographic tourism (mokoro safaris); development of campsites | | |
| **Annual Benefits in Pula** | **Year** | **Revenue Received through Trust** | **No. of Jobs Created** |
| | **2003** | 0 | 0 |
| | **2002** | 0 | 0 |
| | **2001** | 0 | 0 |
| | **2000** | 0 | 0 |
| | **1999** | - | - |

| Okavango Kopano Mokoro Community Trust | | | |
|---|---|---|---|
| **Size of Area** | 1223 $km^2$ | | |
| **CBO Pop** | 2400 | | |
| **CHA** | NG32 (Multipurpose in WMA) | | |
| **Villages covered** | Ditsiping, Quxau, Daonara Boro, +associated settlements | | |
| **Activities** | Selling concession to safari operators; Tourism activities such as management of campsite, mokoro packages; Grass, reeds, ilila, fish marketing | | |
| **Annual Benefits in Pula** | **Year** | **Revenue Received through Trust** | **No. of Jobs Created** |
| | **2003** | - | 100+ |
| | **2002** | 1,300,000 | 100+ |
| | **2001** | 1,200,000 | 100+ |
| | **2000** | 1,100,000 | 100+ |
| | **1999** | 750,000 | 45 |

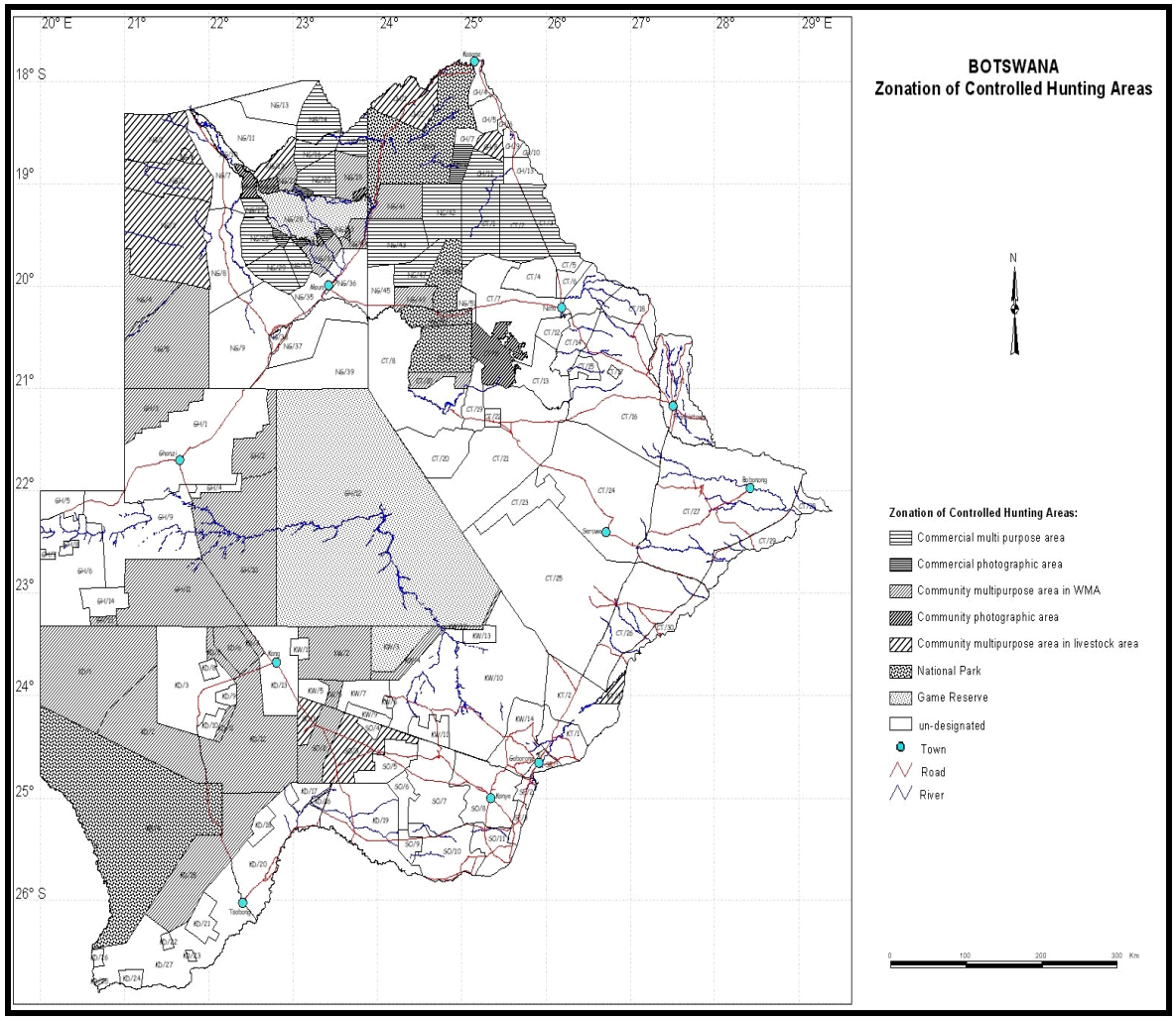
| Sankuyo Tswaragano Management Trust | | | |
|---|---|---|---|
| **Size of Area** | 860 $km^2$ | | |
| **CBO Pop** | 250 | | |
| **CHA** | NG34 (multipurpose in WMA) | | |
| **Villages covered** | Sankuyo | | |
| **Activities** | Selling concessions to safari operators; Thatching grass marketing; Seubsistence hunting of part of quota; Campsite | | |
| **Annual Benefits in Pula** | **Year** | **Revenue Received through Trust** | **No. of Jobs Created** |
| | **2003** | - | 95 |
| | **2002** | 1255,000 | 95 |
| | **2001** | 70,000 | 10 |
| | **2000** | 595,460 | 53 |
| | **1999** | 503,850 | 45 |

(Cont.) CBOs Operating in Ngamiland

| **Mababe Zukutsham Community Trust:** registered 1998 | | | |
|---|---|---|---|
| **Size of Area** | | 2181km$^2$ | |
| **CBO Pop** | | 200. In 1998-1999: 91 | |
| **CHA** | | NG41 (multipurpose in WMA) | |
| **Villages covered** | | Mababe | |
| **Activities** | | Selling concessions to the Safari operators, Subsistence hunting of part of the quota | |
| **Annual Benefits in Pula** | **Year** | **Revenue Received through Trust** | **No. of Jobs Created** |
| | **2003** | - | - |
| | **2002** | 886,000 | 59 |
| | **2001** | 750,000 | 59 |
| | **2000** | 675,000 | 49 |
| | **1999** | 0 | 0 |

| **Okavango Polers Trust** | | | |
|---|---|---|---|
| **Size of Area** | | | |
| **CBO Pop** | | 75 members | |
| **CHA** | | Operating in NG12 | |
| **Villages covered** | | Polers from diff villages, eg. Seronga and Gunitsonga | |
| **Activities** | | Tourism (viewing the Delta from Mokoro); Crafts marketing | |
| **Annual Benefits in Pula** | **Year** | **Revenue Received through Trust** | **No. of Jobs Created** |
| | **2003** | 1,000,000 | 100 |
| | **2002** | 1,000,000 | 100 |
| | **2001** | 750,000 | 100 |
| | **2000** | 680,543 | 100 |
| | **1999** | 623,534 | 100 |

(Cont.) CBOs Operating in Ngamiland




**MAP 2: Controlled Hunting Areas. Source: Department of Wildlife and National Parks**

## *2.4 The Study Sites*

As stated earlier the fieldwork for this study was carried out in Khwai and Xaxaba. These two sites were selected as they are representative of Basarwa communities that traditionally practiced adaptive management and are exposed to rapid change (relocation and reduced access to land and natural resources) as a result of mainly conservation policies. Both settlements are on the borders of the Moremi Game Reserve and their current livelihood strategies remain largely based on the use of natural resources. Khwai and Xaxaba both have ongoing CBNRM initiatives. The two study sites therefore provided a good basis for studying the Basarwa's day to day interaction with their ecosystem, past management systems and exploring the fundamental research questions that this study sought to address. More details on these study sites are provided in the section below.

### 2.4.1 Khwai settlement

Khwai settlement lies on the northern border of the protected Moremi Game Reserve along the permanently flowing Khwai River (in WMA NG19), 140 km from Maun. It is situated in the middle of one of the primary game and tourist areas of the Delta region. Khwai is almost exclusively a Basarwa (*BaBugakhwe*) community with a hunter-gatherer history. The village arose from the resettlement of various smaller family groups out of the Moremi Game Reserve (MGR) at the time of its designation in the early 1960s. The former Headman of Khwai settlement (Alexandra, 1993), together with 20-30 people in 1963, was forced to move to an area outside the reserve boundaries. In the mid 1990's the boundaries of the Moremi Game Reserve were extended and the people of Khwai were forced to relocate yet again, this time to the present site of the village (ibid).

Khwai settlement has a population of 419, 95% of whom are Basarwa (Cassidy *et al.* 2001). The village has 20 homesteads with average of 18 people per homestead. The

average income is P2,100/month per household, the bulk of which is earned during the tourism peak season (Every River Has Its People Project, 2001). A typical homestead in Khwai may have several households living in one compound, e.g. the Chief and his family have built their home in his grandparents' compound. Some homesteads, however, have a single household. A number of the residents make a living working at one of the three adjacent tourist lodges (Boggs, 1998). Some of the men have jobs in the hunting industry, particularly as trackers and skinners. These men usually spend 6 months (from May to October, the hunting season) in safari camps each year, with the rest of the year spent in their home settlement.

Crop production mainly takes the form of backyard gardens, where mostly maize and pumpkins are grown. A major constraint preventing larger and more extensive gardens further from the village is destruction of crops by wildlife. Certain crops (e.g. pumpkins) are stored in elevated and shaded structures made of poles and twigs.

Khwai settlement formed a CBO and was awarded the 1, 815 $km^2$ concession area called NG18 in March 1996. However, the lease was denied by the District Land Board on the grounds that their Trust constitution was discriminatory. The constitution stipulated that any member of the community of Basarwa origin would automatically become a member of the trust, while non-Basarwa had to apply for membership. This was probably a strategy of the Khwai community to protect themselves from domination by outsiders. They have, however, subsequently amended their constitution and consequently been given their wildlife quota, which they sold for P1.7 million (UDS 280, 000) in July 2000 (CBNRM Status Report, 2000). In 2001 they received P600 000 (USD 100 000) from selling hunting packages for the hunting season (CBNRM Status Report, 2001).

The only public infrastructure in this village is the Kgotla (a traditional Tswana public forum meeting place) and the Chief's office. There is neither a clinic nor a school. Most children attend boarding school in Gudikwa (145km from Khwai) with some attending school in Maun (135km from Khwai). The nearest health care service is a clinic in

Mababe, which is 40km from Khwai, and there is a Government District Hospital in Maun.

### 2.4.2 Xaxaba Settlement

Xaxaba settlement (also known as Sedibane and Ncoega), on the other hand, has a large number of Basarwa of the Xhanikhwe group, some Bayei and a few people from other groups such as Batawana. According to some elderly residents, Xaxaba means 'a place of wildlife' (literal translation), and in the past it was part of their hunting grounds. This settlement has a population of 78 people, 11 homesteads with an average of 7 people per household[6]. The total household income per month is P1,600 (Every river Has its People Project, 2001), although it is seasonal and depends largely on the vicissitudes of the tourism market.

Xaxaba is an island, which is sometimes referred to as Sedibane. The residents have built their homes right in the centre of this island to avoid the shaded river bank, which is preferred by dangerous wildlife. The houses are constructed from locally available natural resources in the form of mud (from termite mounds), reeds, poles and grass. Some households use aluminium soda and beer cans to reinforce the walls of their huts.

The residents of Xaxaba claim to have originated from Tsobaoro, which is on Chiefs Island in the Delta. In the mid-1960s, the first safari camps in the area attracted Xhanikhwe from all over the Boro/Jao region (see Map 1). The establishment and subsequent expansion of the Moremi Game Reserve was a further incentive for both the migration of the Xhanikhwe and the establishment of more safari camps in the area. Subsequent to the concentration of the Xhanikhwe in the present Xaxaba settlement, the Wayeyi from the Jao area, who had historically travelled and hunted in the area, began

[6] The Xaxaba community can be described as a transient community as it hosts highly mobile people who are coming in to seek employment in the surrounding camps and leave as soon as their contracts 'expire'. In 1991, 212 people were counted in the national census (Cassidy 2001), based on various sources, and a survey carried out in 1999 estimated the population of Xaxaba to be approximately 400.

arriving in search of jobs (Bock, 1998). Many more Hambukushu and Wayeyi continue to migrate from villages surrounding the Delta to this day, although some have returned to their nearby villages to work on village CBNRM projects. Rra Kgalaleo one of my informants gave an account of their history and movements which corresponds with Bock's (1998) record. Rra Kgalalelo, and other informants, also advised that Xaxaba Island was a part of their traditional territory.

The current Xaxaba settlement's head is a Mosarwa whose grandfather was a chief in the same place in the 1920s. The Xaxaba community has been especially marginalised as it was the only community in a Wildlife Management Area that was not initially targeted under the CBNRM when it started in 1993. Eventually Government tried to remedy this by amalgamating Xaxaba with communities of Ditshiping, Quxau, Daonara and Boro for managing NG 32. This is not working, as the area is too far from Xaxaba for the community to actively participate in the CBNRM activities. More importantly, the Government withdrew Special Game Licences in Xaxaba with no immediate form of compensation. Special Game Licences were introduced by the Department of Wildlife and National Parks to legitimise subsistence hunting by the poorest members of the population, making it possible for them to hunt wildlife legally. These were intended to guarantee rights of those people who belonged to communities that foraged for a living, or who were Remote Area Dwellers who depended on hunting and gathering for subsistence and income. The withdrawal of these licences has had a profound effect on the food security of several households in Xaxaba, as they no longer have direct access to subsistence hunting (Cassidy *et al*. 2001). Like Khwai, crop production is a major constraint in Xaxaba because of crop damage by wildlife. The settlement has grown, however, as a result of job opportunities in the tourist camps nearby. Xaxaba does not have a shortage of males as it is very close to three safari camps (the main source of male employment), hence attracting men to stay in the settlement rather than causing them to migrate. Like the Khwai community, the Xaxaba community has a mixed economy which includes hunting and gathering, rain-fed agriculture, wage labour, and fishing and income from CBNRM initiatives (Cassidy, 1999; Every River Project Data, 2001).

Like Khwai settlement, the Xaxaba settlement has no school or clinic. The children of Xaxaba go to school in Maun (70km away), where they stay with relatives, or in rented rooms with no adult care. The sick are taken to Maun where the nearest health care facilities are, or are attended to by a Government mobile clinic, which is unreliable due to the difficulty of accessing this island by road. The residents of Xaxaba use regular flights to and from the nearby tourism camps to get to Maun where a return trip costs P60.00 (US12.50).

This unique ecological, political and socio-economic history and context has had profound implications for the vulnerability, adaptability and livelihood options of the Basarwa. These issues will be explored in Chapters 4, 5 and 6.

# Chapter 3: Methodology

## *3.1 Introduction*

This chapter describes the methods employed to address the research questions. The sustainable rural livelihoods framework and adaptive renewal cycle provided the theoretical background upon which the data is interpreted and analysed.

The initial fieldwork for the study was undertaken in May 2000. Two weeks were spent in Khwai and another two weeks in Xaxaba. The second leg of fieldwork took place in July 2001, when a further 25 days were spent in Xaxaba only. Some difficulties were encountered in data collection in Khwai. Although there is potential for more research to be done on the Basarwa, much has already been done, and as a consequence of this, the residents of Khwai were not easy to work with. For several days it was difficult to undertake any interviews. The residents argued that the research topic had previously been studied by other researchers without the Khwai people having gained any benefits from that research. Perhaps if the research approach had been action oriented, and the Khwai community could see the immediate benefits arising from it, there would have been better cooperation. The chief's father had said:

> *"Many white people come here to ask us about our traditional ways of gathering, tracking and managing resources, and write about these. Sometimes the very same people are paid to come back and teach us how to conserve the natural resources using our very own knowledge. You will be given a certificate for writing about us, what will we get?"*

In an effort to win the trust and cooperation of the villagers, time was spent sitting under the shade with some of the villagers, such as the Chief, his parents, Mma Kelereng and some of the younger people like Domisasa, during which time general and informal

discussions were held. Once we had the trust of the community leadership, it became much easier to interview the rest of the community members.

On the third day after our arrival in Khwai, some residents left the village to go to a nearby hunting concession where they had been invited to collect some elephant meat. They were gone for three days, returning back with the meat for some of their family members. My field assistant and I took the opportunity to interview some elders who remained behind collecting their life history so as to trace their movements from their traditional settlement to the current Khwai and establish the changes which may have been brought about by this move. When the others returned we carried out various forms of data collection, discussed in more detail in the paragraphs below.

In contrast to our reception at Khwai, we were well received by the community of Xaxaba, probably because this village has been the subject of little research. We flew to OddBalls Camp, which is close to the island, on a charter airplane, and were handed over to an elderly man referred to as RraSedo, who ferried us over to Xaxaba. Terrified of the Delta waters, I asked our poler if we were safe from dangerous wildlife. Although I was expecting an assuring response, he said;
*"….there is no way one can get away from death; if it is time for you to die you will die regardless of where you go."*

My interpretation of RraSedo's statement was that, in the wilderness of the Delta, there are no life guarantees and one may be faced with death any time, as both the waters and the surrounding islands are home to a variety of dangerous wildlife such as crocodiles, hippo, elephants and lion. This is a facet of life faced by members of both communities on a daily basis.

## *3.2 Data Collection Methods*

The data collection methods used in this study included focus group discussions, key informant interviews, observation, and the use of secondary data. Secondary data included analysing survey data from the "Every River Has Its People" project's socio-ecological survey (2001), maps, reports, policy documents, electronic journals, websites and other sources of information on the study subject. A combination of methods was used in order to complement and cross check data. Furthermore the holistic, interdisciplinary nature of studying livelihoods requires bridging conventional survey tools with qualitative methodologies (Campbell and Sayer, 2003; Ellis, 2000; DFID, 1999; Scoones, 1998). The primary data was, however, largely based on qualitative discussions with residents of the two communities and key informants in and outside the two villages. These discussions took the form of in-depth semi-structured interviews, particularly with community residents, and more structured interviews, especially with key informants. The latter was used mainly to cross check information acquired through in-depth interviews and focus group discussions. Each of these methods is discussed in more detail below.

As noted above, the Basarwa of Khwai settlement had been studied previously. They expressed their concern about researchers coming in to collect information from them and never coming back to share their findings or helping them in any way. It was, therefore, especially important to build trust before going ahead with data collection, as well as to be careful not to raise any hopes or expectations which would not be fulfilled by this study. It was therefore decided to avoid carrying out a survey, since one had been done for the "Every River Has Its People" socio-ecological project between October 2000 and February 2001.

There was also a need to clearly communicate the purpose of this study to the two communities, and to spend time at both study sites familiarising myself with the communities and community activity, in order to build trust and gain co-operation.

As stated by Chambers (1992), when carrying out this type of research one needs to "learn rapidly and progressively, with conscious exploration, flexible use of methods, opportunism, improvisation, iteration, cross checking, not following a blue print programme but being adaptable in a learning process".

The above statement can be understood to make reference to participatory rural appraisal and rapid rural appraisal methods, which are often suitable for action research. This study was not based on action research, however; the methodologies employed were borrowed from the PRA framework. A combination of both extractive and participatory methods were used through key informant interviews, semi-structured interviews, focus group discussions and participant observation, all of which are methods used in PRA (Nemarundwe and Richards, 2002; Ellis, 2000; DFID, 1999; Singh and Rennie, 1996; Chambers, 1992).

### 3.2.1 Focus group discussions

Focus group discussions are semi-structured discussions with a group of people who share a common feature (e.g. women of reproductive age, users of a particular service); this method of data collection is largely qualitative (Borrini - Feyerabend, 1997).Together with an assistant from Gudigua (a nearby village), who acted as an interpreter and cultural informer. I gathered together people in groups of 6-12 to discuss several issues of concern to this study. Focus group discussions were held in Khwai with the basketry committee, village elders and the Village Trust Committee. In Xaxaba they were held with two sets of village elders and the Village Trust Committee.

The focus group discussions enabled me to explore the nature of land use and natural resource management practices amongst the Basarwa groups in the study area. The focus group discussion method created the opportunities for generating new ideas for hypotheses and the interpretation of results. The information gathered also provided the

study with rich quotes; probing issues in greater depth; and sharing information between the researcher and respondents in informal and relaxed settings.

This latter point was important. Whereas I chose participants for focus group discussions by means of sampling procedure, I often met them where they were already gathered to relax and stay away from the sun to conduct the group discussion. It was possible for me in this way to collect a group of elders without actively calling them to a meeting, as people often sat and interacted with their age mates and members of the same sex. In some cases though, for example the women's basketry committee and village leaders (the chief and his advisors) in Khwai, I arranged for a special meeting with the groups.

Often discussions were interrupted by the need for translation, as I neither speak nor understand the local language. This was more of a problem in Khwai, as respondents preferred to use Sesarwa instead of Setswana.

### 3.2.2 Key informant interviews

Semi-structured interviews (Borrini-Feyerabend, 1997) were held in a relaxed and informal way (Neuman, 1997) with experts in the field of land use and natural resource management. Unlike questionnaires, with standardised questions and close ended answers, semi-structured interviews use only general questions (Borrini-Feyerabend, 1997). This leaves the interviewer free to ask probing and follow up questions such as "Who?" "Where?" "When?" and "How?" based on the respondents' answers and conversation flow (ibid).

Semi-structured interviews were held with a range of key informants, including:

- Experts in Basarwa research;
- Government officials. This included the Game Wardens, the Department of Wildlife Management Parks (Community Service Division), and officials who have previously worked in the Okavango Sub-District for a period of more than five years, officers of Department of Wildlife and National Parks (based in Maun)

were also interviewed; Non-Governmental Organisations, including Kuru Development Programme in Shakawe, Conservation International, and Kalahari Conservation Society;

- Representatives of Community Based Organisations (Khwai Community Trust, Xaxaba Settlement Trust Committee), including community members holding key positions at the two study sites;
- Community leaders and the elderly, especially with reference to traditional practices; and
- Representatives of the private sector, including the management of Delta Camp and OddBalls Camp operating near Xaxaba settlement.

A total of 17 people were interviewed using this method. Notes were taken, using a tape recorder and hand-written notes to keep records of these discussions.

Key questions asked included:

1. Is land use conflict a problem in this area? If yes, what is the nature of this conflict?
2. What in your opinion do you see as important for the livelihoods of the community in this settlement?
    a. resource rights (land and natural resources)
    b. education
    c. cash income
    d. other
3. Please elaborate on your answer. For instance, when in the year is cash income most important?
4. What are the income opportunities for the community in this area?
5. Do Government policies and regulations influence the livelihood strategies of the Basarwa communities in this area? Please elaborate (e.g. which policies).
6. Do you think CBNRM is likely to benefit this community? Please elaborate.

The full interview guide for the key informant interviews is given in Annex1.

### 3.2.3 Informal interviews

This method of data collection was also used throughout my fieldwork, often with ordinary members of the community (e.g. the Mokoro craftsmen, fishermen, women, tourist guides etc.).

The questions designed for the focus group discussions, as well as general questions on community matters, were used for these interviews. The village leaders (Chiefs, Village Trust Committee chairpersons and Village Development Committee members) mainly gave a political perspective of the issues raised during the discussion relating to the livelihood strategies, while at the same time giving me legitimacy to conduct further interviews with other members of the community (Caplovitz, 1983).

Informal interviews were held with members of the study villages as well as with other researchers involved in research on Basarwa and natural resource management. These researchers included Lin Cassidy, Maitseo Bolaane, Michael Taylor and Rosinnah Masilo, some of whom do their work through the Basarwa Research Programme at the University of Botswana. Lin Cassidy and Maitseo Bolaane were interviewed through emails and over the telephone, as they were studying abroad. Interviews with both Rosinnah Masilo and Michael Taylor took place in Gaborone.

Data obtained through these methods mainly took the form of notes, tape-recorded interviews and discussions, photographs and observations. The data was then summarised and reduced to a manageable size. Data reduction and transformation was a continuous process, after the fieldwork was completed, until the final report was written.

### 3.2.4 Documentary and other secondary data assessment

The documentary assessment phase of research is often referred to as secondary data assessment. It is the re-analysis of previously collected survey data or other information

(Neuman, 1997). I assessed available and accessible documented information on the research topic and the two study sites, including progress, and monitoring and evaluation reports from the Department of Wildlife and National Parks Community Extension and Outreach Division; USAID's Natural Resource Management Programme; and KCS' Every River Has Its People Project survey data and documents. The Every River Has Its People survey data allowed me to undertake a quantitative analysis for this study. At a community level, the Community Trust files were examined and the NG32 2001 Annual General Meeting attended.

Various policies and legislation documents (e.g. CBNRM Draft Policy 2001, Rural Development Policy and Strategy, Department of Wildlife and National Parks Act, Ecotourism Strategy, etc.) were studied in order to establish how national policies and local institutions can be adapted to promote the resilience of the livelihood strategies of the two communities.

## *3.3 Data Analysis*

### 3.3.1 Qualitative data analysis

This study set out to identify the links between the two communities and their local environment. In order to do this effectively I established an interdisciplinary framework that combined the Sustainable Rural Livelihoods Framework and the Adaptive Renewal Cycle methodologies. These allowed me to frame questions whose answers should provide information regarding those links. The first step in analysing this data was to disaggregate and categorise the data on livelihoods into the four different types of livelihood capital suggested by Campbell *et al.* (2003). For instance, where respondents spoke of adaptive strategies, the next step in analysis was to establish where the strategies would fall in terms of the livelihood assets (e.g. data on taboos and informal rules was categorised as relating to social and cultural capital). The second step was to look at the constraints surrounding local practices, review policy documents, and analyse the policy framework to ascertain whether these practices were being supported or not, thereby

strengthening or weakening their resilience. The diagram below, adopted from Rennie and Singh (1996), comes close to summarising the links between these two frameworks, and is useful to illustrate how the two frameworks were brought together in order to group and analyse the data.

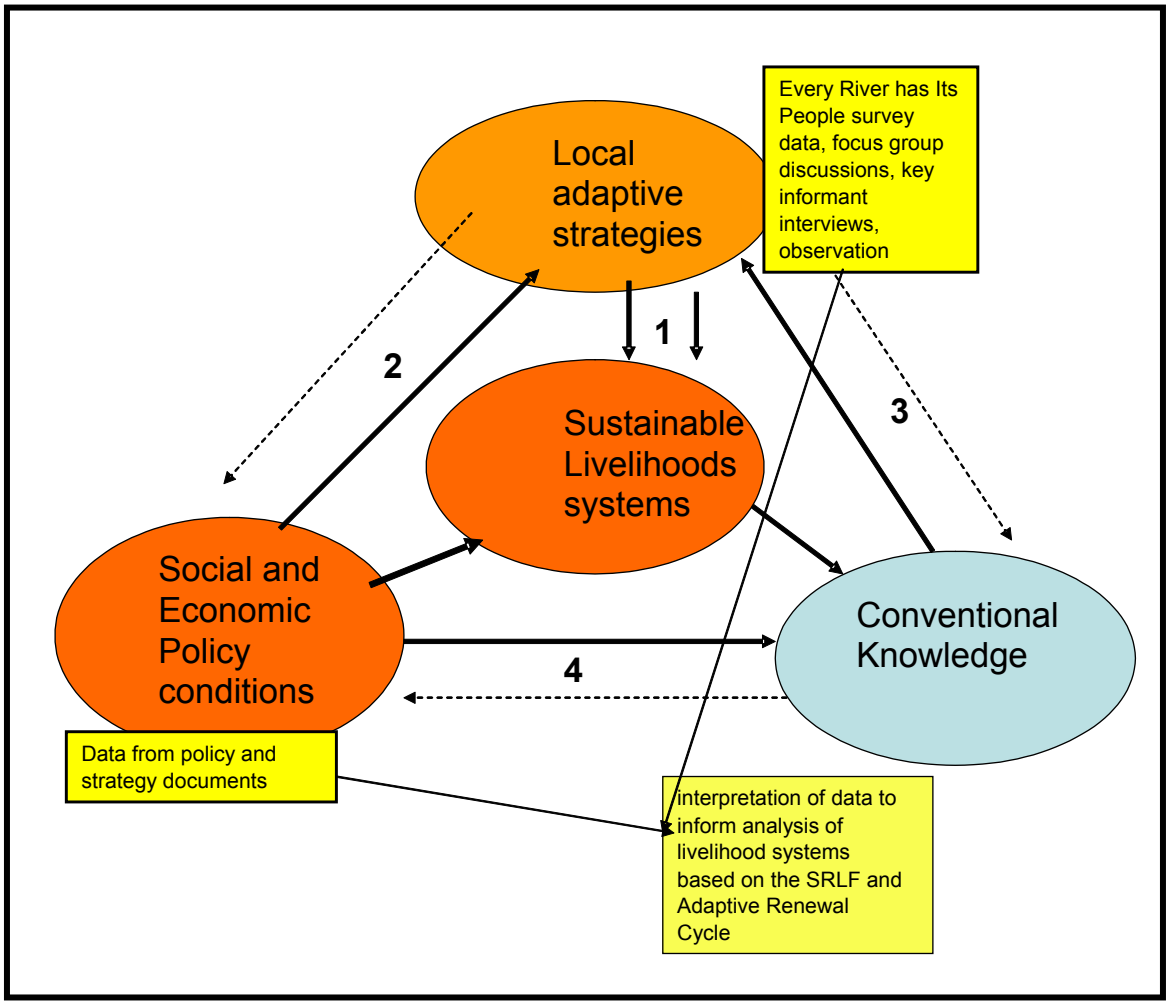



**Figure 6: Towards adaptive livelihood strategies**

The above figure represents the three main constraints leading to sustainable livelihood systems in arid and semi-arid lands (centre circle). Sustainable livelihoods draw most (arrow 1) from the adaptive strategies that people and nature have evolved together (first circle), but they will also require an *appropriate environment of social and policy conditions* (second circle, arrow 2). They will also draw on contemporary knowledge systems (third circle). The dotted arrows (3, 4) show the influence of adaptive strategies on contemporary knowledge and hence on policy (4). *Source Rennie and Singh* (1995).

The figure above indicates what happens for livelihood strategies that are sustainable, and is useful in terms of breaking down the analysis in order to learn where weaknesses for building sustainability lie. For instance, it was found in this study that the prevailing economic and policy conditions hamper the local communities' adaptive strategies, and that the current conventional knowledge informing these policies does not take the local knowledge and culture of these communities into consideration.

Analyses of qualitative data were further informed by Carney's (1998) suggestion of using a schematic approach, which involves plotting the asset status on a pentagon, with each corner representing one of the five major categories of assets (see figure below).

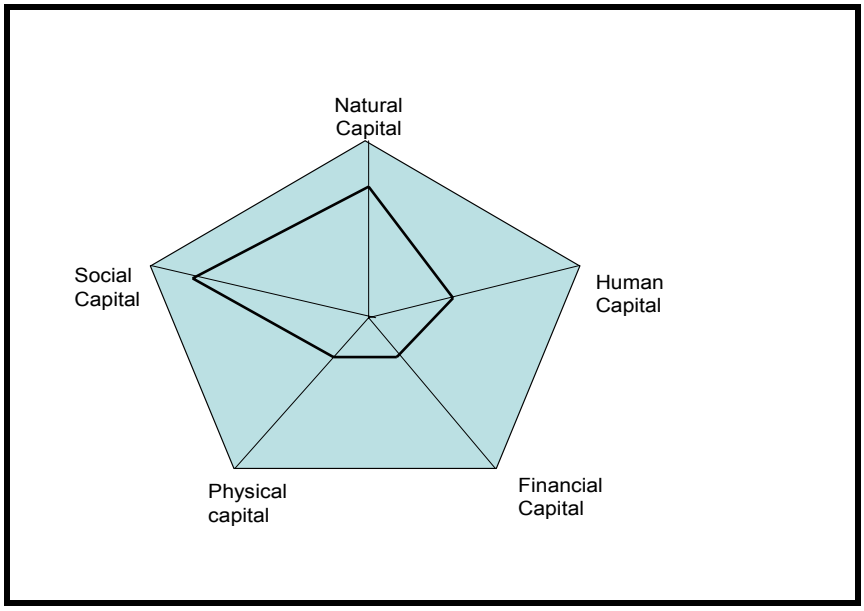



**Figure 7: Plotting Asset Status on a Pentagon**

*The example displays a household/community that is high in social and natural capital, low in financial and physical capital and moderately endowed in human capital. This depicts the picture of the asset status of Basarwa communities prior to 1968, the period characterising the practice of traditional livelihood strategies (see Chapter 5). For example representing relative asset endowment comparisons between*

*households/communities graphically in this way, assets are shown in the same order round the perimeter of the pentagon; the resulting area of the pentagon inside the figure gives an approximate picture of the relative asset endowment of social units being compared. In the case of this study, the internal pentagon will change in response to change in the two communities' history and livelihood strategies.*
Source: Carney (1998)

The axis is not calibrated in quantitative terms, but represents rank orderings when broad comparisons have been made across different groups (Carney, 1998). Though Ellis (2000) suggests a participatory approach be used with this form of analysis, in this study the analysis was carried out after the fieldwork stage, based on information derived from the fieldwork and from secondary data analysis.

### 3.3.2 Quantitative data analysis

Numeric survey data from the Every River Has Its People project was transferred into a spreadsheet for purposes of calculating averages for various socio-economic parameters (e.g. average income, income by source etc.). The data also provided basic demographic information on the two study sites.

Statistical data from reviewed sources was referred to as part of the analysis and interpretation of the research results. The data was categorised for this purpose into three main areas, which make up the results chapters: vulnerabilities, resilience and coping strategies, and evaluation of current interventions.

*Reflections on the methodology:*
The methodologies employed mimicked the approaches used in participatory research. These were guided by the SRLF and the adaptive renewal cycle, which are frameworks that bridge disciplines and therefore call for the bridging of research methods used in the social and natural sciences. Ideally when carrying out research of this kind, a multi-

disciplinary team is required. As I have a strong background in social sciences (mainly sociology), integration of the findings from the perspective of ecosystem ecologists proved to be very challenging.

Furthermore, participatory research often results in a joint learning process for both the subject group and the researchers; however, due to the fact that this was not an action research project or a study linked to any specific ongoing projects in the two villages, the joint learning aspects were not exploited to the full potential.

# Chapter 4: Past and Present Vulnerabilities Faced by the Basarwa

## *4.1 Introduction*

This chapter discusses the past and present vulnerabilities that the Basarwa have been and are being exposed to. In order to understand the livelihood strategies of the Basarwa, one has to understand the current vulnerabilities they face, and compare present vulnerabilities to those that have shaped their social and institutional fabric. The central thesis in this chapter is:

*The traditional social and institutional characteristics of the Basarwa of Khwai and Xaxaba settlements have developed in response to the highly dynamic Okavango Delta ecosystem.*

Contemporary Basarwa are faced with new socio-economic vulnerabilities in addition to ecological uncertainties, for which they have few traditional coping strategies. The key questions addressed in this chapter are:

1. What are the historical sources of vulnerability that may have shaped the evolution of Basarwa social and institutional systems?
2. What additional sources of vulnerability have been introduced by external political and economic developments over the past century?
3. Are the Basarwa studied here prepared for these new challenges?

At local level in their day-to-day interaction with their natural environment, the Basarwa are vulnerable to climatic and environmental variability, as well as to global and local economics, politics and power. They face the same vulnerabilities at a national level

because of their position as an ethnic minority within the social stratification of Botswana. These vulnerabilities in turn affect their livelihoods and the wider availability of financial, social and natural assets. Assets are both destroyed and created resulting in response to trends, shocks and seasonality. What makes the Basarwa more vulnerable than other rural poor communities in Botswana is their loss of land, as outlined in the introduction to this thesis.

Vulnerability used in the context of studies such as this typically refers to the exposure of groups of people or individuals to stress arising from environmental change (Adjer, 2000). In the context of my study, however, vulnerability will also encompass stress arising from political developments, power relationships, and related to politics, power, global economic trends, all of which disrupt livelihoods, resulting in the loss of security for the Basarwa. The factors that make up a society's vulnerability context are important, as they have a direct impact on the status of people's assets and the options that enable them to cope with stress or surprises in their social-ecological systems. Hence, the variability and diversity of activities that people engage in are crucial components of vulnerability. Environmental and social unpredictability forces people to adopt risk, thus encouraging adaptive strategies that minimise risk rather than necessarily maximising returns (Devereux, 1999).

Often people have little or no control over factors that make up their vulnerability context (Ellis, 2000; DFID, 1999). According to Devereux (1999), vulnerability is determined partly by risk factors that are generic to groups of individuals or households that are linked either geographically or by some shared risk characteristic, and partly by risk factors that are specific to each individual or household. Although an entire community might face equal exposure to a threat, such as drought or a food price rise, resilience to that stress is differently distributed across households depending on their relative wealth and access to alternative income sources, including support from extended family and social networks. Or rather, as emphasised by Sen's work on Poverty and Famine (1981) the ability to command control over commodities or 'entitlements'.

Surprise is one of the components of the vulnerability context of the Basarwa in Ngamiland. Ecological surprise is one of the greatest sources of unpredictability in the Okavango Delta, and this can have a devastating effect on the social and ecological systems of the Basarwa. Surprise is defined by Gunderson (1999) as a qualitative disagreement between observations and expectations when an ecosystem behaves in an unexpected manner. Gunderson argues that surprise at local level can be created by broader scale processes for which there is little or no previous knowledge. The vulnerability of social and ecological systems to surprise and crises is increased by any decline in the flexibility and buffering capacity of those systems. Although Gunderson's (1999) description refers to ecological surprise, the same can be said for social surprise. For example, the increase in the elephant population and the resultant destruction of habitat in the Okavango Delta impacts upon the livelihoods of the communities living in the Delta. These communities as a result become more vulnerable, as they compete for the same resources with the elephants (e.g.Mokolwane palm foods, and homes and crops, eaten and destroyed by foraging elephants).

## *4.2 Observations and Analysis*

Research data shows that the Basarwa in the Okavango Delta are vulnerable to shocks, surprises and externalities, including:

- Climatic and ecological variability. The Delta is prone to periodic floods, which in some cases flood the homes and crop fields of the residents of Xaxaba and Khwai. Furthermore, the presence of permanent waters attract a wide variety and large numbers of wildlife, which cause crop damage and are sometimes responsible for personal death and injury;
- Power and politics. The Basarwa are peripheral to the political environment of Botswana, and thus do not have a strong influence on the decision-making process and policy formulation. As a result, they passively receive policies and regulations, many of which have criminalised their traditional land use and natural resource management practices;

- Global and local economic trends. The Basarwa of this study rely on the tourism industry for much of their financial capital; they are affected by trends such as fluctuations in the tourism market arising from political instability in Zimbabwe.

The vulnerabilities in tourism are discussed in detail below.

### 4.2.1Climatic and ecological variability

**Observations**

Firstly, both the Xaxaba and Khwai settlements are vulnerable to floods because of their location on the floodplains of the Okavango Delta. In May 1999, during fieldwork, a household in Khwai had to temporarily live in the community craft centre (which was not yet operational at the time) because their homestead was flooded. There were three other homesteads in the south-western part of the village near a seasonal pool which had also been hit by the floods.

The Xaxaba community also experienced flooding of their homes. In 1999, the settlement was flooded for the first time in over 10 years. All households within 3-4 metres of the river banks had no harvest that year as their crops had been destroyed and their homes completely covered by water. Army helicopters were flown in to evacuate the affected community members to Maun, but the families returned to their homes as soon as the water had receded. Furthermore, due to heavy rains and flooding of the Delta in 1999, 2000 and early 2001, the delivery of Government food relief and pensions to the Xaxaba community was unpredictable during those years, leaving the most vulnerable community members without food and money for months.

Secondly, by virtue of being the only source of permanent water in the country, the Delta attracts wildlife in large numbers. The communities of Khwai and Xaxaba therefore live with the threat of danger from larger wildlife, such as elephants, buffalo, hippo, crocodiles and lion. In both settlements, one hears stories of people who have either been killed or badly wounded by wildlife. For example, Mothusi, who is a guide with OddBalls Camp,

is badly scarred on his stomach from an encounter he had with a buffalo on his way back from work. His colleagues had managed to escape, leaving him to take refuge on a nearby anthill, where he stayed until the Department of Wildlife and National Parks and Gametrackers (one of the lodges in the area) staff came to rescue him and rush him to hospital. Another incident involved a man who had lost some of his fingers on one hand fighting off a crocodile. In order to cope with or avoid these dangers, children are not encouraged to bathe or swim in the middle channels of the river, as there are often hippo and crocodile there. The residents of Khwai are also encouraged to collect tap water from the DWNP camp to avoid accidents with crocodiles and hippo when drawing water from the river. The Moremi Park officers in Khwai showed me the skin of a lion that had been terrorising villagers, killing their donkeys, and roaming in the village at night. Eventually one of the villagers, who had accompanied the DWNP staff to hunt down and kill the notorious lion, was seriously injured.

MmaB in Xaxaba, in whose back-yard I had set my camp in 2000, had been surprised by my decision to camp under a large tree, citing hippo and elephants as potential dangers. Next to my camp was a house that had been destroyed by an elephant, which had broken a tree with heavy branches, which then fell on the house. The villagers thought I must have a very strong God who protects me from the dangers they were vulnerable to.

According to the villagers, elephants, buffalo, zebra and other animals converge on their settlements during the dry season, when most seasonal pools have dried up, in search of water. This we witnessed during the last of my fieldwork in July 2001, when we had to flee our camp next to the river one evening, having seen a large herd of elephants in the village.

Although there are many livelihood assets in the veld and in the water of the Delta, access to these resources is restricted by fear of wildlife, especially buffalo and elephant on land, and crocodile and hippo in the water (cf. section 4.2.2). Kebatenne, one of our informants, pointed out a number of islands with good firewood and fruit, but also stated that the villagers do not stay out long on these islands because of Tsetse flies and buffalo.

Although there are numerous stories of people's encounters with dangerous animals in these two settlements, I have included only a few as examples of how the residents of Xaxaba and Khwai are vulnerable to wildlife. The threat from wildlife, and the need for people to always be cautious and alert, is further evident in the folk stories told to children by their elders. An example of one of these stories is given in Box 1.

**Box 1: The story about *Nsthwarela Ngwana***

An old man left his home to visit his neighbours one evening. A Phiri (hyena) came into his shelter and sat there. His wife walked in, it was dark and she couldn't see clearly. At seeing this figure she assumed it was her husband, to whom she said "could you hold the baby for me while I make her bed" and she gave the baby to her 'husband'. The Phiri sneaked out of the shelter and ran off with the little baby. After the woman finished making the baby's bed, she said "let me have the baby, her bed is ready" and there was no response. At that moment her husband walked in and again she repeated "may I have the baby now" and her husband responded, "what do you mean, you had the baby". At that moment they realised the baby was gone, never to be found again.

That is how the island got to be known as Ntshwarela-ngwana. Ntshwarela ngwana directly translated from Tswana means 'hold the baby for me'.

Lesson: Wild carnivores are treacherous and unpredictable. The children were being taught to be careful, and always guard themselves against danger and the unknown. They were taught to understand that darkness and night are dangerous and uncertain times because one cannot see things clearly, especially in an area like the islands of the Okavango Delta in which they lived, because there is a lot of dangerous wildlife.

Story told by Rra Kgalalelo, one of the oldest members of the village in Xaxaba and also one of my key informants.

Central to the hardships faced by the residents of Khwai and Xaxaba is the problem posed by a large population of elephants in the area. According to the respondents in both Khwai and Xaxaba, the vulnerabilities arising from this problem are caused by competition for resources between them and the elephants, Mma Monjwa stated:

"*Our children were brought up on gau (the crown heart of hyphaene petersiana stem) and fish. These were our main foods, we never went hungry. In the water we ate Tshitla (typha capensis) and moxhou (schoenoplectus corymbosus). All these were found in the wild. Tsobaoro [refer to Chapter 2] where we originate from is very rich in these resources. In Xaxaba*[7] *these resources are scarce; the presence of elephants makes the situation even worse".*

This statement illustrates that resource scarcity can be attributed to the presence of elephants. Further, the danger posed by the presence of these elephants restricts access to natural resources.

The residents of Xaxaba said that they used to collect *tswii* (nymphaea nouchali[8]) from the river when it dried up, but elephants have destroyed everything, even the *mokolwane* palms (hyphaene petersiana). The *Mokolwane* has multiple uses: the sap is tapped for wine, the crown head of the stem is eaten as a vegetable, and the young leaves are collected and used for making baskets (see Photograph 1). They stated that people are blamed by both Government and conservationists for destruction of the environment, but that the real culprits are the elephants.

[7] Xaxaba is also known as Sedibane and Nxhoaga.

[8] The roots of which are cooked or roasted and eaten by the Delta communities

**Photograph 1: Boiling Mokolwane leaves used for making baskets**

People believe that there were never so many elephants in the islands until the erection of cordon fences and the establishment of the Game Parks (cordon fences have been erected by the Government to restrict the movement of herbivores – especially Cape buffalo – in order to reduce the incidence of hoof - and - mouth disease in the domesticated cattle population). Stressing the misplaced conceptions of conservation by those in power (the Government, particularly the Department of Wildlife and National Parks), Mma Monjwa stated that:

"*…people are accused of damaging the veld by starting fires, but such fires are not destructive*".

The irony of the whole issue, according to Mma Monjwa, is that the destructive elephants are protected while useful fire practices are banned. The respondents argued that fires create fresh fodder for wild animals and also allow people to see animals from far away, thus aiding safety as well as hunting activities.

The villagers of Xaxaba used to cultivate large fields before they had any problems with elephants. In fact, the day before one interview, Mma Monjwa's grandson had, pointed out to us a nearby island where his grandparents used to have arable fields. They

cultivated pumpkins, maize, beans and sorghum. They now have only back gardens at their homes instead of large fields, mostly because of wildlife encroachment and the shortage of land. The gardens in Khwai range between 1 hectare and 3 hectares. The table below provides a summary of the 2000 harvest in the two settlements.

**Table 4: Crop Yields for 2000**

| Xaxaba | Khwai |
|---|---|
| Only 1 household had cultivated fields but had no harvest due to destruction by wildlife | 4 households harvested < 5 bags of maize<br>2 households had no harvest due to destruction of crops by wildlife<br>2 households harvested between 5-10 bags of maize |

(Source of data: Kalahari Conservation Society 2001, Every River Has Its People Project)

Most households reported that they believed most of the natural resources are declining (cf. Chapter 5). Examples of resources in decline include Tswii, water, river reeds and mokolwane. The decline of these resources was attributed to drying river channels and a decrease in rainfall, as the rainfall chart for the last 30 years indicates (see *Chapter* 5). According to the results of the Every River *H*as *I*ts people survey, the Xaxaba residents attributed the decline in natural resources to too many elephants and a *decrease* in rainfall, while the Khwai residents believed the main causes to be a lack of rainfall and blockage of river channels by papyrus growth.

The vulnerability these two communities face differs slightly at this level: Xaxaba is surrounded by perennial swamps which wildlife moves into during the dry season, while Khwai is downstream of the Okavango's main channels, and is surrounded by seasonal swamps which no longer receive water because of blockage by thick vegetation growth. Further, palm leaves are getting rare in Khwai due to over-use by people and the large

number of elephants, and Khwai basket makers must travel as far as Maun (130 km) to collect palm leaves, thus incurring transport costs.

**Analysis**

The irregular flooding that characterises the Okavango Delta affects the availability of fish to downstream fishermen. In addition, communities such as Xaxaba and Khwai never really know how much water to expect nor whether to prepare for floods, because the Delta system is largely dependent on the amounts of rainfall received in the Angolan highlands. With no monitoring and early warning systems in place, the communities remain vulnerable to floods.

Because of good rains during 2003 and 2004, the Delta has received large in-flows, making Xaxaba inaccessible by road. The community stated that they go for months on end without receiving Government welfare assistance.

A review of the literature reveals that people living in the Okavango Delta are also vulnerable to endemic disease. Heiden (1991) states that, since the early 19$^{th}$ century, habitation of the Delta has been determined by two main factors, the presence of disease vectors (especially malaria mosquitoes and tsetse fly) and hydrological fluctuations. Heinz (1969), when writing of his encounter with the Qhanikhwe (also spelt Xhanikhwe), BaBugakhwe, Xokhwe and Tzexa, describes the vulnerabilities faced by the Basarwa at the time as they interact with their environment. He observed that the Qhanikhwe appear to have been disseminated by sleeping sickness (trypanosomiasia, an often fatal disease caused by the trypanosome parasite that is spread through the bite of a tsetse fly) and were dying in large numbers.

The elephant problem, which was highlighted by the two communities, can be said to be at least partly human induced. The CITES ban on elephant trade in 1989 resulted in an increase in elephant populations (Berges, 2001). This, together with the erection of cordon fences worsened the situation by confining most of the elephants to the Okavango

Delta. The ban on ivory trade has been said to hurt human needs and conservation efforts in Southern Africa, as the resulting large elephant populations cause habitat destruction and encroach on human settlements (ibid). The two communities of Xaxaba and Khwai repeatedly complained about the high population of elephants in the area, arguing that this has led to competition for resources and low crop production (the next chapter highlights the extent of the human/wildlife conflict). In the 1970s, elephants were said to be scarce throughout the Okavango, although fairly large herds were seen in the dry season, particularly around Khwai, Moremi and Maxwee (Patterson, 1976). It was estimated then that the elephant population did not exceed 2,000 at any one time although indications were that the area could support larger numbers (ibid). By 1994, however, elephant populations in northern Botswana (mostly concentrated in the Delta) were estimated at 79,033 with an annual rate of increase of 9.4% (ULG Consultants, 1994). The table below indicates the trend of elephant population growth in northern Botswana and in the Delta.

**Table 5 : Elephant Population Trends**

| Year | Elephant Population |
|---|---|
| 1989 | 54,596 |
| 1990 | 58,011 |
| 1991 | 62,518 |
| 1992 | 52,815 |
| 1994 | 79,153 |
| 1995 | 75,196 |
| 1996 | 99,425 |
| 1997 | - |
| 1998 | - |
| 1999 | 115,690 |

Source: Department of Wildlife and National Parks (1999)

**Table 6: Okavango Delta Elephant Population**

| Year | 1994 dry | 1994 wet | 1996 Nov | 1999 dry | 1999 wet | 2001 dry | 2002 dry |
|---|---|---|---|---|---|---|---|
| **Elephant Population** | **18703** | 5144 | 26795 | 30971 | 12847 | 18175 | 28550 |

Source: Department of Wildlife and National Parks

The communities studied and the Government of Botswana alike are not satisfied with regulations relating to the culling of elephants, which is governed by international law. As Berger (2001) states, the management of Africa's half a million elephants by national governments affects millions of people who share the same predicament as Xaxaba and Khwai. The international community (and especially the United States, with its power to support, control or discourage the international trade in ivory) greatly affects the range of management options open to African governments and local communities (ibid).

As noted above, one of the problems arising from elephants is habitat destruction. The Botswana proposal tabled at the 2000 CITES (Convention on the International Trade in Endangered Species Conference) of Parties in Kenya (Berger, 2001) stated concerns over habitat degradation from its large elephant population, and noted that the Botswana Parliament had a management plan adopted in 1991 that advocated culling in order to keep elephant populations at the 1990 population of 546,000. However, this proposal was not adopted. The population now stands at more than 106, 000 and is increasing at 5% per year, up from just 34,000 in 1983. The proposal noted that Botswana's elephant population, while roaming over a vast network of protected areas covering 80, 000km², was partly confined to this gigantic range by the cordon fences. However, at the western outskirts of the Okavango Delta, where fences are generally impractical, the elephant population was expanding with a concomitant increase in crop damage (Berger, 2001). Crop depredation means these communities can no longer grow enough crops to feed themselves, and in turn forces them to depend on often unstable cash income from the tourism industry and Government social welfare programmes. Relying on such external

strategies, which are highly unstable, weakens the social resilience of these Basarwa communities.

From the evidence provided above one can safely conclude that the large elephant population threatens the ecological resilience of the Okavango Delta. This situation, in combination with the other vulnerabilities discussed above, weakens the social resilience of communities such as Xaxaba and Khwai, whose livelihoods rely on the natural resources found in the Delta.

As stated by Adjer (2000), ecological and social resilience may be linked through the inter-dependence of a community's economic activities and their ecosystems. For example, the residents of Khwai and Xaxaba argue that, because of the large elephant population, *Mokolwane* is becoming scarce and must be collected far away from their villages. In some cases they incur transport costs to obtain this resource. This has negative impacts on basket making, which has been identified as a major source of livelihood (Taylor, 2001, Boggs, 1998 and Bock, 1998) for most Delta communities, including Khwai and Xaxaba - of the households surveyed, 73% in Xaxaba and 50% in Khwai reported that basketry contributes to their livelihood income (see Table 7 in Chapter 5).

It is important, however, to note that the elephants also play a positive role in the long-term resilience of the palm plant as Mokolwane seeds are dispersed in and fertilised by the elephant faeces in combination with fire, which acts as a stimulus for germination (Roodt, 1998) and aids Mokolwane propagation. Thus, it is not simply the presence of elephants that makes people vulnerable, but rather their sheer numbers and the fact that veterinary fences have restricted their migratory routes.

### 4.2.2 Power and Politics

**Observations**

Several power relationships and political issues affect the two communities of this study. These include:

*Hunting restrictions* – the restrictions on hunting introduced by the Wildlife Conservation and National Parks Act (Act No.28 of 1992) create further hardships for the communities of Xaxaba and Khwai. The older residents said that during the colonial era hunting was allowed throughout the year as long as permission was sought from the colonial government. In the opinion of several people interviewed, life was a lot better then than it is now. Today they have to rely on hunting safaris for trophy meat, on DWNP for meat from problem animals, and illegal hunting for subsistence. The effects of this are discussed in Chapter 5.

The community of Xaxaba said that things have changed since the Boro River and their former gathering and hunting areas were incorporated into the Moremi Game Reserve. They are not allowed to gather anything inside the game reserve, which has reduced the area they can use for gathering grass, reeds and firewood, and for fishing. The statement below captures their frustration with these restrictions.

> *"It seems animals are more important than the human beings, you can judge from the sort of sentences people get for poaching".*[9]

*Restrictions on movements resulting from land tenure issues* - surrounded by lodges and the Moremi Game Reserve, the residents of both Xaxaba and Khwai are no longer able to engage in their traditional seasonal movements as a means to cope with resource scarcity. They feel that they are 'fenced in' and helpless (see Chapter 1 and 2).

[9] It is common to hear of stories of people who were beaten up by the Botswana Defence Force or Police for alleged poaching.

*Competitions from non-Basarwa* - in addition to restricted access to resources, the Basarwa are faced with competition for available resources from non-Basarwa groups. The 1993 amendment of the Tribal Land Act of 1968 gave all citizens of Botswana the right to acquire land and settle in any part of the country, regardless of their tribal affiliation. This change, according to the communities of Xaxaba and Khwai, has complicated matters in terms of natural resource management. Tsoe, an elderly resident of Khwai in her 60s, stated:

> "*...we were just on our own; the BaBugakhwe and our band was* compos*ed of family units; that way the use of natural resources was easily managed".*

In the past, cooperation at community level was high, but now it is felt that things are different. For instance, having collected thatching grass and agreeing to sell it at a certain price, some people may change the price without consulting the rest of the community. Decisions are no longer made collectively at community level but rather increasingly at an individual level.

The residents of Khwai also claimed that most employees in the lodges surrounding their village were from outside Khwai. The facts appear to support this: a study carried out by Taylor in 1998 revealed that Khwai residents held only 9 of the 74 non-management posts in the three lodges in vicinity. The companies running lodges in the area are alleged to be opposed to employing locals. Employees from outside also compete with the community of Khwai for customers for their crafts. They sell their baskets through the curio shops at the lodges to the tourists, hence bringing basket sales in Khwai down. The lodge employees inform guests of estimated basket prices, which makes it difficult for the local basket makers to sell their goods at their own fixed prices Although bargaining is commonly practised by tourists, communities in Botswana have not been exposed to this kind of trading and they tend to find it unacceptable.

In a focus group discussion with the DWNP officials in Khwai, the Park Officers argued that it would be difficult for the Khwai community to successfully run their own CBNRM

projects because there is a lot of conflict at community level, mostly in connection with the question of who has the right to be a member of the community. There is some evidence from within the community to support this assessment. The constitution for the village trust had a clause (which was later removed) excluding non-Basarwa from becoming committee members, yet some of these residents had lived in Khwai for more than 20 years. Many of these people are still excluded from any decision-making process at community level, as they continue to be seen as temporal residents.

*Threats to continuity and the transfer of traditional knowledge* - another source of vulnerability related to power and politics is that of the intergenerational transfer of traditional knowledge and skills. Continuity of local knowledge is under threat. Community elders argued that they could no longer use the same methods of transferring knowledge to their children, because their children spend a lot of time away from home at their different schools. Because of the small population in both Khwai and Xaxaba, neither of these settlements[10] has a school, and the children are obliged to attend school in Maun and Gudigwa. These students stay with relatives, lodge, or stay at boarding school. They effectively spend close to nine months away from their homes, and only three months a year with their parents in the village.

According to Le Roux (1999, pers com.), formal education has eroded traditional education in that it promotes scientific explanations for everything. Children accept the education they get from their parents, but once in school they come back home and challenge this knowledge, arguing that it does not make sense and it is not written knowledge. This then leaves the parents feeling angry and bewildered, saying that education takes away their children and alienates their cultural identity. They, in turn, stop participating in the education of their children and often feel accused when the teachers call them in and tell them of the problems they are having with the children at school (ibid).

[10] According to the Settlement Policy, settlements with less than 500 people do not qualify for the provision of schools and clinics

Another factor highlighted by Le Roux (1999) is that the loss of their ethnic language among the younger generations of Basarwa is a threat to their traditional knowledge base. The argument she puts forward is that the traditional names of plants are replaced by Setswana names, which results in a further loss of knowledge because the original Basarwa names explained the properties and characteristics of the plants in question. That accumulated knowledge is lost as it is replaced by a label which is meaningless, coming as it does from a foreign language which is not fully understood by the Basarwa.

Government policies also impact upon livelihood strategies. The community members said that their hunting grounds had been designated into parks and game reserves, where the hunting and gathering of veld products is restricted. This, they feel, has had an enormous impact on livelihood strategies such as hunting. The residents of Xaxaba stated that they no longer have access to Tsobaoro, which is rich in wildlife and veld resources, as Tsobaoro now falls within the Moremi Game Reserve. The situation has been worsened by Government's cancellation of the Special Game Licence[11]. Their access to these natural resources has been reduced without giving them any alternative means of making a living. The outcome, they argue, is dependence on government for handouts (food, clothes), pensions for the elderly, and employment through the Government's Drought Relief Programme.

The residents of Khwai and Xaxaba are of the view that the erection of cordon fences, has affected their livelihood strategies, especially in terms of the availability of wildlife resources such as zebra and impala. The respondents in Khwai and Xaxaba argue that

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[11] The Special Game Licence was introduced in 1979 as part of the Unified Hunting Regulations. It was aimed at:

a) Legitimising hunting activity by the poorest members of the population, those who depended heavily on meat for a living;
b) Assuring a measure of food security for rural poor people;
c) Allowing people to increase incomes from wildlife utilisation; and
d) Promoting better wildlife management by obtaining more information on the trends and scope of this form of utilisation.

migratory routes of some species have been affected, hence these can no longer be found in previous hunting grounds. On the other hand, large numbers of other species have been enclosed in small areas of land, resulting in an overpopulation of certain species. An example they give is the elephant, which they argue contributes to environmental degradation. They urged that as a result of fences, people and wildlife have been cramped into small areas where they compete for the same resources: for instance, both people and elephants feed on the fruit of the fan palm trees (hyphaene petersiana).

Residents in both villages of Khwai and Xaxaba blame government policy for the conflict between people and wildlife. To compensate for limited access to natural resources, the residents of Khwai and Xaxaba have taken to growing maize and pumpkins in small gardens in their yards. Yet, as discussed previously, the elephant encroachment has resulted in lower yield harvests.

The residents of Xaxaba said that there had been an influx of people from surrounding villages, such as Seronga, Shorobe, Maun and other areas, into their village to seek employment in the nearby safari lodges. However, the introduction of CBNRM projects has encouraged these people to move back to their own villages where they can be employed in safari camps, which are in joint venture projects with their respective communities.

The respondents in Xaxaba also maintain that, as a result of Government policies, they are not in a position to engage in their traditional natural resource management practices, especially that of seasonal mobility, because they have been "fenced in". They stated that, "we are surrounded by safari lodges and the game park hence there is nowhere to move". They further argued that government regulations restrict their access to certain resources. One example they gave is that of fish: they said that they were not allowed to fish because the Boro River is within a national park. Their frustrations are reflected in the statement:

"*The river has always been a source of our livelihood, now we only rely on government hand outs, which has made our situation worse. This we see as government strategy to frustrate us and drive us out of our lands".* (Focus Group discussion, Xaxaba, 1999)

**Analysis**

The section above touches mainly on vulnerabilities related to issues of land rights and access to natural resources. As highlighted in Chapters 1 and 2, the Basarwa are largely landless (or rather have been restricted, and in some cases, no land rights). Because Basarwa societies are founded upon a land-based socio-economy and culture, their society will disintegrate without land (Wily, 1994).

The Basarwa in other parts of the country, especially in the south–west, were resettled into Remote Area Dweller settlements, which meant that they no longer had the freedom to move seasonally in their former territories. This reduced their access to natural resources. The marginal, fragile and infertile land of the Kalahari where these communities are located left them with no option but to rely on handouts from NGOs and Government (e.g. Drought Relief Programmes) (Hitchcock *et al*., 1989). In Ngamiland, the Basarwa's land was incorporated into protected areas in the form National Parks. This situation is similar to that of those in the south-western part of the country and resulted in reduced access to land and natural resources. The implications of being in such a position are that a dependency syndrome develops, and consequently the community does not actively manage their resources through the use of their traditional knowledge and social institutions. Their resilience and adaptability is therefore stifled.

Government policy, on the one hand, saw resettlement as a way of developing the Basarwa, removing them from their "backward" lifestyle and concentrating them so that they could benefit from the social amenities the rest of Batswana were already enjoying (e.g. schools, clinics and roads). However, the Basarwa in Ngamiland have not been affected by resettlement to the same extent as those in the south-western part of the

country. While they have been dispossessed of their lands, opportunities still exist for them to pursue beneficial livelihood strategies, as will become apparent in the next chapter.

One of the factors determining effective resource use is the power and control people have over their relationship to these resources (Twyman, 2000). As the preceding sections have shown, power and control over natural resources has been removed from the Basarwa. They are continuously dispossessed of their lands and access to resources by conservation laws and regulations in Ngamiland, and a combination of conservation and livestock policies in other parts of the country. This situation is similar to what other traditional communities, ethnic minorities and indigenous peoples in general are experiencing across the world (see Chapter 6).

Some studies have shown that the existence of Basarwa settlements in tourism areas puts them in a position of competition and conflict with the tourism industry, as they compete for the same natural resources in the same area. In such competition the Basarwa are often on the losing end, as they have less political power compared to the tourism industry (Taylor, 2002; Mbaiwa 2004). A survey of safari lodges in the Delta revealed that, out of 15 lodges or camps, the brochures of 14 make no mention whatsoever of local peoples or culture. Instead the majority illustrate the luxurious interiors of the chalets, and the type of wildlife related activities tourists can engage in (Damm *et al*. 1997).

The tendency of safari operators to employ non-community members is another example of the Basarwa no longer having power and control over the use of natural resources in their territories. Power has shifted to other players, in particular Government and the private sector. This lack of power reduces the Basarwa's capacity to shield themselves against disturbance and hence reduces their social resilience.

**The implications of threats to traditional/local ecological knowledge**

Cultural continuity ensures the development and strengthening of cultural and social capital, hence building resilience into social systems (Berkes and Folke, 2002; Berkes, *et al.* 2000; Gadgil *et al*. 2000; Berkes, 1999; Bock, 1998). Cultural continuity also ensures that communities continue to be equipped with the right skills for the livelihood strategies appropriate to their local environment. Even though traditional knowledge and skills are not used as much as they were in the past, the communities of Khwai and Xaxaba are concerned about the threats to their knowledge.

Youth are more likely to migrate to cities and seek employment there rather than stay in their communities to pursue a traditional lifestyle. When they do migrate to cities, they are likely to send home remittances and hence contribute to diversity in the livelihood strategies of their communities. Some, however, opt to stay in their villages, where they often fail to contribute meaningfully to community livelihood, as they do not have the necessary skills to do so. To be a successful hunter, for instance, requires a high degree of skill in tracking animals, crafting hunting tools, stalking the animals and shooting accurately. These skills take many years to develop, and in most foraging societies men do not become successful hunters until their mid twenties (Bock, 1998). Some may use the knowledge they gained through formal education to participate in the community by sitting in various committees (e.g. VTC and Village Development Committees). The chief of Khwai, for instance, was elected chief because he had been to school and is literate. Although a young chief, his grandfather Amos uses his wisdom to guide him with the assistance of other village elders.

### 4.2.3 Global and Local Economic Trends

**Observations**

From the 1980s onwards the marketing efforts of international tour operators have made the Okavango Delta a tourist destination of world renown (Heiden, 1991). The tourism industry provides a major source of livelihood for the communities of Khwai and Xaxaba. These communities are vulnerable and directly exposed to the market forces affecting this

industry, as well as to trends in the political environment. In 2001, for example, the tourism industry in southern Africa experienced a marked fall in guest numbers because of concerns about the farm invasions in Zimbabwe. Rural communities, especially those like Khwai and Xaxaba that provide labour to the tourism sector, are feeling the effects of this. In Xaxaba, some of the freelance mokoro polers and tour guides lost their jobs at OddBalls and Delta Camps. The number of tourists coming into Botswana in 2001 dropped substantially and in order to cut costs, the management of OddBalls and Delta Camps had to reduce staff numbers from 40 to 15 (four of whom were on short contract for the duration of the peak season). Several villagers used to work as freelancers for Odd Balls, Gun's and Delta Camps. They said that this arrangement allowed them to carry on with their other activities, e.g. making Mekoro (plural for mokoro), fishing, building and renewing their houses. The management of OddBalls and Delta Camps have, however, decided to hire full-time guides and polers paid on a fixed monthly wage in order to reduce company running costs.

The camp owners have defended these actions by noting that the political situation in Zimbabwe has led to a drop in the number of tourists visiting Botswana, which has so reduced their profit that they can no longer sustain the freelance working relationship they had with the villagers of Xaxaba.

Of the remaining 15 employees at Odd Balls and Delta Camps, only seven are from Xaxaba, the rest being from Maun, Seronga and other surrounding villages. The employees from Xaxaba are mostly young trainee guides and laundry staff. The manager of the two camps highlighted the fact that he was finding it difficult to work with local staff. In his words he described them as "too demanding and too difficult to work with". From the many discussions I had with previous employees and other community members, they see the land of Xaxaba as theirs and hence regard being offered employment by the safari companies operating in the area as a right rather than privilege (refer to Chapter 2). Their perception works against them in that they are losing jobs to people coming in from the surrounding villages, such as Maun and Seronga.

Rra Kgalalelo summarises the situation in Xaxaba by stating:

*"Life is lot more difficult now. If you go into any of these homes you will not find a single household which is well off. No one can claim to be coping and comfortable. This is experienced through all the different age groups, the young and the elderly. Re a Sheta, we are struggling. Most of us are not educated; we have only recently started sending our children to school. But there is a high rate of school dropout due to teenage pregnancy amongst t*he girls*. It is also quite difficult because, as it is, there is no clinic and it is not easy going to Maun unless you can afford to pay P60.00 [USD12.50] for the air ticket".*

When discussing livelihood strategies in Xaxaba, the following words were repeatedly echoed by our respondents: *"re a sheta"* and *"xha"*. The former means 'we are struggling' and the latter means 'there is absolutely nothing'. These two phrases were used by respondents to summarise the vulnerabilities they are faced with.

**Analysis**

The 1960s marked the beginnings of the tourism industry in the Okavango Delta although marketing efforts were stepped up from the 1980s onwards (Heiden, 1991). Initially the largest employers were hunting and photographic safari operators, with their demands for local labourers as trackers, skinners, gun bearers, waiters, grounds men, laundry women, and a variety of other jobs that were paid and classed as unskilled labour (Taylor, 2000). While Government positions and skilled work such as guides and teachers tend to provide permanent employment, unskilled employment in the private sector tends to be highly variable.

Having been exposed to the industry for years, many community members have become conditioned to think that tourists would not be interested in the social and cultural life of the people of the Delta, and hence they hardly ever mention their own social setting. Mbaiwa (2004), as will be discussed in Chapter 6, notes this to be a direct result of

enclave tourism, with tourism activities and facilities that are far removed from the local setting.

Competition for access to resources with other user groups having better means of exploiting them increases the community's vulnerability. Commercial off-takes of plant resources are generally uncontrolled and the sustainability of harvest rates unknown. The community of Khwai, however, does make an effort to restrict access to outsiders wishing to collect thatch grass in their community area.

The Basarwa in Ngamiland have been intimately engaged in a cash economy since the middle of the nineteenth century (Taylor, 2000). Taylor, however, states that for many the most predictable form of income is government welfare. This was the case for Khwai but not so for the Xaxaba community. The implications of this situation are that by relying on external institutions for a livelihood, the Basarwa communities have very little control and hence their social resilience is weakened. Hitchcock (1997) summarises this situation by stating that indigenous people and other minority groups often have cultural histories and traditions, and subsistence economies different from those embodied in national institutions. Economic development can bring rapid, unanticipated and detrimental change in each of these areas.

These changes will be discussed in the chapters that follow, although we begin to appreciate that not all change has been detrimental to the two communities. The question at this point is: how does vulnerability affect people's resilience? This question will be addressed in the next chapter.

## *4.3 Conclusion*

A common thread regarding the vulnerability context of the Basarwa that runs through the issues discussed above is their lack of political power to improve their livelihood options. Compared with the Basarwa communities in the southern part of the country, the

communities of Xaxaba and Khwai have higher cash income opportunities, thanks to the flourishing tourism industry within the vicinity of their villages. Although the communities in the Delta experience land use conflict as a result of being in wildlife management areas, they are comparatively better off than other communities in a similar position. Further, they have the potential to benefit from the Community Based Natural Resource Management programme.

Their major vulnerabilities arise from conservation policies and legislation. However, an abundance of large wildlife - a consequence of these policies - raises large amounts of revenue through community auctions to hunting safari companies.

As emphasised in the introduction to this chapter, change does not always affect local people negatively. Assets can be both destroyed and created as a result of trends, shocks and seasonality of the vulnerability context. Although Basarwa communities now have restricted access to natural capital, they seem to have increased access to financial capital (see illustration below). It can be argued, however, that financial capital is more unpredictable than natural capital. The question to be asked is: how sustainable is this financial capital in improving the livelihoods of the Basarwa communities, considering that they rely heavily on the safari companies and government driven CBNRM for this asset? As stated by Ellis (2000), the most vulnerable households/communities are those that are highly prone to adverse external events and lacking in the assets or social support systems that could carry them through periods of adversity. Natural capital and social capital are what marked internal coping capabilities of the Basarwa. The diagram below indicates an erosion of these assets and a growth in financial capital, which is more prone to external threats and thus increases the vulnerability of the Basarwa.

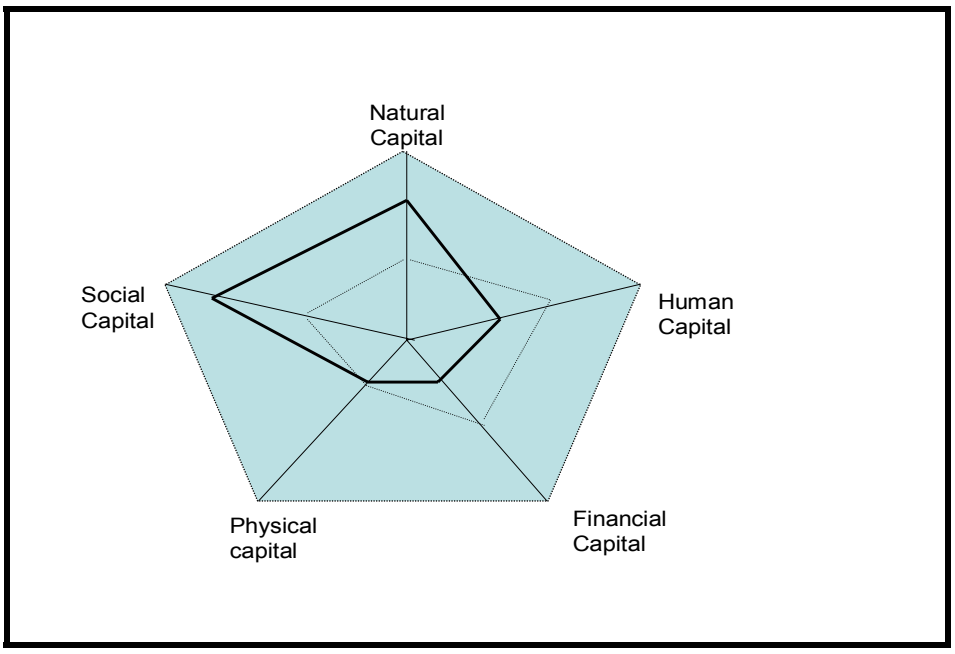



**Figure 8: Asset pentagon indicating the asset status of the Basarwa as a result of the various vulnerabilities they are faced with.**

**Source: Adapted from Carney (1998)**

*Notes: The darker inner line indicates the asset status of traditional Basarwa communities whereas the fainter line indicates their asset status as a result of the current vulnerabilities they are faced with.*

As a result of the events discussed in this chapter, the Basarwa have gradually become more vulnerable and marginalised, and were finding it increasingly difficult to cope in a political and economic environment for which their traditional adaptations were ineffective. Their social system had undergone a 'flip', from being mobile, flexible and in control of their own destiny, to being sedentary and controlled by external (mainly government and private sector) forces. The next chapter explores more details to explain the above.

# Chapter 5: Resilience and Livelihood Strategies: Coping with Uncertainty

*"The way we conserved our resources in the past was like this, allow me to give an example. If in a field you have pumpkins you will not harvest and eat all in one day, you will keep some for tomorrow because you still have to eat the next day. That is how we handle our natural resources because we are entirely dependent on them and we are not educated, hence we do not have other opportunities. We harvest our resources, making sure that some are left for the next time we might need them. This is what encouraged our people to use the resources wisely, knowing that they will need them again in the near future"* (Keamogetse Kwere, Khwai, 2000).

## *5.1 Introduction*

This chapter discusses past and present livelihood strategies pursued by the Basarwa in Khwai and Xaxaba settlements in order to cope with floods, drought, danger from wildlife, seasonality of employment opportunities, unpredictability and other factors of vulnerability discussed in the preceding chapter. The chapter attempts to address the following questions:

a) What type of resilience-maintaining livelihood strategies have the Basarwa evolved, in response to ecological uncertainties;
b) What livelihood strategies do they use to cope with the new sources of vulnerability introduced by contemporary and political economic developments in Botswana and globally; and
c) How do these coping strategies affect their livelihood assets and the resilience of the social-ecological system that they are part of?

As noted above, resilience refers to the capacity of a system to buffer and survive disturbance (Folke and Berkes, 1998). It conserves information, knowledge and experience and can be referred to as the memory of a system (social and ecological). Conserving this memory is a prerequisite for recovery from shock, stress or surprise, and also maintains opportunities for innovation and renewal in social and ecological systems (Gunderson *et al.* 1997 in Folke and Berkes 1998). Memory, in the context of this study, is maintained in the indigenous knowledge of natural resource management systems, and in local ecological knowledge, possessed by the Basarwa in Khwai and Xaxaba. In some cases, societies build economic and social resilience in the short term, at the expense of an increasingly degraded natural resource base (Folke *et al*. 1998). This is neither a wise nor a sustainable strategy in the long term, since economic and social development ultimately depends on functional diversity and resilience of the ecosystem (Folke *et al.* 1998). Thus, it is important for society to balance economic, social and ecological resilience, as these are closely linked with the success of interconnected systems.

'Livelihood strategies' is an overarching term that refers to the range and combination of activities and choices that people make in order to achieve their livelihood goals (DFID, 1999). Put differently, livelihood strategies are a dynamic process in which people combine diverse activities to meet their various needs at different times, and as coping mechanisms to respond to surprises. Some societies develop livelihood strategies in order to cope with uncertainty and vulnerability, in the process building and maintaining resilience. Often, vulnerable communities cope through risk-spreading diversification into several non-correlated sources of income. They also invest in building social capital, which provides safety nets in times of stress. Devereux (1999) argues that, where the providers of social support face the same livelihood risks as the recipients, social capital might not provide adequate risk insurance for the vulnerable group, as shortages are likely to result in the reduction of sharing.

Coping strategies are, according to Folke *et al.* (1998), different from adaptive strategies. Coping strategies tend to be short term responses in abnormal periods of stress, whereas

adaptive strategies are responses that evolve over time. In spite of coping strategies being short term, the continued availability of a range of coping strategies may be necessary for livelihood strategies to remain adaptive in the long term (ibid). Devereux (1999) nevertheless challenges the use of the term 'coping', arguing that it seems rather pejorative for the complexity and diversity of behavioural adjustments that people make in times of hardship, and at the same time it overstates the resilience of the poor. The question the author raises is if, for instance, people who are already malnourished reduce their food consumption to one meal per day, then in what way are they coping?

This chapter concentrates on those coping strategies that enable the Basarwa of this study to adapt to their changing political, social and natural environments not just to survive but rather build resilience. These, in the long term, become adaptive strategies through their continued practice. An example is the recent increased involvement by the Basarwa in Ngamiland, in the cash economy which has become a contemporary resilience-enhancing strategy. In analysing the social-ecological linkages in local community-based institutions of Mexico and in the context of that country's forest ecosystems, Alcorn and Toledo (1998) illustrate how adaptiveness and resilience have been built into institutions so that they are capable of responding to and managing processes, functions, dynamics and changes in a way that contributes to ecosystem resilience. These are institutions in the sense of rules in use, taboos, totems, culture, and the social norms and values in a community. Examples include the use of folklore and knowledge carriers to help maintain ecologically sound management practices, such as "milpa" which is an institution and a process whereby ecological knowledge, derived from the experiences of farmers who have adapted to the local environment over generations, is passed on to children and supported by mythologies and yearly festivals (Alcorn and Toledo, 1998).

Several adaptive management practices and associated social mechanisms serve to prevent the development of large-scale crises. They allow disturbance to enter at a lower level in the panarchy of nested adaptive cycles (Gunderson *et al*. 1997) where it opens up patches of opportunity for renewal and reorganisation of the ecosystem (Folke, nd) and supports

the building of resilience. It is believed that such practices are founded on ecological knowledge and understanding, which is generated, accumulated and transferred through management practices that are acquired through trial and error learning processes. An example is monitoring the state of the resource, which is a very common practice among resource users: For instance, Sahel herders monitor grazing pressure and the state of the pasture to make decisions about rotating or relocating herds (Niamir-Fuller, 1998). The Sahel nomads simulate disturbance by following the migratory cycles of their livestock from one area to another. By so doing, mobility not only allows the households to minimise their production risk but also subjects the ecosystem to short but intense pulses of grazing. The pulses of grazing by herbivores contribute to the capacity of the semi-arid regions of grasslands to function under a wide range of climatic conditions (Niamir-Fuller, 1998). Pastoralists diversified by having an appropriate mix of animal species in the herd to utilise different vegetation types and patches. The Maasai of Kenya, for instance, widen the radius around wells as the wet season advances, to leave enough forage around the wells for the dry season (ibid). In other words, pulses of grazing strengthen the resilience of the grasslands after disturbance and surprises by reserving pasture for dry periods, thus allowing the overgrazed areas to recover. Other examples include total protection of certain species from use by humans, temporal restrictions of harvest, nurturing sources of renewal, and integrated management of multiple species systems (see below for examples relating to the Basarwa). The example of the Sahel nomads given above is highly dependent on local ecological knowledge for its success. The herders monitor and track resources daily, employing appropriate indicators to determine daily movements.

Social systems that lack ecological knowledge and understanding are thus less likely to implement appropriate management practices, and may lose resilience and adaptability to such an extent that they can only slowly (if at all) recover from periods of stress and surprises. If redundancy, variability and memory is lost or reduced, resilience will also be lost or reduced, and the social–ecological system may not transcend the disturbance. A livelihood is sustainable when it can cope with and recover from stresses and shocks, and

maintain or enhance its capabilities and assets, without undermining the natural resource base (Scoones, 1998). Resilience is therefore central to sustainable livelihoods.

The determinant of people's choice of livelihood strategies is their access to different levels and combinations of assets referred to as capital (Scoones, 1998). Livelihood strategies are, however, in a continuous process of flux. People adapt to evolving threats and opportunities by changing livelihood objectives, and also as their own capabilities alter during their lifetimes (DFID, 1999; Ellis, 2000). This analytical model is founded on a belief that people require a range of assets in order to achieve positive livelihood outcomes; no single category of assets on its own is sufficient to yield all the many and varied livelihood outcomes that people seek. They therefore have to seek ways of nurturing and combining in innovative ways those assets they do have in order to ensure their survival. People with diverse assets tend to have a greater range of options and an ability to switch between multiple strategies to secure their livelihoods, a situation not enjoyed by many rural poor, including the Basarwa of this study. Due to a lack of access to natural assets in the form of land and natural resources, the Basarwa have had to adopt new livelihood strategies, making use of the fewer resources available to them now, compared to in the past. The different types of livelihood resources/capital are defined below:

- Human capital represents the different types of skills, knowledge, ability to labour and good health that together enable people to pursue different livelihood strategies and achieve their livelihood goals. In the context of this study, such skills include building mekoro, making baskets, collecting reeds, hunting, knowledge about the local ecosystem, and building huts. Although the accumulation of human capital can be an end in itself, the same cannot be said about the other types of capital, as human capital is required to make use of any of the four other types of assets.

- Social capital refers to the social resources upon which people draw in pursuit of their livelihood objectives. Examples of these social resources are norms, values,

networks, access to wider institutions of society, and trust. Social capital can be effective in improving the management of shared resources (natural capital) and the maintenance of shared infrastructure (physical capital) (DFID, 1999). Social networks facilitate innovation, the development of knowledge and sharing of that knowledge. There is, therefore, a close relationship between social and human capital. Social capital, like other types of capital, can also be valued as a good in itself. It can make a particularly important contribution to people's sense of well-being (through identity, honour and belonging). Social capital is, however, different from other forms of capital, in that it is 'intermediate' and not itself a commodity, service or resource, but rather a network or channel through which commodities, services and resources might flow (Devereux, 1999). A form of social capital amongst the Basarwa is kinship ties, through which tenurial rights to land and natural resources is obtained by individuals (Cashdan, 1993). Furthermore, the reciprocity/sharing networks of traditional Basarwa communities were based on exploiting social capital (Hitchcock, 1989; Kent, 1993).

- Natural capital refers to natural resource stocks, from which resource flows and services useful for livelihoods are derived. According to Berkes and Folke (1998), natural capital consists of non-renewable resources extracted from ecosystems, renewable resources produced by the processes and functions of ecosystems, and environmental services. For the purpose of this study, natural capital is used to refer to land and the natural resources upon which the Basarwa derive their livelihoods, such as wildlife, reeds, grass and other veld products discussed in the previous chapters.

- Physical capital is the basic infrastructure (transport, shelter, water, energy, and communications) and production equipment that enable people to pursue their livelihoods (Carney, 1998). Of importance to communities in the Delta is water, mekoro, firewood, and mud and reed houses as these are central to livelihoods in the area.

## *5.2 Observations*

The Basarwa have adapted to the new political status quo and the vulnerabilities discussed in the previous chapter by engaging in a diversity of livelihood strategies, some of which are fairly new. The changes the Basarwa are faced with offer new opportunities as well as new constrains, and these are discussed in the sections that follow. For example, as seasonal mobility is no longer an option because of the restrictions associated with the land tenure system in Botswana (see Chapter 4), backyard gardens are used to provide for household subsistence needs. The Basarwa in Ngamiland adopted the skill of farming from agro-pastoral groups they interacted with, such as the Hambukushu, Bayei and the Tawana. Rain-fed agriculture, although done at a small scale, is an example of coping mechanisms developed to respond to surprises. More of these coping mechanisms are discussed in the paragraphs that follow.

### 5.2.1 Climatic and Environmental Variability

Historical livelihood strategies used by the Basarwa to cope with climatic and ecological variability are well documented. This study thus concentrated on capturing contemporary strategies. A review of the literature revealed that key adaptations that enabled the Basarwa to cope with climatic and environmental variability (i.e. drought and periodic shortages of resources) included:

- Mobility;
- Flexibility in the use of resources;
- Flexibility in group size;
- Flexibility in leadership structures;
- Detailed knowledge of the local ecological system and appropriate skills to capitalise on this knowledge; and
- Sharing networks (Hitchcock *et al*. 1989; Kent, 1993).

*5.2.1.1 Territoriality and Seasonal mobility*

The literature on the seasonal mobility of Basarwa that was reviewed for this study indicated that variations in environment and rainfall combine in changing patterns of seasonal mobility and social organisation (Saugestad, 1998). Barnard (1992) discovered that after studying four different groups of the Basarwa found in the Kalahari, the !Kung, G/wi, Naro and the !Xo used different coping strategies in response to changes in climatic conditions and the availability of resources on their local environment. However, before we draw generalisations about the nature of the adaptive strategies, we need to look at the diversity of seasonal mobility employed by each of the groups. The mobility pattern on these Basarwa groups depended largely on where the group was found, and on the abundance of natural resources available in that location. The Basarwa found in wetter conditions had different patterns from those found in drier areas. These differences are explained in detail below.

The !Kung, according to Barnard (1992), lived in an area with comparatively better rainfall, and with a presence of permanent water sources. They foraged in more fluidly composed groups, involving two or more bands that came together in the dry season to exploit permanent wells. In the wet season, when water and food was abundant, the !Kung dispersed into smaller (family) groups. The territories of the !Kung overlapped each other, with areas rich in natural resources being used by more than one band. The bands would disperse deep within their territories in the summer. The G/wi, however did the opposite; they lived in an area with less rainfall and resource abundance. Hence they congregated in the wet season and dispersed in the dry season, as they did not have any permanent water sources to exploit in the dry season. Flexibility in group size was employed as a strategy to adjust to seasonal changes and the consequent availability of food and water.

The Naro, on the other hand, lived in an area well favoured with water and natural resources, making them less territorial, compared to the !Kung, G/wi and !Xo. Because of abundance in food resources and water, the Naro did not need to disperse at any time. The

group congregated in both dry and wet seasons. In contrast, the !Xo were more territorial as they lived in an area where natural resources were the most sparse and least predictable of these four groups. With the !Xo territoriality operated not only at band level but also at the band nexus[12] (ibid). The !Xo dispersed in both the wet and dry season, and the scarcity of resources made it necessary for the bands to be of a relatively small size.

Another element of importance to the traditional adaptive strategies of the Basarwa was the size of territories within which seasonal movement occurred. The Basarwa who lived in resource-abundant areas moved within relatively smaller territories compared to those who lived in resource-poor areas. In other words, seasonal mobility was more extensive for the !Xo compared to the three other groups. Although there is a dearth of research on the settlement patterns of the Basarwa in the Okavango Delta, one can safely assume that seasonal mobility was not as extensive as it was for the !Xo and other desert Basarwa because of the abundance of resources and availability of permanent water sources. In fact Bolaane (2004) states that the BaXhanikhwe and Babugakhwe did not follow defined annual cycles similar to that of Basarwa in the Kalalahari. Their movements show a tension between the value of being close to stretches of permanent water and the desire to avoid areas infested by tsetse fly. The movements of the BaXhanikwe and Babugakhwe were nevertheless still within their territories.

An additional strategy of adapting to climatic and environmental variability was embedded in territoriality. In the case of Basarwa, tenurial rights were obtained through birth, marriage and residence. Cashdan (1983), for instance, noted that among the BaXhanikhwe, kinship controlled access to land, whether for resource exploitation or residence. Cashdan found that people sought permission to use land where they had close relatives, and consequently permission was rarely if ever denied. Furthermore, sanctions for trespassing existed and were used when needed. The rules operating in these institutions differed from clan to clan, in response to micro-environmental factors that influenced the way in which people used natural resources. Cashdan (1983) further

[12] Band nexus is a group of bands related to each other by friendship and kinship ties as well as by ritual bonds.

argued that the Naro lived in an area that was well favoured with food and water resources, hence they were less territorial. There was considerable movement across territory boundaries and between social groups, such that bands would typically have access rights to more than one territory. In an interview with Rra Kgalalelo and other village elders in the Xaxaba community, we learnt that outsiders would have to seek permission from a band in order to gain access to resources within the Xhanikhwe territory. Permission was not sought from the band leader alone but also from the ancestors. This point is elaborated in more detail under the section discussing local institutions governing land use and natural resource management.

*5.2.1.2 Current Strategies*

The Xaxaba settlement sits right in the centre of Xaxaba (Sedibana) island, away from the riverbanks and the riverine woodlands, which are made up predominantly of *Acacia erioloba*. There are good reasons as to why this community has chosen bare open spaces for building their homes instead of on the riverbanks where there is shade: the floodplains and water levels in the Delta are unpredictable, and by building their homes in the middle of the island, the residents of this settlement avoid both the river floodplains and also make way for wildlife, which comes to the island to drink water and feed. The thick vegetation along the riverbanks is an especially popular feeding ground for buffalo and elephants. To avoid the danger of elephants knocking tree branches onto the roofs of their huts, the residents of Xaxaba build their homes away from the area.

In order to keep away from the scorching sun during the day, the residents of Xaxaba spend their time sitting or working under the thick shade of the riverine forest. At sunset they move back to their homesteads where they stay indoors, because that is the time when wildlife (especially predators and hippos, which graze from early evening) is moving about. Residents who must go out use torches to provide light. The mud huts, which are constructed from soil from anthills, wooden poles, and sometimes soda and beer cans used for reinforcement, keep the houses cool in summer. Some of the houses are made of reeds, and these are also cool in summer. As Figure 5 indicates, the temperatures

are high for most of the year with the daily maximum temperature ranging between 25°C and 42°C for the past 30 years. The residents of Xaxaba still use controlled burning to clear the thick scrub growth around the settlement in order to improve visibility of dangerous wildlife. Although clearing vegetation was used to attract wildlife for easier hunting in the past, it is now only used for enabling the residents to spot dangerous wildlife from a distance and thus to avoid it.

Like the rest of Botswana, the Okavango Delta is prone to periodic drought (see Chapter 2). According to the residents of Xaxaba and Khwai, there is still an abundance of food in the veld during drought periods. Elaborating on this point, they cite examples such as *Ghao* (which is drought resistant), fish and *tswii* found in pools and ponds along the dry river channels, python, *bogopane* (monitor lizard), *mokolwane*, honey and tortoise. Fish is smoked and dried for storing, and it can be kept for up to four weeks. During times of drought people would also use stocks from previous harvests of maize, which is preserved by pre-boiling and drying. According to Rra Kgalalelo, in desperate times, the fever berry (*motsibi*) is mixed with soil from anthills for consumption. "Sip wells" dug on the ground along river channels provide drinking water for the communities in times of droughts.

### 5.2.2 Power and Politics

The previous chapter discussed vulnerability as a result of the powerlessness of the Basarwa communities, and the resultant lack of influence in the decision-making structures guiding policy development and implementation. This section discusses coping mechanisms of the Basarwa used both in the past and present, drawing mainly on the role of institutions in governing the access to and control of natural resources.

#### *5.2.2.1 Local Institutions governing land use and natural resource management*

Traditional institutions

Traditional local institutions governing land use and natural resource management existed in both formal and informal forms. In addition to the adaptive strategies discussed above, the Basarwa, like many indigenous societies, had traditional ethics, norms and rules that governed the use of land and natural resources (Spinage). For example, among the G/wi, animals are *kx'oxudzi* (to be eaten things), but they are N!adima's creatures (that is, God's creatures), and as "His property they must be respected, not abused". They may be killed in self-defence or for food or to avoid an attack that is believed to be imminent. The G/wi disapprove of what is seen as greedy hunting, fearing that it will displease N!adima and they will suffer unpleasant consequences in some way (ibid). Examples of traditional local institutions in Khwai and Xaxaba settlements are discussed below.

According to the respondents in Xaxaba, governance of the use of natural resources was beyond the powers of ordinary individuals in the community, and was vested in those with supernatural powers, such as rainmakers. The respondents in Xaxaba spoke of taboos, which were embedded in natural resource management systems and livelihood strategies in general. They spoke of what they termed *Setema,* referring to people who had the powers of lions. They said if someone spilled water as they were returning from the river where they collected it, lions would surround the village that very evening. Those with the powers of the lions would then have to apologise on behalf of the wasteful person(s), and only then would these lions go back to where they had come from. The fear of calling lions to the village deterred clan members from wasting water. The lions could also be attracted to the village by someone returning to the village with thatch grass at sunset. To avoid this, the grass collectors were required to leave the grass outside the village and bring it in the morning or any other time during the course of the day. These beliefs deterred people from being wasteful and encouraged good natural resource management practices. Rules governing hunting included requiring outsiders to seek permission from band members to hunt in their traditional territories. The band members would then take this request to their ancestors before they could permit their visitors to hunt. Rra Kgalalelo, who is one of the oldest members of the Xaxaba community, described the process as follows:

*"Bayei would bring with them maize, sorghum and other gifts to come and seek permission to hunt or collect medicinal plants in a territory which belonged to the BaXhanikwe. The first person to receive these visitors will then give the Bayei a place to rest for the night. The following day in the morning they would be taken to the bandleader where their request is made official. They would state, 'we have come to seek permission to hunt and we bring with us gifts in the form of food'. The food would be prepared and shared with the rest of the band. The next day, strong Xhanikhwe [another term for BaXhanikhwe] men are selected to accompany the visitors on their hunting expedition. It was necessary for the visitors to be escorted because they did not know their way around the said territory, i.e. where to find different types of animals".*

By accompanying the visiting hunters, the Xhanikhwe made sure that their rules were not broken. They ensured that there was no hunting of expectant female wildlife or of productive male animals. They also made sure that the visiting hunters did not go beyond the boundaries of the Xhanikhwe territory. This way they retained the power to decide where and how much hunting was to take place. This is reflected in another statement, made again by Rra Kgalalelo:

*"The visitors and the Xhanikhwe men appointed to accompany them would take guns with them and go to a sacred tree known as Kgaka where a fire is made and the ancestral spirits are contacted to safeguard the men on the hunt. After this the Basarwa would take the Bayei to an island where the hunting is going to be; they did not hunt female animals, only old male animals were hunted. The animals would then be skinned and meat dried at the hunting site; the kill would all be given to the visitors. The land was protected (said with emphasis), people who hunted without being given permission were, if found, required to give an explanation and state who had given them permission to hunt".*

Other rules governing the use of natural resources involved observing ceremonies marking the arrivals of the "first" wild fruits. The elderly women in Xaxaba stated that the very first fruits, berries and honey of the season (usually in late October and early November for most fruit species) were collected and burnt so that the smoke could go up to the ancestors, as a tribute to them. Thereafter, the collected fruits would be given to old women and to successively younger age groups. By the time the youngest group has had its share there would be an abundance of fruits in the wild, and the members of the community would then be free to go out and collect the fruits at will. This, they said, ensured that fruits were collected on a large scale only when there was enough in the veld to avoid over-harvesting.

Factors eroding traditional institutions

Traditional institutions have been replaced by modern rules and regulations, and people's mobility has increased over the past decades. Further, some of the resources that were accessible only to band members are now open access resources. Examples of this given by the respondents in this study are the palm (*Hyphaene petersian*) leaves which are used by Basarwa in both Xaxaba and Khwai for crafts, reeds, water lily (*Nymphaea nouchali*/, *referred to as Tswii by respondents)* and thatch grass. The community of Xaxaba stated that people come in from as far as Maun to harvest water lily roots for commercial purposes, whereas they themselves use it for subsistence. As pointed out in Chapter 5, the residents of Khwai argue that in the past, when their clan comprised of BaBugakhwe alone, cooperation at community level was very high and as a result the use of natural resources was easily managed and controlled. They also argued that, at community level, they are in a position to regulate the collection of thatch grass, but they are not in any position to control other people who come from outside their area to collect the grass. This is because their rules are not supported by the present legal system.

Modern institutions substituting traditional institutions

Although there have been some changes in the traditional institutions of the Basarwa governing land use, new institutions for monitoring and regulating natural resource use

(such as Community Trusts, commonly referred to as Village Trust Committees) for CBNRM initiatives have been adopted. The residents of Khwai have formed a committee that monitors the collection of thatching grass and established rules relating to when or where the grass will be cut (cf. Chapter 2). One such rule allows cutting thatching grass during the period of June to September, when it is mature enough and drops seeds that will germinate during the rainy season. If someone is caught cutting grass outside that period, they are sanctioned before a public meeting and given a warning. If they are caught doing so again, the punishment will be stiffer. Generally those who do not obey the rules are treated as outcasts and hence do not benefit from the support systems of being part of a larger community. They are kept out of any decision-making at community level.

The communities are aware of the potential benefits of being directly involved in natural resource management through CBNRM projects. The Village Trust Committees (VTCs) have, therefore, become the most important formal institutions at local level. VTCs draw the largest crowds to the *Kgotla* (Tswana traditional community forum which has become commonly used by other tribal groups in Botswana) for meetings.

Problems with modern institutions

The community also takes a keen interest in the activities of the Village Trust Committee, which are seen as directly generating income and employment for the community as well as improving the community's status in terms of access to natural resources. This interest has resulted in a conflict between the villagers and chief Thogotona of the Xaxaba settlement, who now spends most of his time in Maun attending to his personal business. Thogotona in his own words said:

*"I am spending a lot of time in Maun attending to my own business interests. What is the point of being here and serving the community when they seem to have forgotten everything that I did for them for the past seventeen years. All they are interested in now*

*is the VTCs because it generates money and brings money into the community. Nothing else seems to be of equal importance".*

The Village Trust Committee, which is a modern institution set up for managing and monitoring natural resource management, makes an important contribution to development projects.

However, some of the committee members in Khwai argued that they are not actively involved in the Trust's activities because they have not developed much confidence in CBNRM, hence they prefer to watch from a distance. They also argued that there are factions within the community, which makes leadership difficult. For instance, the village did not have a chief for a long time because of disagreements between groups within the community. The residents of Xaxaba also have a Village Trust Committee, though this committee argues that it is difficult for them to be directly involved in management of the Wildlife Management Area allocated to them because of the distance between their settlement and the WMA.

Although the Basarwa communities of Khwai and Xaxaba have adopted new institutions for natural resource management, conflict at community level is seen as a stumbling block for the success of these institutions. A focus group discussion with the DWNP staff members stationed in Khwai revealed that it would be difficult today for the Khwai community to collectively manage the natural resources in their WMA because there is a disagreement at the community level in terms of who has the right to be a community member. This, they said, explained why the constitution for the Trust in Khwai originally had a clause excluding non-Basarwa residents from being committee members, despite the fact that some of them had been Khwai residents for more than 20 years (cf Chapter 2).

In order to compensate for limited access to natural resources, the residents of Khwai and Xaxaba have taken to growing maize and pumpkins in small gardens in their yards, and in other livelihood strategies discussed in the previous chapter. Although discussed

previously, the elephant problem has resulted in low harvests; both communities are however making large sums of money through CBNRM, and gaining employment in the tourism industry with their joint venture partners (cf Chapter 2, section 2.3).

In July 2000, the Khwai community amended their constitution by removing the clause excluding non-Basarwa from serving in the committee. Following this move, they were allocated their first wildlife quota by the Department of Wildlife and National Parks, from which they raised P1.7 million in a one-day auction sale. The money was used to set up a hunting safari camp, which is run and managed by the community, hence creating employment in Khwai.

The community of Xaxaba, on the other hand, has a CBO which has been operational since April 1997. The village earned P15,000 in 2000 from the CBNRM initiative in NG32 (refer to map 2). This money was used to build and stock a community tuck shop, which is being managed by the VTC chair and treasurer. The profits made from this tuck shop are deposited in a bank account, with some of it used for purchasing new groceries stock. The tuck shop has, however, had problems in that P1,000 had been reported missing. Although its goals are to be run as a community business for the benefit of all, it is not popular with the local community because it does not sell goods that are locally in demand such as paraffin, batteries, flour etc. Part of the problem seems to be that the shop is run and managed by people with no business background or experience.

Some of the community's profits have also been used to buy a vehicle and a boat. The Xaxaba community treasurer, popularly known as "Rips", is of the view that by investing in tangible goods the community's confidence in CBNRM has been boosted. On the other hand, though, a group of elderly women I interviewed questioned the rationale behind buying a vehicle and a boat when some members of the community such as senior citizens and orphans are struggling to meet their basic needs for food and clothing.

### 5.2.3 Global and Local Economic Trends

To cope with vulnerabilities arising from global and local economics, the residents of Khwai and Xaxaba engage in cash labour to supplement other livelihood options. Tables 7 and 8 below indicate that most households (66% for Xaxaba and 43% for Khwai) combine informal and formal employment. Most of the livelihood options (fish, grass, reeds and wild fruits) listed in the table below generates direct income for the households in Khwai and Xaxaba. The Basarwa in Ngamiland depend largely on the tourism industry for their livelihoods. The dry season when there is not much in the veld coincides with the peak season in the tourism industry. Thus, the Basarwa in both Xaxaba and Khwai rely on employment in the safari industry and remittances from family members who are employed. Part-time tourist guides can make up to P700 in a good month. Mostly men are employed in this industry as polers[13], guides and trackers. A survey of 15 households in Xaxaba revealed that 46% of the households rely on remittances from members of the family, whilst a survey of 14 households in Khwai indicated that 36% of the households rely on remittances.

[13] Poler refers to someone who is engaged to drive a Mokoro (dug-out canoe). A long pole (called *Nkashi*) is used to paddle the Mokoro.

**Table 7: Source of Livelihood for Xaxaba and Khwai**

| Source of Livelihood | Number of households | | | |
|---|---|---|---|---|
| | Xaxaba (sample size 15hh) | Percentage of households | Khwai (sample size 14) | Percentage of households |
| Fishing | 15 | 100% | 9 | 64 |
| Baskets | 11 | 73% | 7 | 50 |
| Arable Farming | 0 | 0 | 8 | 57 |
| Mokoro Safaris | 4 | 26% | 0 | 0 |
| Hunting | 2 | 13% | 0 | 0 |
| Formal employment | 5 | 33% | 3 | 21% |
| Remittance | 7 | 46% | 5 | 36% |
| Reeds | 15 | 100% | 7 | 50 |
| Sale of grass | 8 | 53% | 9 | 64% |
| Drought relief and food ration | 0 | 0 | 3 | 21% |
| Traditional building material | 9 | 60% | 4 | 29% |
| CBNRM | 4 | 27% | 0 | 0 |
| Wild fruits & vegetables | 13 | 86% | 4 | 29% |

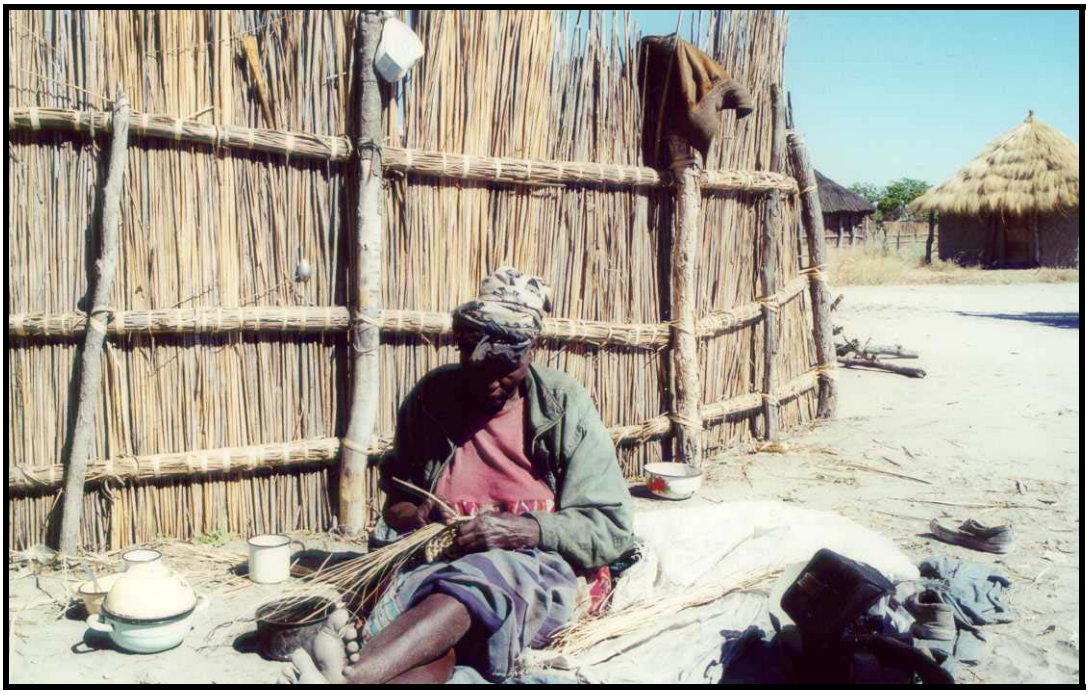
**Table 8: Source of Income (14 households in Khwai and 15 in Xaxaba)**

| Source of income | Percentage of Households | |
|---|---|---|
| | Xaxaba | Khwai |
| Formal only | 27% | 7% |
| Informal only | 7% | 43% |
| Both formal and informal | 66% | 43% |

**Table 9: Household Monthly Gross Income (sample size same as above)**

| Monthly Gross Income in Pula | Number of Households | |
|---|---|---|
| | Xaxaba | Khwai |
| <500 | 20% | 36% |
| 500-1050 | 27% | 21% |
| 1050 - 2050 | 20% | 21% |
| 2050 - 3050 | 13% | 7% |
| 3050-3550 | 7% | 0% |
| >3550 | 13% | 7% |
| No income | 0 | 8% |

The women, however, tend to remain in the village, engaging in foraging, making crafts, and brewing traditional beer for sale, for example, in order to contribute to the household needs. The baskets they make are sold to tourists for between P150 and P250 depending on the size. Women also collect thatch grass and reeds, which they sell to the safari lodges in their areas and to buyers from Maun and other villagers who may be renewing their homesteads. As the tables above indicate, both thatching grass and reeds were important sources of livelihood for more than 50% of the households in both Khwai and Xaxaba. The dry season is a time when homesteads are renewed to provide shelter from the rains of the wet season. The builders in the community charge P400 to build a wooden frame for a hut. Normally people make their own frames and do not have to pay somebody else to do it, but those who are fully employed do not have the time to renew and build, and often engage a local builder to do so.



**Photograph 2: Mma Monjwa weaving a basket**

The *Mokoro*, which is a major means of livelihood for the men in Xaxaba and an important source of livelihood to 26% of the households, is made from morula (*Sclerocarya birrea*), moporota (*Kigelia Africana*) and motshaba (*Ficus sycomorus*) tree trunks, all of which are available locally (see photograph 3). Only non-fruit bearing trees are used for the purpose of mekoro. By sparing fruit- and seed-bearing trees there is a continuous provision of wood for canoes and fruits from the trees[14]. In the case of palm leaves used for making baskets by the communities in Ngamiland, the leaves are cut in a manner that doesn't affect the ability of the plant to grow new leaves. Palm leaves collection is, however, done throughout the year.

[14] The Morula bears edible fruits and seeds, whereas the fruits of Moporota, which is also known as the sausage tree, are used as an aphrodisiac.

**Photograph 3: Guides from Xaxaba on their *Mekoro***

**Table 10: Profiles of some Community Members with Diversified Livelihood Strategies**

| Name | Sex | Age | Livelihood | Other members of family |
|---|---|---|---|---|
| Thogotona (Xaxaba Chief ) | Male | Roughly 65 | Collects reeds, thatching grass and tswii, which he sells to safari companies and customers in Maun. Collects meat from hunting Safaris, which he dries into biltong and sells in Maun. Cultivates maize, pumpkins and beans in the rainy season. | Wife runs a small tuck shop in Maun and looks after school-going children and grandchildren. |
| Kwamovu Sehenyi (also known as RraKay) | Male | 50+ | Fisherman sells fish for P10 or P5 depending on size. Makes fishing nets and sells to other fishermen. Freelances as a tour guide and can make up to P700 in a good month. Serves as VTC Chairman where he earns a sitting | Wife lives in Maun and takes care of their school going children |

| Name | Sex | Age | Livelihood | Other members of family |
|---|---|---|---|---|
| | | | allowance for meetings. | |
| Keakantse Mahumotwane | Female | 45+ | Works at OddBalls Camp as housekeeper and in the laundry.<br>Makes baskets and other crafts which she sells through OddBalls and in Maun.<br>Collects Tswii, thatching and reeds, which she sells to the camps, in Xaxaba and to customers in Maun.<br>Member of VTC and earns a sitting allowance per meeting attended.<br>Cultivates maize, pumpkins and beans in the rainy season. | Husband makes fishing nets, mekoro, carves wooden crafts |

**Photograph 4: Woman arranging thatching grass in Khwai**

Natural resources are still central to the resilience and adaptability of Basarwa of Xaxaba and Khwai and therefore the transfer of knowledge on their management from the elderly members of the community to the younger generation is important. The skills of hunting, tracking, making baskets, and other livelihood strategies are kept alive through such transfer of knowledge. The women interviewed in both Khwai and Xaxaba stated that their female children accompany them on their gathering trips, where they observe their parents collecting wild fruits, cutting grass or collecting reeds. On these trips, children are shown which plants are edible and which ones are poisonous. They are also shown how to collect plants in a way that allows the fruits to grow back again. They are told what the plants are called and their different uses, in the process building up human capital, as through this process children are taught essential skills for gathering and processing wild foods.

### 5.2.4 Interdependence between the Basarwa and Bayei in Xaxaba

In Xaxaba, evidence of building social capital was found in the interdependent relationship between the main ethnic groups, namely Basarwa and Bayei living in the settlement. This relationship is outlined below.

The residents in Xaxaba spoke of a special relationship between the Basarwa and the Bayei, who have always lived together and depended on each other's different skills for their coping strategies. This interdependence can be seen in the mixed cultures that can be seen in the Xaxaba settlement. This interdependence is illustrated by the stories in Box.2.

**Box 2: The stories of the Mosarwa and Moyei siblings**

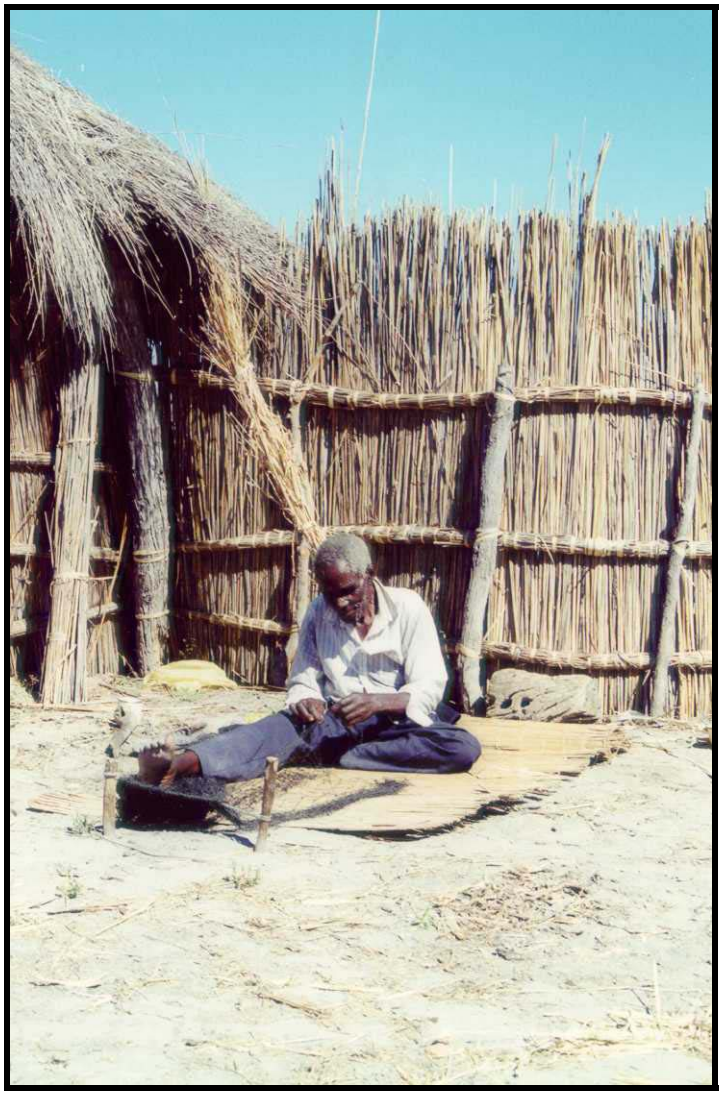
a) "The Mosarwa and Moyei are siblings, the former being the older child. This is how the relationship has always worked, the older child will go out into the bush to explore and when he comes back he will bring with him Sorghum, which he picked in the wild and cooked it, then called his sibling to come and see what he has found. His younger brother will then say to him this is called sorghum and it is prepared in such and such a way. The older one will go out again and this time might see what looks like a herd of buffalo and go back for his brother who will then say to him this is not buffalo but cattle and this is how to domesticate them and use them". (Village elders, Xaxaba 2000)

b) A Mosarwa stumbled across a Mokoro near a river. He took a stick and starting beating the Mokoro instructing it to move. His Moyei sibling saw him and walked over to him and said; this is a Mokoro, it is used for crossing river channels, you must use Nkashi (a pole) to paddle it. And he showed the Mosarwa how this is done. This is how the Mosarwa got to learn to use a Mokoro (Rra Kgalalelo, Xaxaba 2000).

These stories were often repeated when the historical relationship between the Basarwa and Bayei was discussed. It was emphasised that:

"*Yes we are of the same origins. By this we mean the Mosarwa is older and the Moyei is younger*[15]*. In terms of culture we have learned so much from each other, the Bayei know and understand our culture and we have also grown to know and understand theirs e.g. weaving baskets".*

[15] This statement could be interpreted to mean the Mosarwa is older because they were the first inhabitants of the Delta, followed by the Bayei, as argued by Tlou (1976;1985).



**Photograph 5: Rra Monjwa making a fishing net (an example of Bayei skill transferred to the Basarwa of the Okavango Delta)**

## *5.3 Analysis*

The Basarwa's traditional livelihood strategies were sophisticated, and closely linked to a belief system complete with internally controlled institutions. These have been replaced by livelihood strategies which are largely driven by external factors, such as Government driven strategies and economic trends, which are all weakening the resilience of the Basarwa communities. The very core of the Basarwa's livelihood strategies have been reduced to symbolic importance, and in cases where traditional skills are still contributing to the livelihoods of these communities, the contribution is as not as significant as it used to be. There is a shift in the importance of livelihood

assets towards financial and human capital as opposed to social and natural capital, which were central to the livelihoods of the Basarwa in the past. If one takes the concept of adaptation by necessity, put forward by Ellis (2000), we begin to appreciate that the Basarwa have developed these strategies out of necessity rather than as a matter of choice.

### 5.3.1 Climatic and Environmental Variability

Mobility and flexibility in the use of resources; flexibility in group size; detailed knowledge of the local ecological system; the right skills; and reciprocity/sharing networks were in the past key aspects of Basarwa adaptation, enabling them to adapt to drought and periodic shortages of resources (Hitchcock *et al*. 1989, Guenther, 1981). As Saugestad (1998) argues, the resilience of any type of adaptation depends on the flexibility and adaptability of its practitioners. The Basarwa communities have been shown to be highly flexible and adaptable to the unpredictable and highly variable nature of their local ecological systems. Below is a further analysis of the resilience-maintaining livelihood strategies the Basarwa have evolved in order to respond to climatic and environmental variability.

Seasonal mobility is an example of management practices based on ecological knowledge and governed closely by social mechanisms. As stated earlier in this chapter, although the Basarwa engaged in seasonal mobility, they moved only within their territories, within which there were rules governing access to land resources. Territorial boundaries were not physically demarcated but were recognised by natural landmarks such as pans or groves of trees. Hunting and gathering across territorial borders was usually avoided (see Barnard, 1979; 1986; 1992a; and 1995, Cashdan, 1983; and Madzwamuse, 1998). There was, however, less movement when collecting natural resources in Ngamiland than in Gantsi and Kgalagadi Districts, primarily because resources are richer in Ngamiland (Bolaane, 2004).

In addition to the traditional coping mechanisms discussed in the previous section, a traditional response to drought amongst the Basarwa was to increase the number of people in the labour force. Children, for example, were pressed into service as foragers. They would help collect veld products and help process plants for consumption purposes. Another coping strategy in periods of drought, according to

Hitchcock *et al*. (1989), was to increase the amount of time spent on foraging, as the depletion of food resources in the vicinity of the settlement required people to travel long distances or switch to alternative foods. This flexibility is not unique to the Basarwa: the western arctic Inuit community of Sachs Harbour, another indigenous people, have absorbed climate-related changes through the flexibility of the seasonal cycle and the Inuvialuit way of life, by modifying the time of harvesting, modifying the location of harvest activity, adjusting the species harvested, and minimising risk and uncertainty (Berkes and Jolly, 2001).

Berkes and Jolly (2001) argue that the Inuvialuit of Sachs Harbour draw on accumulated knowledge and experience to come up with these coping strategies. Similarly, Hitchcock *et al*. (1989) argue that one of the reasons for the adaptive success of Kalahari hunter gatherers was their knowledge of the local environment and their efficient means of exploiting it. This knowledge, however, was not always at the disposal of all Basarwa groups in the Kalahari, and for those without the necessary knowledge of the local environment a dependency strategy was chosen. This involved 'squatting' on ranches as a means of getting through droughts (ibid).

Local knowledge and the intergenerational transfer of this knowledge is important in facilitating adaptation to the climatic shocks that affect the Okavango Delta, as well as for building the resilience of the coping strategies adopted. To cope with drought, the Basarwa communities of Xaxaba and Khwai draw on their human capital - hunting skills, the knowledge of alternative foods, and other survival skills. This is seen as a fairly common strategy for communities directly relying on natural resources for their livelihood, where, in seasonal shortages and famines, people broaden their definition of food (Shipton 1990). Elders remember emergency food repertoires and pass them along as oral history. Famine sufferers often break food taboos, suggesting that, among other things food taboos may function to conserve resources for emergencies (ibid). Traditional knowledge, which acts as the memory of the system, enables such communities to anticipate and predict periods of shortage and abundance, and respond before a crisis occurs.

Some management patterns are similar to the functional role of biodiversity as insurance in ecosystems. There is a great deal of biodiversity in ecosystems that

seems redundant during ecological succession yet which may become of critical importance in release and reorganisation phases (Gunderson *et al.* 1995). The importance of such species maybe detected only when they are needed, following a disruption (Holling *et al*. 2002). An example of a social analogue to such redundancy is groups of species used by people as emergency foods, alternative foods, and hunger and thirst suppressants. These enable communities to cope and recover from crisis. Species redundancy in biodiversity, which helps buffer disturbance and maintain the opportunity for innovation and novelty in ecosystems, may also function to buffer disturbance and maintain opportunity in social systems (Gunderson, *et al.* 1995).

According to Berkes and Jolly (2001), some people in the Sachs Harbour stated how it was easier in a sense to cope with environmental change now than in the past, since the community does not rely exclusively on harvested wild foods (ibid). The same can be said for the communities in the Delta, whose livelihood strategies are not entirely land-based. In times of drought, households can continue to draw on wage labour and remittances from working family members in order to cope. This will likely be the case for as long as the tourism industry in the Delta continues to thrive. Thus improvement in access to a 'new' type of capital can also strengthen the resilience of a community.

It is notable, however, that coping strategies are no longer as complex as they used to be. Today, sedentary Basarwa communities rely more on diversification and a combination of livelihood strategies rather than mobility and flexibility in group size. This diversity, in addition to maintaining a level of flexibility in pursuing different livelihood options, continues to build resilience in social and ecological systems. Most of the livelihood options are still directly dependent on natural resources, indicating a continued link between the social and ecological systems of the Basarwa in Khwai and Xaxaba. Table 6 lists sources of livelihood and indicates the percentage of households depending on the resource.

The table on monthly gross income suggests that the Basarwa engage in a wage labour and the cash economy by selling grass, reeds and other products. However, the fluctuating household income levels reflect seasonality and the irregular nature of the sources of income for the residents of Xaxaba and Khwai. In some months a

household may not sell grass, and other months the number of tourists is low, both of which factors would lead to lower income.

### 5.3.2 Power and Politics

The political environment has increasingly become the main determinant for adaptation to which remote communities must adjust (Saugestad, 1998). An agro-pastoral land tenure system, hunting regulations, and programmes geared towards sedentising the Basarwa, replace an appropriate combination of hunting and gathering technologies. They make redundant the Basarwa's form of social organisation that allowed for the flexible use of large territories, adjusted to seasonal changes, which permitted the Basarwa to cope with uncertainty. These techniques have been replaced by new Government interventions that threaten the resilience of the Basarwa communities.

Traditional cultural behaviour assisted ecological resilience by preventing the overexploitation of wildlife and veld resources and helping such resources to recover. The Xhanikhwe, for instance, did not kill productive wildlife but only hunted ageing wildlife. In summer only male animals were hunted, as the females would be pregnant, and in winter, which is the mating season, male animals were spared as they now had an important role to play in reproduction. These strategies ensured renewal in wildlife species. This selective hunting during the different seasons enhanced the resilience of the ecosystem in the sense that disturbance (hunting) took place in such a way that ecosystem memory was conserved thus making reorganisation and innovation possible.

Gadgil (1985) gives a similar example where religious prohibitions on fishing in India during the mating season protect the breeding stock. Sacred ponds were protected, providing a sanctuary for the breeding fish. Gadgil (1985) further reports that all resources, including fish, were the property of the gods and not of social caste, and permission had to be sought from the gods before resources were harvested. Traditional practices in India maintained fish populations at sustainable levels. We see a similarity in the case of the Xhanikhwe, in that permission to hunt in their territory was sought not only from the band but also from the gods.

Furthermore, social taboos which may not have been aimed directly at conservation, often resulted in the conservation of certain species or relieved the pressure on certain resources. The case of the first fruits of the season being eaten by the elderly, and then going down the age groups, is one such example whereby the Xhanikhwe relieved pressure on wild fruits at a time when this resource was limited. The opening of the season for collecting wild fruits and berries coincided with an abundance of the resources in the wild. Examples elsewhere exist where taboos have been used by indigenous societies as social mechanisms in the management of natural resources. Among traditional societies in Oceania, it was customary to impose taboos on the use of subsistence crops to prevent their being harvested at inappropriate times (Chapman, 1985, Child and Child 1993 quoted in Colding and Folke 1997). These taboos were not always permanent in time and space, but could be removed when food resources were plentiful (ibid).

In some cases, food-related taboos comprise a total prohibition of species at all times. In Botswana this is often found in the form of totems. According to Colding and Folke (1997), such taboos protect animals and plants completely both in time and space, by prohibiting their killing and use by all members of a human community. They further argue that, at least in theory, this total prohibition may be of direct value in protecting threatened and vulnerable species. My study did not identify many cases of this type of taboo amongst the BaBugakhwe and the Xhanikhwe, in Khwai and Xaxaba respectively. There was one case of a woman in Xaxaba who was badly scarred on her face; and she said that she had had a skin reaction after eating from a pot that her husband had used to cook elephant meat, which is her totem. Others (such as Mma Monjwa and Rra Monjwa) contradicted this as they ate meat of their totem.

Totemic law also played a role in managing the use of wildlife resources. Totemic law has both characteristics of informal and formal constraints, as it is based on both rules and norms of behaviour. For example, the Tswana were traditionally divided into many groups, distinguished from one another by their totems, which, in the majority of cases, were animals. For instance, the totem of the Kwena and Ngwaketse royal families is the crocodile; of the Ngwato and Tawana the duiker; of the Kgatla the vervet monkey; and of the Lete the buffalo. One of the most common obligations

concerning a totem animal was that it should not be killed or even touched. In this way a range of species were protected. This concurs with Folke, Berkes and Colding (1998), who argue that a characteristic institution in many traditional communities is to manage resources not by managing numbers but by managing the resource and ecosystem through social conduct. They also argue that various kinds of taboos have been recognised to be ecologically functional and to have the potential of building resilience in ecological and social systems. An example of this kind of mechanism is the food taboos amongst the Caicurus[16], which seem to be associated with different ecological factors. Tabooed fish for the Caicurus tend to be carnivorous, toxic, or to have medicinal properties (Begossi, 1998). Colding and Folke (1997) argue that species-specific taboos also tend to protect threatened species, as such species may hide, forage and reproduce in the vicinity of the local groups that abstain from their utilisation. They may also, through traditional ecological knowledge, be recognised as keystones, playing a major role in the structure, dynamics and stability of an ecosystem (ibid). Elephants and hippo, for example, are keystone species in the Delta because they maintain the river channels and open up the vegetation.

The religious aspect of natural resource management by the Basarwa is very important, as illustrated by the residents of Khwai and Xaxaba. They argued that, apart from the practical way of imparting knowledge through hunting and gathering, educating the younger generation about natural resource management involved teaching about the gods who govern the utilisation of all natural resources in the area. Often the fear of supernatural beings was used as a deterrent against the abuse of natural resources. Bad luck would befall anyone who was seen to be misusing natural resources.

In contrast to the Basarwa, in the Tswana culture the institution of Chieftaincy (*Dikgosi*) controlled access to natural resources. Chiefs were considered to be the owners of wildlife, holding it in trust for the tribe. As a fundamental principle governing access to wildlife, the Tswana considered all fur-bearing animals to belong to the chiefs, irrespective of who hunted them, and their rituals emphasised that they

[16] Caicurus are descendents of Indians and Portuguese, located on the northern coast of Sao Paulo State and the southern coast of Rio de Janeiro State on the Atlantic coast.

were tribal property (Campbell 1978, in Spinage 1991). The concept of tribute also seems to imply that game was the property of the chief; he is considered the owner and is entitled to share in the proceeds of every hunting expedition. The Chief received all animals killed in a collective hunt that he had organised (*letsholo)*. Sometimes he divided the meat among those taking part, but usually suitable portions were dried and taken back to the community to be shared communally. The Chief kept the skins or sold them. Individual hunters were obliged to give the Chief the brisket (sehuba) of large game, the skins of lions and leopards, one tusk of any elephant killed (that of the side on which it fell), some feathers of an ostrich killed and the body of a bustard (Spinage, 1991). Unlike kinship, which restricted and controlled rights and access to wildlife in Basarwa society, tribute law among the Batswana limited the individual's right to hunt animals.

According to Schapera, tribute law was disappearing by the 1930s, which led to people having more freedom connected with hunting than they had previously possessed under customary law. However, this freedom began to be restricted at the request of the colonial administration by the protection that the Chiefs extended to large game. The Kgalagadi, Basarwa, Bayei and other minor tribes living in under the authority of major tribes were obliged to hand over to the major tribe all hunting spoils, such as ivory, ostrich feathers and skins. According to Schapera (1943) in Spinage (1991), the only people seriously affected by such changes were the Kgalagadi and the Basarwa, and they apparently did a great deal of poaching. They ignored the Chief's restrictions and did not hand over the skins which the Tswana claimed as theirs. Hunting had become less important in the Tswana economy but remained important to the economy of the Basarwa.

The Tswana also used protected area systems to manage the use of wildlife resources. Traditional protected areas were in the form of hunting reserves belonging to the chiefs. Such a reserve was Chiefs Island in the Okavango Delta, known formerly as "Mathuiba's Island" after the Tawana Chief who set it up sometime after 1906. This island is the very same island which the Basarwa of Xaxaba claim was a part of their traditional territory. Khama, chief of the Ngwato, had a "reserve" for ostriches in 1875 in the region of Makwa, somewhere south of Sua Pan. Generally speaking, however, there was little need for protected areas before the era of exploitation, which

began in the middle of the 19th century, and the Chiefs hunted with their people in common hunting grounds. Khama's ostrich reserve was set up as an area to allow ostriches to breed undisturbed, because of the great decline in numbers which had taken place and the resulting scarcity of feathers for trade (Spinage, 1991).

As institutions form part of the structure and processes of sustainable rural livelihoods, they can help cushion the impact of external shocks. The erosion of traditional institutions has hence increased the vulnerability of the Basarwa and weakened their buffering capacity to survive disturbance, in turn weakening the resilience of both social and ecological systems.

In the new relationship the Basarwa have with the environment, hunting and gathering are limited to symbolic importance. Hunting and gathering is no longer vital to the livelihood strategies of the Basarwa, but does remain central to the construction of people's identities (Twyman, 2000). The nature of hunting and gathering has undergone transformation. Firstly, the purpose of gathering has changed, from providing food to the household to generating cash through commercial purposes, such as selling thatching grass, basketry and other crafts. Secondly, as Taylor (2000) observes, hunting regulations have not stopped subsistence hunting completely but rather transformed it into hidden, wasteful and individualistic practice. By virtue of hunting being a hidden activity, it has resulted in restricted sharing networks of meat beyond households (Taylor, 2000) and therefore threatens the social capital central to the traditional livelihood strategies of the Basarwa. The fact that hunting is socially hidden may explain why hunting and gathering does not appear in Tables 7 and 8, which list the livelihood options given by the Xaxaba and Khwai communities. The occasional presence of meat in the community is an indication that illegal hunting was being carried out.

By criminalising one of the central markers of Basarwa identity, hunting regulations are symbolically marginalising Basarwa from mainstream society (Taylor, 2000). This, in turn, affects the Basarwa's sense of well-being, in a similar way to the effects of loss of their traditional territories/lands. This is the case more especially if one takes Christudolou's (1990) view that land is a locus for group and even national identity. Land is not only a source of production but also a ground for cultural identity

- a society occupying a certain area of land attaches significance in being identified with it (ibid). Social capital and to some extent human capital draws its strength and resilience from such factors.

The loss of traditional lands that form a part of Basarwa identity can be regarded as a threat to the resilience of their social capital, as part of their identity and sense of well-being are stripped away. The two groups in Xaxaba and Khwai spoke of their traditional territories with and sense of longing and loss. They constantly spoke of leading a better life in those areas, such as Tsobaoro in case of Xaxaba residents. These were referred to as *matota abo ntate*, which is Setswana for "our ancestors' ruins". This point is discussed in more detail in the next chapter.

Moser (1998) argues that drawing on social networks acts as effective mechanism for dealing with minor shocks and risks, but is not effective with severe shocks or major risks such as droughts. In times of severe shocks, social capital is threatened, especially in poor rural communities, such as the Basarwa, where sharing is important to the survival of communities and for building resilience (Devereux, 1999; Kent, 1993; Shipton, 1990; and Hitchcock et al. 1989). Furthermore, social capital is a means to an end, where the end is access to more immediate forms of capital such as human capital (e.g. assistance in crafting a Mokoro or building shelter) and natural capital (rights to use land and other natural resources). In Khwai, social capital is being threatened by the existence of non-Basarwa groups. This has resulted in conflicts at community level, making it difficult for community decisions to be made. In contrast to the situation in Khwai, the existence of Bayei and Basarwa side by side in Xaxaba indicates a notion of complementarity between the different ethnic groups.

The relationship between the Basarwa and Bayei discussed in section 5.3.3 strengthens the social capital of the Xaxaba community. The connection between the two ethnic groups makes it possible for the two to bring together their skills and knowledge in order to come up with resilient strategies to deal with the ecological and social stress. Although the Basarwa constitute 66% of the population in Xaxaba (Cassidy *et al*. 2001), there has been a complete process of acculturation between the two groups. Equipped with different skills, the Bayei and Basarwa learn from each other. Their collective human capital is enhanced, making it easier for the community

to utilise other forms of capital (natural and physical) in order to pursue desired livelihood outcomes. Both groups know how to make Mekoro, weave baskets, grow food and hunt, and they are equally in a position to benefit from the thriving tourism industry in their area, with all households having at least one person employed in the surrounding camps. Both communities of Khwai and Xaxaba draw on their social capital, whereby they rely on working family members for financial capital through remittances.

In contrast to the traditional local institutions, which were governed by the respective Basarwa communities, the new institutions are externally driven. The procedures for setting up Village Trust Committees are stipulated by the Government. Requirements include developing a written constitution and making use of the Kgotla system as a forum for public consultation and participation, both of which are new and foreign concepts being imposed on the Basarwa communities. These draw very little from the local institutions discussed in section 5.2.2. Some traditional practices are, however, being drawn upon, although not to their full potential. One example is the Khwai community restricting the harvesting of thatching grass during the off-season, so as not to interfere with the process of renewal and growth. The practice is monitored through a resource committee using local knowledge and traditional institutions. The temporal restriction on harvesting is, according to Folke *et al.* (1998), common to many modern and traditional management systems. An example from elsewhere is the Canadian Amerindian hunters, where hunting areas are rested so that the animals can replenish themselves. As noted previously, the Basarwa also had similar hunting and harvesting restrictions to ensure that the wildlife was able to replenish itself.

Basarwa, like many indigenous societies, had indigenous methods of coping with uncertainty presented by the highly variable and unpredictable environment they lived in and relied on for their livelihood. These strategies have, however, undergone changes as a result of dispossession, acculturation through interaction with other ethnic groups, and in response to the policies of the Government. The result has been a breakdown in old methods, the reshaping of coping strategies and an emergence of new strategies to reduce vulnerability and build social and ecological resilience.
It should be emphasised, however, that land remains a major determinant of the natural, physical and financial capital available to the Basarwa. The amount of land

the Basarwa presently have access to is of a lower capital value to their livelihoods compared to their larger traditional territories. The values of the other forms of capital are also reduced. The loss of land further reduces the social capital of the Basarwa, as they lose their sense of belonging and are relegated to an underclass, which in turn affects their human capital.

As stated in the introduction, social capital can be effective in the management of common resources. For example, the fear of being treated like an outcast, cut off from the benefits of being part of the community, acts as a deterrent against mismanagement of natural resources. Social capital has enabled the Basarwa of Khwai to maintain and use their traditional grass cutting rules and practices. In this sense social capital builds resilience in social-ecological systems.

Twyman (2000) argues that for Basarwa communities in the south-western part of the country, the natural resource base has changed, and whilst the use of natural resources has in many cases dwindled, livelihoods based on these resources remain important in terms of cultural identity and symbolic significance. Natural resources remain as real and perceived safety nets in times of stress, as is demonstrated by members of the Xaxaba community who, after being retrenched from OddBalls and Delta Camps turned to making Mekoro (among other activities) and selling these to younger guides who did not have the time nor the necessary skills to make this very important item, which is central to livelihood strategies in the Delta. For the Basarwa of Ngamiland, however, gathering remains central to both their livelihood strategies and to the construction of their identities. Hence, building on natural capital is of importance for these communities, as it has the greatest potential for developing the financial capital into a new and increasingly important form of capital for the Basarwa communities in the Okavango Delta.

Sending children to school for a formal education is seen as an attempt by Basarwa communities to build their human capital, in the hope that it will improve access to other forms of capital, such financial capital (through access to better paying jobs) and natural capital (as an improved understanding of the policies and institutional systems provides the Basarwa with an opportunity to fight for their land rights). This, in turn, builds political capital, which the SRLF has been criticised for not addressing. It is

this human capital that the Basarwa are drawing on to adopt new institutions such as Chieftaincy, Village Trust Committees and Village Development Committees, which are part of the newly established and formal institutional framework of the Basarwa communities. However, one notes that the failure of these institutions to formally draw upon and build on traditional local institutions weakens the resilience of the new livelihood strategies, as they are governed by rules that are alien and foreign to the concerned communities. These institutions and their impact on the resilience of the Basarwa are discussed in more detail in Chapter 6.

### 5.3.3 Global and Local Economic Trends

As outlined in section 5.2.3, the Basarwa communities in Ngamiland rely on a variety of livelihood strategies for their needs, with remittances from family members employed in the tourism industry playing a large part in their livelihoods. The role of diversity in the livelihood strategies of the Basarwa remains crucial for their survival.

Maintaining diversity in livelihood strategies remains important for social resilience of the Basarwa. Adjer (2000) correctly argues that diversity and flexibility enhance resilience of both social and ecological systems. Examples drawn from field data for my study illustrate how the two Basarwa communities have adapted to the new status quo. They exploit the opportunities presented by the tourism industry, such as employment, selling crafts and thatching grass, as well as new opportunities presented by CBNRM.

Although Chapter 4 indicates that the Basarwa communities in Ngamiland are vulnerable to wildlife danger, the presence of wildlife also provides a livelihood opportunity which builds and strengthens financial capital for the Khwai and Xaxaba communities. Through the Government-driven CBNRM approach, these communities have accrued financial benefits not enjoyed by communities elsewhere in the country. As Berkes (2001) argues, not all ecological surprises are negative from a local point of view. According to the CBNRM Status Report (2000), CBNRM activities in Ngamiland District earn the highest income in the country. Ngamiland is home to the bulk of the country's wildlife resources, which are worth huge sums of money to hunting safaris. In 2000, Ngwaa Khobee Xeya Trust (a community based

organisation in Kgalagadi District) had a total income of only P300, 000, compared to P1.7 million received by the Khwai community and P1.1 million received by Kopano Mokoro (which Xaxaba is a part of). In fact, Kopano Mokoro earned three times the total income of Ngwaa Khobee Xeya through land rental and wildlife quota fees alone. At household level, financial capital in Xaxaba, Khwai and the rest of Ngamiland is strengthened by the employment opportunities provided by CBNRM.

Regardless of the seemingly important role played by financial capital in the livelihood strategies of the Basarwa communities of Khwai and Xaxaba, these communities continue to give a high rating to natural capital. An example illustrating this is the Khwai communities' resistance to attempts by Government to relocate them to an area where social amenities, in the form of schools and clinics, will be provided. Their argument is that their development priorities are not clinics and hospitals, but rather land rights and natural resource rights. The residents of Khwai perceive these rights as their source of identity and as their ticket to economic development, which would then enable them to have funds to buy a community vehicle which could be used for driving the sick to the nearby village of Mababe. They also argue that their vehicle could be used for transporting school-going children to a boarding school in Gudigwa and back for school holidays. With eco-tourism increasingly gaining popularity in the global tourism market, the Khwai community are likely to have made an astute decision.

For communities that rely directly on natural resources for their livelihoods, uncertainty and surprise is inevitable. It hence remains important that a diversification of livelihood strategies and flexibility is maintained. The Xaxaba residents' resistance to give up their "freelance" status should be seen as an attempt by the community members to ensure that room for diversity and flexibility is maintained. As one of the residents put it:

> "*The freelancing arrangement we had with Gun's Camp, OddBalls and Delta Camp allowed us to carry on with our livelihood activities (matshelo a rona), like making Mekoro, fishing, gathering building materials or renewing our homes*".

## Conclusion

Generally the residents of both Khwai and Xaxaba engage in a diversity of livelihood activities, and this diversity is a risk-minimising strategy related to uncertainty and surprise. Those who had lost jobs at OddBalls and Delta Camps moved on to other means of making a living. Diversification is well known as a risk-spreading strategy related to uncertainty and surprise (Adger, 2000 and Berkes, 2001), and one that remains central to the resilience of the livelihood strategies of the Basarwa communities. But how are current interventions affecting resilience and livelihood assets of the Basarwa? This question is addressed in the next chapter.

# Chapter 6: Evaluation of Current Interventions

## *6.1 Introduction*

In light of what we have seen in this thesis about adaptive strategies among some Basarwa and the challenges they are facing, it is appropriate to ask how well this understanding is reflected in the general policy measures of the Government of Botswana. In this chapter, the focus changes to Government as the main actor, as opposed to individuals and communities and their relationship to the environment as it has been in the previous chapters. This chapter also attempts to show that access to natural resources for the Basarwa in Khwai and Xaxaba is limited not by resource scarcity and depletion but also by policy and legislative constraints. This leaves the Basarwa more vulnerable to surprise and disturbance than before, thus weakening the resilience of social and ecological systems. The concept of adaptive management is used to evaluate the 2001 CBNRM Draft Policy as it provides the context for current interventions, and the principles used in its formulation have guided the implementation of CBNRM in Botswana over the last 10 years.

This chapter further seeks to address the last two research questions:

- How has the resilience of past and present livelihood strategies been influenced by changes in policies and institutions? and
- How can the current CBNRM policy and institutions be adapted to promote the resilience of the Basarwa's livelihood assets?

As noted earlier, the term "institution" in this thesis is used to refer to both social and political institutions. Social institutions are what cement the social life of a group and tend to give livelihood assets their meaning and value (Giddens, 1996). They provide the basic living arrangements (rules) that human beings use to guide their interactions with one another, by means of which continuity is achieved across generations. Institutions are embedded in and develop out of the culture (norms and beliefs) of communities or larger societies. Policies and institutions are an important aspect in terms of assessing livelihood strategies, as they effectively determine access to various types of capital, livelihood strategies and decision-making bodies, and sources

of influence (such as pressure groups/interests groups and other forms of civil society).

In the Sustainable Rural Livelihoods Framework (DFID, 1999), which is used as a conceptual framework in this thesis, policies, legislation and institutions are regarded as transforming structures and processes. These effectively determine access to various types of capital, livelihood strategies, and to decision-making bodies and sources of influence. They are therefore pivotal in terms of providing an enabling environment for improving livelihoods. Institutions are made up of formal constraints (rules, laws, constitutions), informal constraints (norms of behaviour, conventions and self-imposed codes of conduct), and their enforcement characteristics. They also determine the type of benefits communities gain from any given livelihood strategy. For example, institutions may govern usufructory rights of individuals to land, and on the basis of those rights, individuals may benefit or be excluded from hunting and gathering in a particular territory, as discussed in the previous chapter. Institutions can also help cushion the impact of external shocks through the provision of social safety nets (DFID, 1999), which in turn strengthens the buffering capacity of social and ecological systems to survive disturbance, and improves their resilience. Through institutions, individuals gain access to various forms of capital and during times of stress they may have access to social capital (through sharing networks) by virtue of belonging to a group. One example is sharing among traditional communities, which are often thought to mitigate the unevenness of hunting returns in forager communities (Kent, 1993). Another example in traditional communities is intercommunity trade facilitated through established social networks, which the Inuvialuit people use as an important means of addressing regional differences in resource availability (Berkes and Jolly, 2001).

Organisations, in addition to institutions, also help local people cope. Where people do not have access to organisations of the state, they often lack knowledge of their rights and have only a limited understanding of the way in which government functions. This makes it hard for them to exert pressure for change in the processes (policies, legislation, etc.) that affect their livelihoods, or to exploit opportunities presented by various government policies and strategies. I have, therefore, investigated how these transforming structures have influenced the livelihood

strategies, such as hunting and foraging, seasonal mobility and adaptability necessitated by changes in the ecological environment, and variations in natural assets, of the Basarwa in Ngamiland.

Adaptive management is an integrated method for natural resource management (Holling 1986; Lee, 1993; Gunderson *et al.,* 1995). It is adaptive because it acknowledges that environmental conditions will always change, thus requiring management institutions to respond to feedback by adjusting and evolving. Adaptive management, like some traditional systems, takes a dynamic view of ecosystems, emphasises processes (including resource use) that are part of ecological cycles of renewal, and stresses the importance of resilience. Adaptive management, like many traditional knowledge systems, assumes that nature cannot be controlled and yield predicted; uncertainty and unpredictability are characteristics of all ecosystems, including managed ones (Gunderson 1999). In both cases feedback learning is the way in which societies deal with uncertainty in the management and use of natural resources. Often this is not learning at the level of the individual, but social learning at the level of society, or institutional learning at the level of the institution. Adaptive management emphasises learning by doing in a way similar to that in which skills and knowledge are transferred amongst the Basarwa. Adaptive management therefore views policy as hypotheses, that is, most policies are really questions masquerading as answers. Because policies are questions, then management actions become treatments in an experimental sense (ibid) and need to be adapted accordingly.

The question then is does the Botswana CBNRM Policy as a current intervention provide a mechanism to allow for learning and adaptation? Furthermore, is the policy environment conducive to learning, i.e. is enough space accorded to local communities to participate in policy formulation and implementation? Niamir-Fuller (2004) argues that most dry lands exhibit dynamic equilibrium, and therefore need adaptive management to allow optimum use of variable unpredictable resources. However, in order for this to happen a fair amount of flexibility is required.

### 6.1.1 Policies as Institutions

Policies are official statements reflecting the development tasks that Government undertakes to do (Cassidy, 2000). They state the aims and objectives that Government hopes to achieve in certain areas of development. Once policies are accepted, they form the framework for related laws. These laws must be in agreement with the objectives of the policy. In essence, policies shape development in a country (ibid). Although policies are not legally binding over ordinary citizens, they can determine what Government allows people to do (ibid). The policy that this thesis evaluates is the CBNRM Policy; other policies that govern the use of land and natural resources have been touched on briefly in the introduction for purposes of providing background.

### 6.1.2 Land and Natural Resource Policies in Botswana

The section below gives an overview of policies and legislation governing land use and natural resource management in Botswana. It is against this background that the discussions in this chapter should be understood.

#### *6.1.2.1Past and Present Policies and Institutions Governing Land Use and Natural Resource Management*

Between 1968 (the year marking the beginning of a post Independence land reform process in Botswana) and 1992, a number of policies and Acts were promulgated that virtually negated the Basarwa's adaptive livelihood strategies. The 1968 Tribal Land Act had catastrophic consequences for the Basarwa's resilience. This Act defines land rights and use in agro-pastoral terms at the expense of hunter-gatherers (Ng'ong'ola, 1997).

The system of land tenure under colonial administration that emerged after the proclamation of Crown Lands and demarcation of the tribal reserves survived with minimal modifications until the attainment of Independence in 1966 (Ng'ong'ola and Moeletsi, 1995). In 1968 the Tribal Land Act (1968) was proposed to transform that land tenure system. The purpose of the transformation was to accommodate modern

concepts of land use and to democratise land administration. The first step towards this exercise was the formation of Land Boards to take over the land administration functions from the tribal authorities (chiefs). Nine land boards were established in areas roughly coinciding with former native reserves. The reserves belonged to the only eight tribes (Bangwato, Bakgatla, Barolong, Batawana, Batlokwa, Bamalete, Bangwaketse and Bakwena) that were recognised by the colonial Government as having title to land. These were all Tswana speaking groups, and so called "minority" tribes such as the Basarwa, Bakalaka, Bayei and others were not allocated land. In other words the minority tribes, who had been denied title to land by the colonial administration, remained formally landless after independence.

In 1976, three more land boards were established for the Chobe, Ghanzi and Kgalagadi tribal areas, whose status was converted from state land to tribal land. This move improved the security of tenure of the Basarwa, Bakgalagadi and other minority ethnic groups. However, their problems were not completely addressed, as the land board system was inadequate, having been designed against the backdrop of the dominant Tswana system of land tenure based on an agro-pastoral land use. Land boards were designed to replace Tswana Chiefs, headmen and overseers. This did not significantly improve the tenurial security of the Basarwa and other ethnic minorities, who had weak social and political structures compared to those of the Tswana, and were therefore further disempowered by the imposition of land boards (Ng'ong'ola, 1997).

In 1993, the Land Act was amended in order to extend rights to all citizens irrespective of ethnic affiliation. However, this move still did not cater for the Basarwa communities, as no amendment was made to accommodate their different tenurial practices and experiences. Land rights remained defined in agro-pastoral terms (Ng'ong'ola and Moeletsi, 1995; Ng'ong'ola, 1997) at the expense of hunting and gathering societies. Some of the Basarwa, e.g. the River Bushmen (BaBugakhwe and Xhanikhwe), were to a small extent engaged in farming and livestock-rearing land uses as a result of being in contact with the Bayei and Hambukushu (see Cashdan, 1983, Barnard, 1979; 1986, 1992 and 1995).

**The Tribal Grazing Land Policy and 1991 Agricultural Policy**

Despite the general shift towards local accountability in land use and management matters presented by the establishment of land boards, critics have argued that, since 1975, there has been a slow but clear reversal of policy that has led to an increasing centralisation of land administration (Neme, 1995). The de-linking of communities from the land they occupy and own collectively, and the increasing privatisation of tenure arrangements, had a negative effect on people's livelihoods, because communities were cut off from access to land and natural resources which were now on private land. This included San communities and many of the rural poor. The Tribal Grazing Land Policy of 1974, and the fencing component of the 1991 New Agricultural Policy, provides evidence for this shift in policy and the increasing privatisation of the commonage.

The Tribal Grazing Land Policy (TGLP) set out guidelines for the implementation of a land tenure reform designed to halt the degradation of land by overgrazing, which had become particularly severe in the populated parts of eastern Botswana. The policy proposed to do this primarily by enclosure. Individuals with many cattle, or groups of smaller stockmen, would be assigned exclusive rights over defined areas of grazing which they would be encouraged to enclose. A major component of the 1991 Agricultural Policy was the proposed fencing of cattle posts on communal grazing lands and converting them to ranches, ostensibly to improve cattle management and production practices. The policy asserts that the TGLP succeeded in demonstrating that fenced ranches are more productive than communal area cattle posts, hence the emphasis on fencing (GoB, 2002). Nevertheless, the TGLP and the 1991 Agricultural Policy aggravated the problem of overgrazing and land inequality in communal areas by allowing ranch owners to continue to use communal areas, thus failing to relieve pressure on communal grazing areas (GoB, 2002; Neme, 1995).

Bureaucrats responsible for formulating these two policies believed that communal management encouraged overstocking because individuals have no motivation to limit the number of livestock grazing on the range (Neme, 1995), an assumption based on Hardin's (1968) theory of the tragedy of the commons. Like Hardin, they argued that the best way to reduce overgrazing was to create private property rights, which would give cattle owners the incentive to preserve the range by reducing their

herds. While having the potential to reduce overgrazing in the enclosed, privatised areas, the TGLP in its implementation tended to aggravate the problem of overgrazing in the remaining communal pasture by maintaining dual grazing rights for private land owners. Private land owners are the only ones who enjoy this right because farmers without private land can only graze their cattle on communal pasture. At the same time, privatisation worsens the problem of overgrazing by reducing the size of the communal areas (White, 1999; Neme, 1995; and Segosebe, 1995). The development of water resources (deep boreholes) in the western Kalahari and the eradication of the tsetse fly around the Okavango Delta worked with these two policies in prompting the further opening of the new areas to cattle and human settlement (Neme, 1995).[17] Many of the TGLP ranches were established in the Ghanzi and Kgalagadi Districts, where it was assumed abundant and under-utilised land existed. However, this assumption was soon proved wrong, as many with traditional use rights (e.g. Basarwa in the southern part of the country, and poor farmers) were displaced.

Linked to the TGLP and livestock related policies in general is the erection of cordon fences, which have had a negative impact on wildlife numbers by blocking seasonal migration routes. Decline in wildlife numbers and distribution has further reduced access to resources for communities with wildlife and natural resource based livelihood strategies, such as the Basarwa. The erection of cordon fences undertaken to control the spread of foot-and-mouth disease, has further reduced the Basarwa's access to land and resources. These fences are supposed to prevent the transmission of foot-and-mouth disease by separating the nation's cattle from its wildlife, particularly buffalo, which are known carriers of the disease (Neme, 1995). This protection from foot-and-mouth is very important as an outbreak would jeopardise Botswana's beef exports, a source of foreign exchange. The Northern Buffalo and the Southern Buffalo Fences are of special concern to this study as they fence off portions of the Okavango Delta. According to Neme (1995), the Department of Animal Health and Production in the Ministry of Agriculture felt that these fences were necessary because the area

[17] In Tswana society cattle are a form of wealth and prestige. The more cattle someone owns, the wealthier and more important that person is. Cattle are also an important component in certain rituals such as funerals and wedding feasts and as part of *bogadi* (bride's wealth). These cultural factors make people reluctant to sell cattle or limit their herd size, even if doing so would increase the overall productivity of their herd.

had been opened up to cattle grazing by its successful efforts to control tsetse flies. Tsetse fly infestation had previously deterred cattle from grazing near the Delta.

The Delta system not only influences wildlife movement by introducing water barriers, it also raises the total wild animal biomass that can be carried in western Ngamiland. The western and eastern regions of Ngamiland hold wildlife communities adapted to their respective conditions, with a third assemblage of water-dependent migrant species moving from semi-arid to moister conditions on a seasonal and annual basis (Scott Wilson Resource Consultants and The Environment & Development Group, 2000). This mobility is a key feature promoting the diversity and biomass of Ngamiland wildlife communities against a backdrop of habitat diversity (ibid). As discussed in chapters 4 and 5, the effects of this concentration of wildlife on the Basarwa have been both negative and positive: while on the one hand wildlife is encroaching into human settlements and destroying crops and posing a threat to human life, these Basarwa communities in Ngamiland stand to benefit financially through CBNRM more than their counterparts in other parts of the country.

In addition to the livestock policies and the impact of ranches on people's security of land tenure discussed above, the loss of land for Basarwa in Ngamiland is largely due to conservation and the establishment of national parks. Chapter 2 highlighted the relocation of the Khwai community as a result of the establishment of the Moremi Game Reserve and the resultant restricted access to natural capital for both the Khwai and Xaxaba communities. New conservation laws (e.g. the Wildlife Conservation and National Parks Act of 1992) reduced their access to traditional territories. Communities were not (and still are not) allowed to gather wild resources within Moremi Game Reserve. The Basarwa of Xaxaba and Khwai found themselves trapped into increasingly smaller areas of land that could not accommodate their traditional livelihood strategies. Their strategies for coping with climatic and ecological variability were dependent on the extensive use of land and natural resources, which required access and control over large areas of land. Furthermore, hunting regulations (Controlled Hunting Area regulations, Fauna Conservation Act, Unified Hunting Regulations of 1977), as previously discussed, criminalised one of the central markers of Basarwa identity, affecting their sense of pride and identity (Taylor, 2000; Twyman, 2000).

*Resettlement and sedentisation:*

In a bid to solve the problem of displaced Basarwa (especially those along the Ghanzi ridge) the Government of Botswana introduced the Remote Area Development programme. This programme is discussed in more detail in the section below.

**The Remote Area Development Programme (RADP)**

Having been displaced from their traditional lands as a result of the policies and strategies discussed above, some Basarwa were relocated to so-called 'service areas' under the RADP resettlement scheme where they were provided with access to land, water, clinics and schools. In some cases, RADP settlement schemes were developed to make way for wildlife in the newly designated game parks and wildlife reserves (Mazonde, 1994). During the 1980s, the resettlement strategy of RADP was gradually re-interpreted to permanently settle and civilise Basarwa (Wily, 1994).

The sedentary lifestyle inherent in this policy shift was unfamiliar to and incompatible with the Basarwa's traditional social organisation, causing them to rapidly lose social capital. Alcoholism became rife, teenage pregnancies increased, and conflicts within and between clans escalated. One of the major problems faced by these 'betterment' schemes was forging coherence among various social groups. One such example is of an incident in the village of Diphuduhudu, where one Basarwa clan refused to accept a Mosarwa who came from a different clan as a headman of the settlement (Mazonde, 1994). Such lack of social cohesion meant that social development, which under current circumstances depends on the successful clustering of residents around village institutions, could not take place (ibid). The residents of Khwai alluded to the fact that the management of natural resources had become difficult because the present communities are made up of people from different areas with different norms, values and practices. This cripples the resilience of social institutions, as people who do not share common norms, values and kinship ties are grouped under one settlement and expected to function as a community. As Alcorn and Toledo (1998) argue, the successful implementation of community-wide decisions depends on widely shared values that serve to strengthen social capital. Mazonde (1994) further notes that most remote area dwellers who settle in these betterment schemes experience deterioration

in their standard of living. When settlements grow too big, available game and veld products within reasonable reach rapidly diminish, which limits the number of people who can engage in sustainable livelihood strategies (Saugestad, 1998).

The Herbage Preservation (Prevention of Fires) Act of 1978 prevented traditional Basarwa practices that used fire to open up blocked river channels, control wildlife movement patterns, improve feeding habitat for wildlife and clear areas for better visibility.

The policies discussed above marginalised the Basarwa and dispossessed them of their lands, and alienated the communities from the management of natural resources. Below is a summary of other policies and how they affect the Basarwa.

**Table 11: Summary of Policies Affecting Natural Resource Management in the area**

| Policy | Summary |
|---|---|
| Wildlife Conservation and National Parks Act (Act No.28) 1992 | Includes amendments and updated legislation further to the National Parks Act of 1976 and the Fauna Conservation Act of 1987. All subsidiary legislation made under and in accordance with the provisions of the Fauna Conservation Act and the National Parks Act, but which are not included in the WCNPA remains in force and effect. Numerous amendments to the WCNPA are currently being finalised for gazettement. |
| Unified Hunting Regulations (1979) | An attempt to simplify hunting licensing systems and to make it more equitable on a national basis resulted in the promulgation of the Unified Hunting Regulations, giving all citizens theoretically equal access to wildlife resources on hunting quotas throughout the country. Many poorer residents of rural villages who are dependent on hunting for part of their subsistence income have suffered reduced access to wildlife resources where they live as a result of changes in licence availability brought about by the Unified Hunting Regulations. |

| Policy | Summary |
|---|---|
| Wildlife Conservation Policy (1986) | The Wildlife Conservation Policy stated the Government's policy of promoting the economic use of wildlife resources on a sustainable basis to the benefit of all Batswana, particularly to those citizens most heavily reliant on wildlife for their subsistence needs. The concept of community participation is recognised through this policy. Wildlife Management Areas were more clearly defined under the WCP as areas in which the primary form of land use would be wildlife utilisation. |
| Tourism Policy (1990) | The main objective of this policy is to obtain from tourism resources of the country (primary wildlife and wilderness areas), the greatest possible net social and economic benefits for Batswana on a sustainable basis. |
| Tourism Act (1992) | Following proposals of the Tourism Policy, the Tourism Act was gazetted in 1992. The Act and the policy promote low volume high cost tourism, which is viewed as appropriate for the most attractive tourist destinations in the country but could actually hinder the development of the community based ecotourism being proposed for some WMAs. A new Tourism Master Plan, which is currently in draft form, retains high cost – low volume approach for the core wildlife areas but suggests a more mixed cost – higher volume for other areas, e.g. those surrounding the delta which is less sensitive to damage from pressure of tourism. |

| Policy | Summary |
|---|---|
| Tribal Grazing Land Policy (1975) | The issue of potential loss of access to resources by the poor and owners of few or no cattle through the implementation of TGLP was briefly addressed in the white paper, and in planning for implementation, but rights of access were not legally protected, and large numbers of people (particularly RADS) were dispossessed of resources, including wildlife in the process. Fencing of an extensive TGLP farm block in the south eastern Ngamiland (Hainaveldt) further impeded wildlife movements, affecting migratory populations most heavily during the late 1970s. |
| National Policy on Agricultural Development (1991) | A major component of this policy is the proposed fencing of cattle posts on communal grazing lands, ostensibly to improve cattle management and production. The policy asserts that the TGLP succeeded in demonstrating that fenced ranches are more productive than communal area cattle posts. Wildlife will however be further impeded over large areas as fences are erected, and access to resources by subsistence hunters and collectors of veld products in these areas will be reduced or eliminated. |

## *6.2 Community Based Natural Resource Management*

### 6.2.1 An overview of CBNRM

Although CBNRM is a widely recognised acronym in Southern Africa, the definition takes different forms depending on the setting. Adams and Hulme (2001) have defined CBNRM as a variance of community conservation, which they define as:

> "*those principles and practices that argue that conservation goals should be pursued by strategies that emphasize the role of local residents in decision making about natural resources".*

Collaborative resource management, as one of several approaches, is increasingly seen as offering substantial promise as a way of dealing with natural resource conflicts in a participatory and equitable manner (Castro and Nielsen, 2001). In Botswana the Government has introduced community conservation through the introduction of the Community Based Natural Resource Management Policy, which however, remains unadopted in draft form only.

The previous chapters highlighted traditional practices of Basarwa communities that led to resource conservation; these, together with several other local and indigenous practices, can be said to be proof that these communities have always practised community based natural resource management. This section, however, focuses on evaluating formalised CBNRM, which is commercially oriented, makes explicit reference to conservation of natural resources, and is characterised by external interventions in the form of funding and technical support (Fabricius, 2004). Internationally, many of the CBNRM initiatives were started because the authorities and donors perceived them as a quick fix to solve natural resource related problems, such as illegal use or perceived degradation; as a way of protecting threatened natural resources outside protected areas; or because governments wanted to diversity their economies (ibid). In other cases, governments attempt to devolve natural resource management because of an inability to finance the necessary institutional control (Fabricius, 2004).

As opposed to earlier conservation strategies that were grounded on the intrinsic value of nature, and sought to keep nature and humans separate, community conservation is basically utilitarian and anthropogenic (Jones and Murphree, 2004). Community conservation shifts the focus of conservation efforts to people, groups and settlements (Stevens, 1997). This definition of community conservation, which implies active participation of local communities, is however challenged by Sullivan (2002), who argues that in practice this so-called 'new conservation' can also be viewed as a continuation of past conservation policies. This is firstly due to the fact that CBNRM projects and policy are largely driven and implemented by external agents. Secondly it is a result of the ways in which local differences and aspirations are glossed over while communities are regarded as homogenous entities. In this case, although through CBNRM communities are no longer physically displaced for purposes of

conservation, they can be said to be displaced for as long as the global and national dialogue arena shy away from addressing the multi-layered discourses of and rights to land and resources (ibid).

According to Adams and Hulme (2001), the fact that community conservation is not new points towards the need and the opportunity to build on existing practices and knowledge where these exist. The opportunity to build on existing practices exists mainly because CBNRM has an apparent focus on livelihoods and the diversity of strategies, opportunities and resources that make up a livelihood as argued by Fabricius (2004). *In theory*, CBNRM is viewed as keeping as many options as possible open for local people, thus maintaining flexibility and avoiding an undue emphasis on any one type of resource or livelihood strategy (ibid).

CBNRM, however, faces several challenges; some of these relevant to this study include:

- A lack of links with traditional institutions;
- Inadequate exploration and incorporation of traditional and local knowledge;
- Inadequately addressing the issue of land rights, instead providing for soft rights – e.g. 15 years lease;
- Differences in world views between outsiders and local people;
- The strategy is not adaptive in its approach (lacking components of seasonality);
- Results in disempowerment of households; and
- Lack of devolution of authority.

The picture in practice has to a large extent been different, in the sense that in southern Africa, CBNRM has mainly focused on the management and use of wildlife (Arntzen *et al*. 2003; Jones and Muphree, 2004). For example, CBNRM in Botswana has tended to promote and support the use of wildlife (e.g. Chobe Enclave Community Trust, the Khwai Community Trust, Okavango Kopano Mokoro Trust, etc.) rather than promoting and supporting flexibility in livelihood strategies. Data on 38 CBOs covered in the 2003 CBNRM Status Report (CBNRM National Forum, 2003) revealed that 18 (44%) CBOs were involved in wildlife-related CBNRM, 6

(15%) on cultural tourism, 6 (15%) on marketing of veld products, with the remaining 10 (26%) on other activities (e.g. photographic safaris), which strictly speaking are also related to wildlife activities. Although most of the management plans drawn up by the CBOs refer to multiple use of the allocated CHA, the CBOs in reality tend to concentrate on fewer activities (mostly wildlife activities), as the most active Government service provider in the field has been the Department of Wildlife and National Parks.

There have also been problems with regards to devolution of authority (Fabricius, 2004; Jones, 2003; Hulme and Murphree, 2001). In Botswana, Namibia, Zambia and Zimbabwe, government sets quota and issues permits and commissions, and approves management plans for most uses of wildlife. Jones (2003) argues that in Botswana and Zambia, communities tend to be passive recipients of the quota as well as the associated income, without engaging in active management as the state retains considerable management authority. Murphree (2003) argues that devolution which separates responsibility from authority is fatal to institutions, that in fact devolution enhances resilience by firstly promoting institutional diversity and secondly opening doors for localised civil science by giving space for mistakes, experiments, learning and adaptation. The existing literature on CBRNM in southern Africa suggests that the desired level of devolution has not been reached.

Another problem associated with CBNRM has been with regards to the programme's disempowerment of households. CBNRM has both a development and conservation goal; however, although CBNRM has been able to generate income at the collective level, it has failed to contribute to income at a household level as there have been problems with income distribution at this level (Jones and Murphree, 2004; Hulme and Murphree, 2001). Giving an example of Zimbabwe, Bond (2001) states that in the few cases where household dividends have been distributed, the financial benefit per household declined from US$19.40 in 1989 to US$4.90 in 1996. Bond concluded that in most areas, wildlife was not financially significant at the household level. Where wildlife income is high and the human population is low, the household income can be significant.

Some have argued that, whereas income to households might be low in absolute terms, its significance becomes clear when one considers the economic circumstances of the beneficiaries (Arntzen, 2003; Jones and Murphree, 2004). In Namibia, the average income in subsistence farming households is estimated at US$200/year (Ashley and Barnes, 1996). In areas of remote northwest Botswana, average household income is estimated around US$52 a month and the poverty datum line (PDL) for a family of 7 at US$202 (Arntzen, 2003). In one CBNRM area in northwest Botswana, the wildlife income from trophy hunting divided per household per month amounts to around 87% of the estimated average household income or 23% of the estimated PDL. Arntzen therefore concludes that such revenue is highly significant in proportion to local income and needs.

This analysis is problematic in the sense that the factors that are being used to put the point across are all sources of livelihood that make a direct contribution to household livelihood income, whereas revenue from CBNRM is hardly ever shared at household level: Therefore, even though in statistical terms the revenue amounts to the figures quoted above, it does not make up 87% of the average household income. The income is often sitting in bank accounts or spent on infrastructure, operations of the CBOs etc. At most the analysis above points out CBNRM's potential to contribute to and improve livelihood security and standards.

This potential, however, remains untapped in Botswana, and the question at this point is, why is this the case? Is it a question of security of tenure/rights? According to Jones (2003), CBNRM in southern Africa typically bestows resource rights on local communities, but not land rights, which is a critical weakness. Security of tenure over land is an important foundation for sustainable management of land and resources by local communities (Jones, 2003).

Sullivan (2002) warns that if per capita income from community based wildlife-tourism initiatives remains low, it is unlikely that people will view wildlife as an alternative to their usual means of livelihood. Instead it might be anticipated that people will direct their income and/or increased decision-making power derived from CBNRM towards livelihoods over which they have direct control and ownership, and through which they are more likely to raise their individual material standards of

living (Sullivan, 2002; Murombedzi, 1999). Failure to deliver benefits (both financial and intangible) would also jeopardise the internal legitimacy of the new institutions associated with CBNRM (Jones, 2003).

A deeper awareness in policy and planning of local knowledge and practice may foster culturally resonant, ecologically appropriate and socially inclusive dialogue regarding resource use issues (Sullivan, 1999). Developing national conservation objectives appropriate for the local context implies a shift in approach that acknowledges the existence and value of cultural knowledge relating to a range of natural resources other than large mammals (ibid).

This brings us to the crux of this study, which seeks to highlight the challenges of CBNRM vis-à-vis the Basarwa, who, like other indigenous and ethnic minorities around the world, are largely marginalised (Suzman, 2001a, b).

## *6.3 CBNRM in the context of Basarwa*

### 6.3.1 The CBNRM Draft Policy 2001

The CBNRM Draft Policy (2001) is an example of a new move towards community participation in resource management (cf. Chapter 2). In fact one of the principles of the policy as stated in Chapter 2 is to give communities the incentive to engage in sustained development activities. CBNRM is defined in the draft Policy as:

> "*a development approach that supports natural resource conservation. The approach alleviates rural poverty by empowering communities to manage natural resources for long term social, economic and ecological benefits. CBNRM advances identified national engines of growth such as tourism, wildlife, forest and veld products that rely upon a healthy environment for profits"*

Sections 2.3.1, 2.4.1 and 2.4.2 make reference to CBNRM in the study sites.

The procedures for wildlife-based CBNRM projects is firstly to embark on land use planning, whereby the Department of Wildlife and National Parks determine the best

use for Wildlife Management Areas and Controlled Hunting Areas (for example, hunting, photographic safaris or multiple use purposes). Following this process, land and resource management plans are prepared following participatory methods. Communities are then required to have an established management entity in the form of a community trust in order to get quotas and a resource use lease from the Department of Wildlife and National Parks and the Land Board (Bolaane, 2001; Arntzen, 2003; Boggs, 2004). Having been given a head lease and wildlife quota, communities are often encouraged to enter into joint venture agreements with private sector companies for consumptive and non-consumptive resource use (Boggs, 2004). The official guidelines on this type of arrangement describe two models, Joint Venture Agreements and Joint Venture Partnerships (which involves the merging of both parties' assets). These are described in the table below according to Bolaane (2001).

**Table 12: Joint venture options**

| **Joint venture agreements** | **Joint venture partnerships** |
|---|---|
| Option 1<br>• The community and the safari company do not merge assets;<br>• Community sub-leases its head lease to the private company, giving the company sole exclusive rights for hunting and photographic ventures depending on the identified land uses;<br>• Land rental and quota fee are paid to the community; and<br>• The community benefits from employment opportunities and the development of associated enterprises of services. | Option 1<br>• No rental fees are paid by the safari company, although they will have a lease agreement with a community for a number of years;<br>• Operator supplies all facilities, marketing and management, and trains and employs local people;<br>• Supports local enterprises that complement his/her activities; and<br>• Community supplies local building materials and guide services, and are actively engaged in managing resources while also learning about the tourist industry. |
| Option 2<br>• Community can sub-lease part of their land leased from the land board (for example, for purposes of establishing a lodge); and<br>• Community receives income from community operated venture (e.g. hunting, game viewing, photographic safaris etc.). | Option 2<br>• Safari company provides expertise, infrastructure and equipment, and the community provides land, natural resources and labour; and<br>• All revenues and costs are shared by both the private company and community. |
| Option 3<br>• Safari companies sub-leases land from the community and provide their services at an agreed daily rate per tourist. | Option 3<br>• A community that wishes to act as a safari operator can develop their area for tourism;<br>• They hire the services of, or offer equity to, a skilled management company which |

| | |
|---|---|
| | markets and runs the business; and<br>• Community provides most of the labour and the tourist facilities while the managing company provides expertise at a market rate. |

Bolaane (2001) argues that to date only the first option of the Joint Venture Agreement has been introduced in Botswana.

Veld product-based CBNRM projects on the other hand, may operate without any special permission for as long as the project does not harvest grapple (devils claw) and any other veld products governed by the 1974 Agricultural Resources Conservation Act (Arntzen, 2003).

### 6.3.2 Current policy barriers to Basarwa reorganisation

CBNRM has brought economic development to previously marginalised communities (Arntzen, 2003). Although Suzman (2001a) argues that for the San who retain access to land (such as those in Khwai and Xaxaba, who are already involved in CBNRM projects) options exist for them to profit from the sustainable use of natural resources or tourism, Taylor (2002) draws us to the fact that the inhabitants of these areas have generally found it difficult to engage effectively with an industry that is controlled far from their locality. Taylor attributes this to the reality that despite some of Botswana's most remote areas also becoming lucrative sites of capitalist production through the growth of the tourism industry, the very same rural regions have remained areas of economic deprivation, especially if one looks into the benefits that accrue to the local inhabitants.

The Basarwa within and on the edges of the Okavango Delta have been affected by the growth of conservation and tourism, and the competing demands these have made on land and wildlife in their area (Taylor, 2002). Mbaiwa (2004) has narrowed this situation down to the practice of 'enclave tourism', which in the Okavango Delta is characterised by foreign ownership of tourism facilities, repatriation of funds and a failure to effectively contribute to poverty alleviation in the district. 53.8% of the

tourism facilities in the Okavango Delta are foreign owned, 27.7% are jointly owned and 18.5% are owned by citizens (Mbaiwa, 2002).

Despite the wealth being generated in their area, the daily tasks associated with searching for a livelihood often remains as difficult as ever for many of its inhabitants (Taylor, 2002). To the elderly members of the Xaxaba community, CBNRM has replaced subsistence hunting, which not only fitted their lifestyle but was the central marker of their identity. They argue that CBNRM basically means having to depend on Government welfare. During my fieldwork many echoed the phrase "*re a Sheta*" (direct translation – we are struggling) in reference to searching for a livelihood, as indicated in Chapter 4.

As stated in Chapter 1, the Basarwa not only rely on a diversity of livelihood strategies associated with wildlife, they are also faced with an array of challenges that most of their neighbours and fellow citizens do not encounter to the same degree (Taylor, 2002; Suzman, 2001a, b; Saugestad; 1998). These difficulties are summarised by Taylor (2002) and Suzman (2001a) as:

- Direct – restrictions on hunting as a result of legislation;
- Indirect – difficulties in pursuing alternative livelihood strategies in wildlife areas or being viewed as lacking the requisite skills for employment;
- Suffered as a direct result of conservation policies pursued by Government which has led to their relocation and reduced access to land and natural resources;
- High levels of poverty and dependency on welfare in the form of food aid or pensions;
- Low levels of basic literacy;
- Weak representation in political or administrative structures, and limited capacity to advocate their own interest at a national, regional or local level; and
- A sense of social and political alienation from the mainstream, compounded in some instances by social discrimination and prejudice.

For the above reasons, CBNRM programmes targeting the Basarwa need to deal with the specific needs and issues of these communities. Different strategies are needed, and these will require the various practitioners and Government agencies providing support to Basarwa communities to put in more effort and come up with innovative approaches.

Using the Khwai Model of CBNRM, whereby the community chose to retain their lease as opposed to following the joint-venture approach employed by other communities, Bolaane (2001) concludes that unless the issues of land tenure, resource ownership, and the politics of relocation and ethnicity are addressed, enterprise development and the success of CBNRM will be handicapped in some communities. Furthermore, unless more recognition and value is attached to other forms of capital such as local ecological knowledge, the position of communities as partners in enterprises will remain weak and therefore CBNRM will fail to achieve its goals. In an attempt to guard against further marginalisation, the Khwai community attempted to restrict membership; however, this was viewed by the DWNP officials as discriminating against non-Basarwa and therefore the community was denied their wildlife quota. Thus an alternative model was blocked, indicating the inflexible nature of the policy and those responsible for its implementation.

Apart from VTC members, most of the residents of Xaxaba who were interviewed about CBNRM did not seem to fully understand what it was about, or even how they should be involved in decisions about how the money from CBNRM projects should be spent. One of the old women we interviewed stated, “It is not our money, it is for developments [referring to infrastructural development] in the village”. What I observed during my last stay in Xaxaba was that the elderly members of the community did not attend VTC public meetings, and thus gained only second-hand information on what the affairs of the VTC were. By the time this information reached them it was either incomplete or distorted.

*6.3.2.1 The impact of CBNRM on the Basarwa’s traditional livelihood practices and values*

CBNRM, as stated earlier, is supposed to have a livelihoods focus. It is therefore important to look at how well the formal CBNRM initiatives build on traditional/local livelihood strategies. An additional element of the policy barriers is the impact of CBNRM on traditional livelihood practices, which is mainly characterised by the lack of recognition of these practices and a conscious incorporation of these into the CBNRM programmes that target the Basarwa. In the previous chapter I highlighted key adaptations that enabled the Basarwa to cope with climatic variations and periodic fluctuations in resources, which were (also see Madzwamuse and Fabricius, 2004);

- Flexibility in group sizes;
- Mobility and flexibility in the use of resources;
- Flexibility in leadership structures;
- Detailed knowledge of local ecological system and appropriate skills; and
- Sharing networks

In its current form CBNRM ignores the need for both flexibility in resource use and mobility as a response mechanism to seasonal fluctuation in resources. The animals on the hunting quota can only be hunted during the hunting season, which is April-October. CBNRM has therefore replaced subsistence seasonal hunting with once-off hunting and failed to provide a substitute for food security at the household level (Talyor, 2002; Hitchcock and Masilo, 1995b). With regards to wildlife, for instance, CBNRM has been heralded for reducing 'poaching' incidences; however, some researchers argue that for communities that previously had Special Game Licences, CBNRM has made hunting into a hidden activity (Twyman, 2000; Taylor 2002). With the move to CBNRM in 1996, SGLs were cancelled and replaced by an annual quota given to the village as a whole (Hitchcock and Masilo, 1995a; Taylor, 2002). According to Taylor (2002), the number of animals is, however, lower than the sum of animals listed on the SGL holders of the village. For example, the sum of animals listed on the SGL held by the members of the Khwai community yielded a potential 215kg per person compared to 57 kg from the village quota. Many of the Basarwa households are therefore dependent on the social welfare for food, which Taylor (2002) argues has reduced the quantity and diversity of gathered food, as most of the food handed out comprises of carbohydrates. Diversity and flexibility are critical for

adaptive management, and these are strategies which were employed by the Basarwa. Uncertainty is inevitable for communities that rely directly upon natural resources for their livelihood. CBNRM, however, fails to take into account temporal fluctuations in livelihood assets.

As stated in Madzwamuse and Fabricius (2004) land remains a major determinant of the natural, physical and financial capital available to the Basarwa. The loss of their traditional lands is the most immediate threat to their resilience, their identity, and their ecological knowledge. Extensive use (in the form of access to large territories of land) is a prerequisite for adaptive management by the Basarwa and central to mobility as a coping strategy. Due to loss of access to previous territories mobility is no longer an option for Basarwa communities. CBNRM should however ensure the people's access to lands within parks – for example through co-management agreements. These co-management arrangements would require intensive participation of the communities involved as opposed to passive participation which currently characterises CBNRM in Botswana. The current CBNRM strategy is unfortunately based on a weak and broad definition of co-management that is synonymous with participatory, collaborative, joint or multi-party management (Castro and Nielsen, 2001), and falls short of intensive user participation over managing a specific resource (Holm, *et al*. 2000).

With regards to local institutions, the Basarwa's institutions were characterised by mainly flexibility in leadership structures and the employment of local ecological knowledge. The replacement of traditional institutions by institutions such as the Village Trust Committee, which can only operate within the rules of the Department of Wildlife and National Parks (which issues the wildlife quota), and the tribal Land Boards (which issue community leases to use the land), results in weakened local capacity of the social and ecological systems to build resilience. The rules in these institutions are not flexible and hence do not allow for adaptation, which hinders resilience in ecological and social systems. Resilience and adaptive natural resource management go hand-in-hand. Gunderson (1999) summarises this point by stating that if there is no resilience in the ecological system, or flexibility among stakeholders in the coupled social system, then one simply cannot manage adaptively. The reverse is also true: if there is no adaptive management then resilience is jeopardised, as there

will be no mechanisms for innovation in order for the social and ecological systems to transcend disturbance. As Folke *et al.* (1998) argue, once flexibility is lost the linked social–ecological system becomes more vulnerable to surprise and crisis.

The Basarwa have been forced to abandon some of the tried and tested traditional practices they had in place for natural resource management. One such practice was the use of fire, which the residents of Khwai and Xaxaba noted was used to open up river channels that were blocked by reeds (discussed in Chapter 5). This not only allowed water to flow downstream, but also improved feeding habitat for wild animals, and thus opened up areas for hunting. According to Folke *et.al* (1998), the example above is an illustration of the way in which many traditional societies nurture sources of ecosystem renewal by creating small-scale disturbance. A similar example is the nomads of Sahelian Africa, who function as a disturbance by following the migratory routes of herbivores from one area to another (Niamir-Fuller, 1998). Alcorn and Toledo (1998) describe how, through the milpa system in Mexico, disturbance is introduced in a forest system to encourage forest regeneration. They state that the milpa script enables people to manipulate a forest ecosystem's renewal cycle to produce a crop of maize without disrupting the renewal of the forest. By planting in the forest, forest processes are slowed down for a few years in a particular space so that a crop can be grown. Alcorn and Toledo (1998) argue that farmers know that in an ideal milpa cycle, new fields are cleared in the high forest, but also know that milpa can be done in secondary forest re-growth in height, provided that only one crop is taken, so that the system's regenerative capacity is not disturbed. The traditional use of fire by the Basarwa to regenerate growth and open up river channels is now illegal in Botswana, which the residents of Khwai argue has resulted in blocking the flow of water in their part of the Delta.

As highlighted in the introduction chapter and the introduction to this chapter, the Basarwa's land rights and security of tenure have been adversely affected by land policies and tenurial regimes that were developed on the basis of practices and traditions of dominant social groups, such as ethnic Tswana and European colonialists. Ng'ong'ola (1997) argues that the failure to acknowledge and accommodate within the law some of the unique and distinctive features of Basarwa land tenure and land use has been at the core of the problem of marginalisation of

these people. CBNRM has done very little to correct the situation, as the participating communities tenure rights remain insecure. Although this position is not unique to the Basarwa they are more affected than others as their extent of dispossession is at a much larger scale. Arntzen (2003) points out that if community rights are not secure then it has implications for the investment and growth strategies that communities can pursue. For example, it is unlikely that the private sector will be interested in joint ventures if the community rights are not secure.

Despite the mainstreaming of livelihood studies into rural development efforts, such studies have tended to focus on the material aspects of securing a reasonable subsistence and have often failed to make explicit the symbolic importance of how different aspects of livelihoods are constituted and how these semiotic aspects affect material strategies (Taylor, 2002). Stevens (1997) argues that often the ways of life of indigenous peoples are tightly linked to particular territories and places, and to specific ecosystems and natural and cultural resources. Taylor (2002) states that while notions such as social resources/capital in the Sustainable Rural Livelihoods Framework imply a recognition of salience and social bonds and norms in considering livelihoods, they stop short of taking into account the wider social and political contexts that give varied meanings to different livelihood options (this is what other scholars have referred to as the political capital), thus shaping local possibilities within them. This so-called symbolism is often the central marker of the very social capital that CBNRM institutions depend on for their success. Government policies, such as the CBNRM and Tourism Policies, encourage the use of wildlife and other natural resources for commercial purposes. This could threaten the religious value of the natural resources, as these are increasingly seen as a means of generating income. There is therefore a need to interrogate the impacts of the current CBNRM programme on the non-tangible values that communities attach to natural resources and factor these in. Taylor (2002) further argues that struggles over material resources often involve struggles over the symbolisms that define and legitimate relationships between resources and people, that in fact symbolic value that people attach to resources is as important as the other values.

These challenges faced by the Basarwa are shared by several other groups of indigenous peoples across the world. How does the issue of the Basarwa compare to

other indigenous groups? What lessons can be drawn from their experiences in order to inform CBNRM projects targeting the Basarwa? The next section attempts to address these questions.

### 6.3.3 he barriers that indigenous, mobile peoples and ethnic minorities elsewhere face

Existing literature on other groups similar to the Basarwa makes reference to ethnic minorities or simply minorities, indigenous peoples, first peoples, marginalised peoples, local and traditional communities, and indigenous peoples. Therefore, for purposes of comparison, I cite the wealth of literature that makes reference to groups in the above category. Besides the Basarwa sharing the same qualities that the groups in the above categories have, they are, according the Dana Declaration 2002, the 1992 UN Declaration on Minorities and the ILO Convention 169 on indigenous and Tribal Peoples:

- Numerically inferior to the rest of the population of the state;
- A non-dominant position in the social, political and economic sense;
- Possess ethnic and linguistic characteristics different from the rest of the national population; and
- Have distinct cultures and economic production methods to those of the dominant society.

According to the Dana Declaration (2002), mobile peoples are faced with:

- A threat to their livelihoods due to linked human population dynamics, unsustainable consumption patterns, climate change, and global and national economic forces, which also threaten the conservation of biodiversity; and
- Discrimination-their rights, including the rights of access to natural resources, are often denied, and conventional conservation practices insufficiently address their concerns.

In the Dana Declaration, mobile peoples are defined as:

> "*A subset of indigenous and traditional peoples whose livelihoods depend on extensive common property use of natural resources over an area, who use*

*mobility as a management strategy for dealing with sustainable use and conservation, and who possess a distinctive cultural identity and natural resource management system"*

In many parts of the world, the lands of indigenous peoples are the best and often the last remaining places of rich biological diversity (Stevens, 1997). Indigenous people have developed patterns of resource use and resource management that reflect intimate knowledge of local geography and ecosystems, and contribute to the conservation of biodiversity through such practices as protecting particular species as sacred/totems, developing land-use regulation and customs that limit and disperse the impacts of subsistence use such as seasonal mobility (Madzwamuse and Fabricius, 2004; Berkes, 1999; Stevens, 1997). As a result of the environmental condition of indigenous lands, these have been sought after as sites for national parks, World Heritage sites, international biosphere reserves, and other types of protected areas (Stevens, 1997).

The protected area system has resulted in a displacement of large numbers of indigenous people across the world. Negi and Nautiyal (2003) state that in India alone protected areas have displaced some 600 000 tribal people and forest dwellers.

I will begin by looking at the issues of the San in the region. San communities in southern Africa have suffered as a direct result of conservation policies pursued by national governments (Suzman, 2001a). These have often resulted in the relocation of San communities from their traditional territories and subsequent loss of access to natural resources. Some of these policies, which particularly affect the Basarwa in Botswana are highlighted, in the introduction to this chapter. Examples highlighted by Hitchcock (1996) include:

- In South Africa, !Khomani San were evicted from their traditional lands in order to establish the KGNP;
- In Namibia, San were either forced to move or were severely restricted in their activities through the formation of the Etosha National Park, Kaudum Game Reserve, and West Caprivi Game Reserve ;

- In Botswana, Basarwa communities in Nata, the CKGR and the Moremi Game Reserve in Ngamiland have had to cope with the imposition of coercive conservation strategies pursued by the GOB; and
- In Zimbabwe, the small Matebeleland San population lost access to hunting and veld foods through the establishment of the Hwange National Parks.

In some cases CBNRM has been viewed as some form of redress; however, Suzman (2001a) suggests that, in the case of Namibia, Botswana and Zimbabwe, an arguably disproportionate sum of donor cash has been invested in CBNRM at the expense of other possible development initiatives on behalf of San Communities. Suzman argues that the attention given to CBNRM is disproportionate because CBNRM is presently a strategy available only to the few San communities that still maintain access to sufficient land and natural resources to make this sort of programme viable. Since the majority of the San live in areas where they lack de-jure rights to land, CBNRM is simply not an option available to them. Perhaps in such cases co-management of protected areas remains the only option. The point, however, is that CBNRM programmes on their own will not solve all the problems facing Basarwa and other indigenous communities. CBNRM therefore needs to be coupled with other initiatives that target education, health and other development aspects.

Co-management agreements among states, indigenous peoples and other stakeholders provide an avenue for dealing with natural resource conflicts in a participatory and equitable manner (Sneed, 1997). Even though later on in this chapter I argue that co-management of protected areas is a potential solution to the issues of the Basarwa, one has to be mindful of what is stated by Castro and Nielsen (2001), which is that experience shows that co-management regimes can set into motion other new forms of conflicts or cause old ones to worsen. In practice, the result may not be power-sharing but rather strengthening the state control over resource policy, management and allocation, and further marginalisation of communities (Sullivan, 2002; Castro and Nielsen, 2001; Sneed, 1997). Furthermore, a major problem is the difficulty of integrating the management styles of traditional and state resource systems (Sneed, 1997). Negi and Nautiyal (2003) state that there has been in reality few attempts to involve indigenous people in the process of managing protected areas, as most

initiatives have failed to go beyond rhetoric and treated local people as passive beneficiaries.

Looking at the struggles of indigenous peoples, Castro and Nielsen (2001) point out that many of the co-management arrangements are born out of conflict involving the struggle of indigenous people to resist state and private resource appropriation, to defend their locally based livelihoods, and to maintain their cultural identities. The Canadian Royal Commission on Aboriginal Peoples (1997) acknowledges the pervasive role of conflict in establishment of its numerous co-management regimes (ibid). A history of conflict between European settlers and the Maori in New Zealand fought in courts saw a progression from rough equality, to denial and assimilation, to a special place of Maori in New Zealand, and to limited rights of self-determination and management of land and natural resources (Nettheim, *et al*. 2002). Negotiated claims have returned some lands to the Maori as well as providing economic compensation for the historical loss of those lands, and provided the Maori with a large share of the New Zealand commercial fisheries (ibid). Another example is the conflict between the Van Gujjars in India and the Forest Department over the rights of the community to the Rajaji National Park, which resulted in the development of a community forest management in protected areas plan (Dangwal, 1999). This conflict can be viewed as a crisis that leads to reorganisation and renewal in the form of policy reform.

Castro and Nielsen (2001) argue that politically and economically disadvantaged rural groups, including indigenous people, often face great difficulties in negotiating agreements with the state and other powerful stakeholders. Although they may have substantial legal, economic, political and moral grounds for pursuing their case, such groups generally hold a very weak position in terms of their capacity to carry out negotiations (ibid). In the case of the Van Gujjars community discussed above, although the group itself was in a weak political position they were successful as a result of receiving assistance from the Rural Litigation and Entitlements Kendra, a local NGO coupled with the local people initiating change themselves (Dangwal, 1999).

In the case of the Basarwa they have to first and foremost win the struggle of being recognised as indigenous peoples by the Government of Botswana and having legitimate claims over their ancestral lands. This has proved to be very difficult; the transition of the RADP from Bushman Development Programme has been viewed by many as an indication of the Botswana Government's reluctance to deal with the issue of Basarwa as an ethnically distinct and marginalised group as well as from a cultural perspective (Suzman, 2001a; Saugestad, 1998; Wily, 1994). As stated earlier in this chapter, Khwai's attempt to build a CBNRM initiative around their cultural identity received very little support from Government and other support organisations (Bolaane, 2001).

## *6.4 How can policies be adapted to promote the reorganisation of the Basarwa?*

Despite the above weaknesses, the current environmental governance arena in the country offers an opportunity for the co-management of natural resources. Security of tenure, and receiving benefits from natural resources, are critical variables for successful community involvement (Castro and Nielsen, 2001).

Chapter 4 discussed the vulnerabilities that the Basarwa are faced with – quite central being alienation from land and natural resources over the years. New policies and strategies in Botswana are, however, beginning to recognise the importance of community involvement and participation in the use and management of natural resources. These can be viewed as providing the Basarwa with the opportunity to enter the reorganisation phase.

In several instances, policies adopted in both Botswana and Namibia have effectively (but not explicitly) discriminated against the Basarwa due to their illiteracy, different cultural outlook, poverty, different land use strategies, political disorganisation, and relative inability to access state services. Current policy interventions in both Botswana and Namibia do not adequately address the main causes of Basarwa marginalisation, largely because the problem has been solely perceived as a socio-economic problem instead of addressing questions pertaining to cultural identity,

secure access to land and political relations (Suzman, 2001a, and b). This area needs more attention and support by the Government and its agencies.

In Botswana and Namibia, there is a clear need to motivate for a substantial adjustment in policy in order to meaningfully improve the status of the Basarwa relative to others; moreover these adjustments will require the recognition of an ethnic component to Basarwa social, economic and political marginalisation (Suzman, 2001a; 2000; Saugestad, 1998; and Gordon, 1992). In support of the above view, Riddell (2002) states that, as a result of the failure to define and agree on the definition of both indigenous peoples and minority peoples, a number of states do not recognise minorities as distinct and separate. Therefore, the minorities are not recognised in law; and if they are not recognised in law, it is difficult to promote and advance their rights. It is therefore imperative that the Governments of Botswana and Namibia acknowledge these differences and deal with the issues of the Basarwa accordingly. The result of the failure to do so to date have been indicated in the previous section as resulting in weakened social resilience, which in turn threatens ecological resilience.

Suzman (2001b), however, argues that greater scope exists in the pursuit of San rights issues within a framework of human rights, as opposed to making reference to international agreements pertaining to the rights of indigenous peoples, as the term indigenous is problematic in the context of southern Africa. With regards to the rights of minorities, there needs to be a focus not merely on equality before the law but on the need for some sort of preferential treatment for minorities in order for them to be treated such that equality of opportunity can become a reality (Riddell, 2002). This in terms of CBNRM calls for open mindedness on the part of governments to different models of CBNRM, e.g. the model followed by the Khwai community, which has so far received very little support (Bolaane, 2004). Although the Government of Botswana has been reluctant to pursue this approach (Suzman 2001b; Saugestad, 1998; Willy, 1994), it is viewed that:

> "*special rights do not constitute privilege as they are rooted in the rule of equal enjoyment just as is non discrimination….If group rights are rejected and preferential treatment denied, the equal enjoyment of human rights of minorities will not be realised"* (Alfredsson, 1998, quoted in Riddell, 2002 p9)

Riddell (2002) argues that often there is a focus on land rights issues in debates about furthering the development of indigenous peoples. However, recent work reviewed by Plant (1998) indicates that there are significant numbers of indigenous peoples whose livelihoods are no longer dependent on land and agriculture or other traditional ways of making a living. Increasingly they will need to find means of ensuring their livelihoods within the market economy. Taylor (2000 and 2002) reveals that, contrary to popular belief about the Basarwa being hunter–gatherers, the Basarwa in the northern sandveld of the Okavango pursue livelihoods in three realms: cash, livestock and wildlife. It is evident that all three are not only intimately interconnected but also that aspects of each of them are essential to the way Basarwa construct their livelihood strategies (ibid). The study that this thesis is based on also revealed that financial capital and human capital are increasingly becoming important for the livelihood strategies of the Basarwa communities.

The previous chapter highlighted the diversified livelihood strategies that the residents of Khwai and Xaxaba are engaged in as risk-spreading strategy. Whereas land remains important, they are exploiting job opportunities in the tourism sector as well as investing in human capital in the form of educating their children to enable them to seek jobs elsewhere. Taylor (2002) further argues that interventions that try to replace one type of livelihood with another are unlikely to be successful, an example being the initial narrow focus on the commercialisation of wildlife in CBNRM. The challenge therefore is to develop CBNRM programmes that further strengthen the various livelihood assets.

The above therefore implies that, although the land issue may be critical, as argued earlier, a much more multifaceted approach will be required to address the issue of Basarwa livelihoods. This view is further confirmed by Riddell's (2002) analysis of the literature on development, poverty elimination and minorities, which comes to the conclusion that it will become increasingly important to target initiatives aimed at the development of indigenous peoples away from narrow and ethnically based goals, and concentrate on ways that indigenous peoples can benefit from engaging in markets that they are already involved in, and address those factors that put them at a disadvantage in such engagements.

In the case of the Basarwa, such factors include low literacy levels, lack of land rights, extreme poverty and dependency on welfare, weak representation in political structures, social and political alienation (Madzwamuse and Fabricius, 2004; Suzman, 2001b; Taylor, 2001; Saugestad, 1998). Therefore, as pointed out by Suzman (2001a) and Mbaiwa (2004), for CBNRM to be successful it has to be combined with other empowerment and development strategies, or be broadened to incorporate other resources that the communities are making use of.

Suzman (2001a) argues that, in the context of development, flexibility and participation are closely related concepts. For a programme to be meaningfully participatory, it must be flexible enough to accommodate what may be unpredictable target community responses and desires. It should also be flexible enough to allow for the beneficiaries of any programme to respond creatively to any new challenges or problems that may arise. This is particularly important for Basarwa communities, in which the cultural gap between development agents and target communities is often the cause of conflict and confusion (ibid). Suzman suggests that in order to ensure the longer-term success of these initiatives, greater emphasis should be placed on the identification and development of other strategies for income generation within a biodiversity conservation framework. One way of achieving this is by expanding on development schemes based on the sustainable exploitation of veld products often referred to as non-timber products (e.g. the devils claw) (Suzman, 2001a) and cultural tourism (Mbaiwa, 2004). This would point towards addressing a much broader issue of improving the recognition of the value of natural resources by acknowledging both the direct provision value and the income value that local communities attach to natural resources. Although a few resources (such as wildlife) have seen an increase in their value, the same is not the case for most of the resources that communities rely on. The value of natural resources is generally poorly reflected in resource prices (Arntzen, 2003). Shackleton and Shackleton (2004) rightfully argue that resource management interventions need to focus on the role of all natural resources in local livelihoods, suggesting that such an approach will ensure that the CBNRM agenda is guided by local priorities and needs rather than conservationist paradigms and interests.

An analysis of the livelihood strategies of the Basarwa in Khwai and Xaxaba revealed one important aspect being seasonality of resources, and the accompanied changes in livelihood strategies in order to respond to this aspect. Linking this to the issue of empowering households, it must be pointed out that income from CBNRM needs to fill a gap during periods when alternative resources are at their scarcest.

Seasonal mobility was another coping strategy, a principle and practice which CBNRM needs to draw upon in order to deal with the reality of the need to be flexible with exclusive rights to resources in a designated WMA/conservancy. Currently, CBNRM focuses on single communities and not on relations between communities; there is thus a danger of ignoring access rights by outsiders and exacerbating conflicts (Niamir-Fuller, 2004). Very often, single communities cannot buffer the effects of dryland variability with their own resources, and livestock may need to move outside the boundaries, e.g. in drought years (ibid). Sullivan (1999) argues that Damara herders can travel substantial distances to gather resources from ancestrally known locations where they consider themselves to have access and usufructuary rights, and it is important that these rights are represented and protected in CBNRM. Sullivan implies that the lack of such recognition effectively means the objectives of participation, empowerment, conservation and rural development are not achieved. In other words, CBNRM needs to reflect the spatial nature of resource distribution and the overlapping access rights of various communities. In order to be sustainable, social systems and property rights regimes need to be at proper scales and concordant with the characteristics of the ecological systems they refer to and at proper scales (Constanza and Folke, 1996).

In Chapter 5, I made reference to conflicts that are arising in Khwai as a result of new institutions; however, going back to the adaptive renewal cycle, we are reminded of how conflict or any form of crises can in fact provide opportunities for reorganisation and constructive growth (Castro and Nielsen, 2001).

Another important point concerns the roles of local ecological knowledge and local institutions. The sustainability of CBNRM initiatives depends upon the continued strengthening and maintenance of local ecological knowledge and traditional coping strategies of the Basarwa communities. Sullivan (1999) argues that a lack of focus on

details of how people currently use and manage natural resources results in an untapped potential of the value for biodiversity conservation of associated knowledge regarding these resources. Communities bring significant knowledge resources to the table and these resources have been consistently undervalued in the past (Taylor, 2000a). This situation will have to be corrected in order for community based initiatives to be successful.

An additional problem identified is that where there are CBRNM initiatives, these tend to be the only development initiative that is being pursued, whereas CBNRM was in fact intended to provide new options for communities to generate additional income at both the community and individual level (Suzman, 2001a). CBNRM cannot solve all the problems that pertain to Basarwa. It therefore needs to be viewed within the broader framework of rural development. The Revised Rural Development Policy already has a community strategy and provides a framework for building synergies with other programmes, in order to deal with the broader challenges that face the Basarwa.

Riddell (2002) cautions that the field of development has been dogged with "flavour of the month" approaches, which are only too quick to discard tried and tested approaches in the quest of using innovative ones. Linking to the theory of adaptive management it is important to emphasise the need for learning at various levels, both social and institutional. Riddell calls for a multi-faceted approach to development processes, which minimises the risk of neglecting and marginalising other important factors that contribute to development while concentration on the emerging issues. Roper *et al*. (1996), quoted in Riddell (2002), however, emphasise that, on the question of minority rights and the rights of indigenous peoples, a legal framework guaranteeing basic human rights and establishes secure rights to land and other resources is an essential first step to development, the second step being the enforcement of that legal framework.

## *6.5 Conclusion*

Chapter 5 explains how the Basarwa traditionally had diverse and flexible livelihood strategies, which were constantly adapted to suit the changes in their harsh environments. The Basarwa have, however, been forced to change these as a result of an introduction of policies, legislation and formal institutions founded on principles of the dominant Tswana agro-pastoral society (see chapters 1 and 2). The changes brought about by the land policy in Botswana led to an encroachment of livestock and non-Basarwa peoples into Basarwa territory. Further, the Basarwa in Ngamiland have been affected by the erection of cordon fences to control foot-and-mouth disease, as these have cut the migratory routes of some wildlife species. As a result of conservation laws and the establishment of national parks and game reserves, the Basarwa of Xaxaba and Khwai found themselves cramped into smaller areas of land that could not accommodate seasonal mobility, and hunting and gathering as livelihood strategies. Conservation regulations have also restricted access to natural resources, hence reducing their buffering capacity to absorb and transcend disturbance.

The replacement of traditional management systems by government regulations and institutions has had a negative impact not only on wildlife but also on Government's relations with rural communities. The introduction of protected areas in lands that were formerly communal further alienated communities. The result has been a concentration of wildlife populations into smaller areas of land, and often (as in the case of the Delta) increased wildlife encroachment into human settlements. Uncertainty and risk has increased as a result of legislative restrictions on access to land and hunting. New policies are, however, beginning to recognise the importance of community involvement in natural resources management. An example is the CBNRM Policy (draft), which uses local institutions as vehicles for community participation in resource management. Although it must be noted, that while the Government of Botswana has tended to give communities the responsibility to manage natural resources, it has not always given them the authority to make this possible through CBNRM.

Chapter 5 revealed that the buffering systems in Khwai and Xaxaba are gradually being eroded through limitations imposed by policies and legislation as opposed to natural disasters. These policies and legislation are based on conventional resource management, which blocks out disturbance and results in a high magnitude of surprise; this surprise often takes the form of natural disasters, such as the habitat destruction that is a consequence of the overpopulation of elephants in the northern part of Botswana. The restriction on the use of fire has resulted in vegetation blockage, which Scudder *et al*. (1993) attribute to the shifts in water flows. The Khwai residents argued that this stops water from reaching the lower streams. The residents of Xaxaba, on the other hand, noted that vegetation blockage makes travelling through the water channels to other islands for gathering difficult. However, evolving systems require policies and actions that not only satisfy social objectives but, at the same time, also encourage a continually modified understanding of evolving conditions, and provide flexibility for adaptation to surprises. Science, policy and management then *need to* become inextricably linked in order to achieve the adaptive management of resources (Berkes and Folke, 1998, *emphasis added*). This seems to be the missing link in the various policies that govern natural resource management in Botswana.

Extensive use (in the form of access to large territories of land) is a prerequisite for adaptive management by the Basarwa. In the past, their access to large territories and their adaptive strategies encouraged seasonal mobility. Now, with limited/restricted access to their former territories, they can no longer engage in seasonal mobility. The end result is that they are increasingly dependent upon government handouts for their livelihoods. CBNRM has failed to take this aspect on board.

Through CBNRM, Government has given communities the responsibility for managing natural resources, but not the authority to make this practical. Community rights are not recognised in our legal system, thus leaving the rights of communities unprotected and these communities powerless in terms of controlling access to natural resources in their areas. For these reasons, communities are struggling to practice adaptive resource management, a practice that this research demonstrates still has a role to play and that could make an important contribution to ecosystem and social

management if given the opportunity to do so. Again this is an area that remains largely untapped in CBNRM projects.

To make this possible, policy must satisfy social objectives whilst allowing continual modifications and flexibility for adaptation to surprises (Gunderson 1999). Valuable lessons can be learnt from traditional management practices that promoted flexibility and diversity in order to accommodate the seasonality of resource availability and the variable social and ecological systems. Adaptation and flexibility make room for the learning process and for policies that are suitable to needs at a local level. Although some learning occurs regardless of the management approach, adaptive management is structured to make that learning more efficient (Gunderson, 1999). In other words, if the policies affecting natural resource management in Botswana were adaptive, policies such as the TGLP would have long been adjusted to minimise the negative impacts they have had on communities, such as the Basarwa, relying directly on natural resources for their livelihoods.

The common-sense logic of adaptive management emphasises learning by doing, and its elimination of the barrier between research and management resembles traditional resource management systems. Both rely on feedback and learning, and on the progressive accumulation of knowledge, often over many generations in the case of traditional systems.

Disturbance is endemic to ecosystem development, a part of the adaptive renewal cycle (explained in Chapter 2); Holling *et al.* (1998) argue that there are social systems that have developed mechanisms to interpret signals of disturbance and other phenomena of ecosystem change, and to actively adapt to them. Ecological knowledge is critical in this adaptive process. The generation, accumulation and transfer of ecological knowledge within and between human generations make it possible for a society to be alert to changes in resource abundance and ecosystem dynamics. Traditional ecological knowledge is a dynamic process of continuous and active adaptation to resource and ecosystem change (Berkes and Folke, 1998).

Intervention at policy level needs to be geared towards building the resilience of social and ecological systems. According to Gunderson (1999), the resilience of the

system provides the ability to cope or adapt in a world characterised by crises and shifting stability domains, and for managers to affordably fail and learn. In a nutshell, if there is no resilience in the ecological system, or flexibility among stakeholders in the coupled social system, then adaptive management will be impossible (ibid).

Policies geared towards promoting adaptive management would seem appropriate for highly complex livelihood strategies dependent on social and ecological systems. Adaptive management has been promulgated as an integrated, multidisciplinary approach for confronting uncertainty in natural resource issues (Holling 1978, Walters 1986). It is adaptive because it acknowledges that managed resources will always change as a result of human intervention; that surprises are inevitable; and that new uncertainties will emerge. Through active learning, similar to the traditional learning process of the Basarwa, uncertainty is winnowed away. CBNRM programmes should therefore leave enough room for flexibility to allow different communities to adapt the initiatives to their local needs.

# Chapter 7: Conclusion and Recommendations

This thesis set out to explore the links between the Basarwa communities and natural resources in terms of their livelihood strategies. Using the adaptive renewal cycle and the sustainable rural livelihoods framework, the underlying assumption of this thesis was that the livelihood strategies are constantly renewed and adapted to promote resilience in the ecological and social systems of the communities under study.

The adaptive renewal cycle suggests that social and ecological systems go through a cycle of adaptive renewal; going through the stages of exploitation, conservation, release and reorganisation. For a system to go through the full cycle it has to be resilient, that is to have the capacity to transcend disturbance. The sustainable rural livelihoods frameworks was therefore used to provide an in-depth understanding of the factors that either strengthen or build resilience in the case of the Basarwa communities, which allows for their social systems to go through the full cycle.

In order to provide a summary of the research findings, these will be arranged along the research questions. The two main research questions were;

- What effects has the shift of management of natural resources from the communities to Government had on the natural resource use by the Basarwa?
- What are the emerging opportunities that are presented by the CBNRM Draft Policy and what are the implications that this policy has on the livelihoods of the Basarwa?

I look at what the emerging answers have been to the questions that I set out to address.

## *7.1 The effects of shifting management of natural resources from Communities to Government on the Basarwa*

The key thesis assumption was indeed confirmed by the research findings only in so far as the traditional livelihood strategies of the Basarwa are concerned. In contemporary times the Basarwa are faced with several challenges that weaken their resilience and hence hamper adaptive renewal of livelihood strategies. The stages that the Basarwa have undergone in the adaptive cycle are as follows;

The stage marked by seasonal mobility **(pre 1968) –** *described in chapters 4 and 5*: This period was characterised by short periods of aggregation, followed by rapid social re-organisation and mobility. Groups disbanded and aggregated in response to the seasonal changes in resource availability, mainly water and wild foods. Traditional ecological knowledge, which acted as the memory of the system, and which had evolved over many generations, enabled them to anticipate and predict periods of shortages and abundance and respond timely. The Basarwa rapidly and proactively moved from K to α through Ω and back in response to ecological change. Renewal cycles were short, and traditional ecological knowledge, natural resources and social capital played a major role in their lives. This traditional lifestyle was extremely resilient and adaptable.

The second phase was marked by sendentism as a result of major policy shifts that took place between 1968-1992, which caused their loss of ancestral territories, loss of access to wildlife resources, loss of mobility, and out-competition by other ethnic groups. This presented the Basarwa with new types of crises that they had no experience with handling. Their traditional knowledge and management systems were irrelevant for dealing with these challenges. Their livelihood strategies were determined by external forces and external events. Without the political capital, political say and authority to make choices and decisions, which are crucial for reorganisation, they were locked into the release phase (Ω) and were hence incapable of responding to challenges and change.

Chapter 5 outlines the current phase that the Basarwa are at, which is the reorganisation phase (1992 – present). The Basarwa had undergone a 'flip' (α), and have moved into a new stable state from which they are unlikely to escape in the near future. This change, from an adaptive society that relied almost exclusively on social and natural capital, to a sedentary one that relies on multiple sources of income, mainly from tourism and government grants, is leaving the Basarwa at a competitive disadvantage relative to other groups in Ngamiland. They are also at the mercy of processes over which they have no control and have little room for proactive decision making and strategising. This situation is unlikely to change unless appropriate policies are developed to respond to the unique issues of communities such as the Basarwa.

**Vulnerabilities facing the Basarwa**

This study has shown that the Basarwa in the Okavango Delta are vulnerable to shocks, surprises and externalities, due to:

- *Climatic and ecological variability*: the Delta is prone to periodic floods, which in some cases flood the homes and crop fields of the residents of Xaxaba and Khwai. Furthermore, the presence of permanent waters attract a wide variety and large numbers of wildlife, which cause crop damage and are sometimes responsible for personal death and injury.
- *Power and politics:* The Basarwa are peripheral to the political environment of Botswana, and thus do not have a strong influence on the decision-making process and policy formulation. As a result, they passively receive policies and regulations, many of which have criminalised their traditional land use and natural resource management practices -
    - Hunting restrictions have resulted in a negative impact on household food security as well as the very fabric of their cultural identity.
    - Restrictions on movement have curtailed seasonal mobility as a livelihood strategy. Linked to this issue is access to natural resources as private concessions and the Moremi Game Reserve surround the communities in the two study sites.

- In addition to restricted access to resources the Basarwa are faced with competition for available resources with non-Basarwa groups that are in a much better political and economic situation. This is mainly with respect to competition for land and natural resources (as a result of the amendment of the Tribal Land Act of 1968 which gives all citizens the right to acquire land and settle in any part of the country), competition for employment, as well as 'business'.
- The above has resulted in conflict within the community especially in the Khwai community which has been largely viewed as a threat to the CBNRM initiative.
- A breakdown in the intergenerational transfer of knowledge is one of the issues that make up the vulnerability complex of the Basarwa. As most of the young children spend time away from home in boarding schools distant from their homes, they cannot partake in the daily chores and therefore cannot learn the skills appropriate for the local livelihood strategies. Cultural continuity, which ensures that communities continue to be equipped with the right skills for the livelihood strategies appropriate to their environment is therefore lost.

- *Global and local economic trends*: As the Basarwa of this study rely on the tourism industry for much of their financial capital, these communities are vulnerable and directly exposed to the market forces affecting this industry.
  - The Basarwa in the Okavango Delta largely occupy the unskilled labour market which tends to be highly variable, the most predictable income being in the form of Government welfare.

**Resilience and livelihood strategies**

Having identified the vulnerabilities, I sought to understand the resilience maintaining livelihood strategies that the Basarwa have evolved in response to ecological uncertainties; the coping strategies that the Basarwa have for dealing with the new sources of vulnerability introduced by contemporary political and economic developments in Botswana and the rest of the world. Finally I sought to assess the

impact of these coping strategies on their livelihood assets and the social-ecological system that they are part of.

This study concentrated on those coping strategies that enable the Basarwa of Khwai and Xaxaba to adapt to their changing political, social and natural environments not just to survive but rather to build resilience. These in the long term become adaptive strategies through their continued practice. The underlying assumption here was that social systems that lack ecological knowledge and understanding are less likely to implement appropriate management practices, and may lose resilience and adaptability to such an extent that they can only slowly recover from periods of stress and surprises.

The key findings were:

That the Basarwa's traditional livelihood strategies were sophisticated and closely linked to their belief system, with internally controlled institutions. These have been replaced by livelihood strategies that are dependent on external factors in the form of government driven strategies and economic trends, which are all weakening the resilience of the Basarwa communities.

Past coping strategies, which are examples of management strategies based on ecological knowledge and governed closely by social mechanisms, were found to be:

- Mobility and flexibility in the use of resources
- Flexibility in group size
- Detailed knowledge of the local ecological system and appropriate skills to capitalise on this knowledge; and
- Sharing networks

Some of these have been replaced by contemporary strategies which are operated within the confines presented above under the vulnerability context. A summary of the key findings is provided below.

- Coping strategies are no longer as complex as they used to be; contemporary Basarwa communities rely more on diversification and combination of livelihood strategies rather than mobility and flexibility in group size.
- New institutions for monitoring and regulating natural resource use have been established in the form of Community Trusts – these have largely replaced traditional institutions.
    - The operations of these institutions do not exploit the full potential of traditional practices and institutions. In the case of the Khwai community, where they were employing traditional rules to govern the collection of thatching grass, the community is still faced with a challenge of ensuring that these rules apply to non-members of the community as the traditional rules are not supported by the present legislation.
- Livelihood strategies and options are seasonal; for instance, the dry season when there is not much to harvest in the veld coincides with the peak tourism season where employment opportunities are on the increase. Income from the tourism sector was found to be highly irregular.
- Natural resources remain central to the livelihood strategies of the Basarwa as they provide material for the Mokoro (valuable property for tour guides), palm trees for the flourishing basket market, wild food, thatching grass and reeds, all of which facilitate access to financial capital. This indicates a continued link between the social and ecological systems of the Basarwa in Khwai and Xaxaba.
- As a result of conservation laws and the establishment of national parks and game reserves, the Basarwa of Xaxaba and Khwai find themselves cramped into smaller areas of land that could not accommodate seasonal mobility and hunting and gathering as a livelihood strategy.
- Conservation has also reduced the Basarwa's access to land and hence reducing their buffering capacity to transcend disturbance.

The conclusion I draw after analysing the vulnerability and the current livelihood strategies of the Basarwa in Ngamiland is that change does not always affect local people negatively. They are overall relatively in a better position than those on the

south-western part of the country. They have better cash income opportunities within the vicinity of their settlements due to the flourishing tourism industry. However, I draw the conclusion that financial capital is more unpredictable than natural capital.

They furthermore have the potential to benefit from wildlife-based CBNRM due to the large wildlife numbers in their areas. Although they have access to less land than they had in the past, their loss of land is relatively not as severe as other Basarwa such as those in the Kgalagadi and Gantsi districts.

The issue then becomes how change can be managed such that the issues raised above are addressed and thus building the resilience of the Basarwa livelihood strategies. For this I draw on the conclusions with regards Chapter 6 of this study.

## *7.2 Implications and Opportunities presented by the CBNRM Policy*

Chapter 6 outlines the emergence of a promising phase with opportunities mainly in the form of the CBNRM Draft Policy. However, in order to allow for a progression through the various stages of the adaptive renewal cycle, the issues raised as marking the vulnerability complex of the Basarwa and in the preceding section will need to be addressed. In addition to the above issue are the CBNRM specific issues below.

- The residents of Khwai alluded to the fact that the management of natural resources had become difficult because the present communities are made up of people from different areas with different norms, values and practices. This cripples the resilience of social institutions, as people who do not share common norms and values and kinship ties are grouped under one settlement and expected to function as a community.
- CBNRM in Botswana has tended to promote and support the wildlife-based activities (e.g. Chobe Enclave Community Trust, the Khwai Community Trust, Okavango Kopano Mokoro Trust, etc.) rather than promoting and supporting flexibility in livelihood strategies.

- Income from the CBNRM initiatives has failed to make an impact at a household level; in both Khwai and Xaxaba the elderly and orphaned remain poverty stricken.
- Issues of land tenure, resource ownership, the politics of relocation and ethnicity are not addressed, which handicaps the success of CBNRM in communities that lack land rights.
- Furthermore, unless more recognition and value is attached to other forms of capital, such as local ecological knowledge, the position of communities as partners in enterprises will remain weak and therefore CBNRM will fail to achieve its goals.
- CBNRM has done very little to address the issue of security of tenure, as the participating communities' tenure rights remain insecure. Although this position is not unique to the Basarwa, they are more affected than others as their extent of dispossession is at a much larger scale.
- The current CBNRM strategy is unfortunately based on a weak and broad definition of co-management that is synonymous with participatory, collaborative, joint or multi-party management (Castro and Nielsen, 2001), and falls short of intensive user participation over managing a specific resource.
- CBNRM is largely being implemented in isolation from other rural development initiatives.
- CBNRM fails to recognise overlapping resource rights.
- Like similar studies carried out in the region on CBNRM, this study notes that Government has through CBNRM partially decentralised the responsibility to manage natural resources but fallen short of decentralising the authority to ensure that the communities can actively manage their natural resources.

## *7.3 Recommendations*

This study has shown that traditional communities have always practised adaptive management. As an emerging concept for new initiatives such as the formalised CBNRM programmes, there is therefore potential to tap into these practices and make them part and parcel of the way that these initiative are run.

The loss of their traditional lands is the most immediate threat to their resilience, their identity and their ecological knowledge. Extensive use (in the form of access to large territories of land) is a prerequisite for adaptive management by the Basarwa and central to mobility as a coping strategy. Due to loss of access to previous territories, mobility is no longer an option for Basarwa communities.

- CBNRM should, however, ensure the people's access to lands within parks – for example through co-management agreements. These co-management arrangements would require intensive participation of the communities involved as opposed to passive participation, which currently characterises CBNRM in Botswana.
- The Government of Botswana should acknowledge the unique issues that face the Basarwa and their land tenure systems and reflect them in the national policies and legislation. Failure to do so has resulted in their land rights being unprotected as well as weakened social resilience, which in turn threatens ecological resilience.
- For the above reasons, CBNRM programmes targeting the Basarwa need to deal with the specific needs and issues of these communities. Different strategies are needed, and these will require the various practitioners and Government agencies providing support to Basarwa communities to put in more effort and come up with innovative approaches.
- The value of local ecological knowledge needs to be recognised, especially when negotiating partnerships between communities and governments, private sector, NGOs etc. Failure to recognise this value will result in the position of communities as partners in enterprises remaining weak and therefore CBNRM will fail to achieve its goals.
- CBNRM should incorporate indigenous/traditional knowledge.
- Diversification and combining livelihood strategies and flexibility in pursuing different livelihood options is central to the coping mechanisms of Basarwa communities, therefore CBNRM needs to support that diversification rather than usurping other livelihood strategies. In order for this to be achieved,

CBNRM needs to be implemented within the broader framework of rural development.

- CBNRM needs to further strengthen the various livelihood assets in order to build resilience of the communities' livelihood strategies.
- In order for CBNRM to be successful it has to be combined with other empowerment and development strategies, or be broadened to incorporate other resources that the communities are making use of. In the case of the Basarwa, CBNRM programmes need to work hand in hand with development initiatives that tackle the following issues: low literacy levels; lack of land rights; extreme poverty and dependency on welfare; weak representation in political structures; and social and political alienation.
- The above therefore implies that, although the land issue may be critical, as argued earlier a much more multifaceted approach will be required to address the issue of Basarwa livelihoods.
- Practitioners and Government need to retain an open mind about various forms of CBNRM Programmes which are more responsive to the local setting.
- CBNRM needs to reflect the spatial nature of resource distribution and the overlapping access rights of various communities.
- Income from CBNRM needs to fill a gap during periods when alternative resources are at their scarcest. This would ensure that benefits from CBNRM respond to the fluctuating nature of household income.

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# ANNEX 1:

## *Question Guide for Focus Group Discussions*

**Section 1: To establish the Basarwa land use systems, looking at the physical use of space (land) and the environmental and social factors which influence land use.**

1. How would you describe your land use system? i.e what was land primarily used for?
2. Which territories belonged to your people?
3. How have your systems of land use changed?
4. Can you remember key historical events that caused major changes for you?
5. Who owns this land and the resources on it? Please elaborate. Who owns it legally? Who owns it morally? Do you have any anecdote or story to illustrate this?
6. What rights does your community have? Who has most rights? And who the least?
7. What was the relationship with other non-Basarwa land users with regards access to your traditional territories?
8. Does your community have rights over this land you occupy?
9. What is your understanding of these rights?
10. Who was or is in charge of making decisions in relation to land use and natural resource utilisation?
11. What influenced land use in your communities?
12. Would you say you have resource tenure rights?
13. If not how does this affect local management of resources?
14. What is your understanding resource tenure rights?

**Section 2: Local Natural Resource Management Systems of the Basarwa**

1. How much does the community rely on hunting and gathering?
2. What resources occur in your area?
3. When are these available?
4. Where do they occur?
5. Which of these resources do you hunt or gather?
6. How do you access these resources?
7. What management system do you have in place?
8. Why do you have these management practices?
9. How are these management practices kept in place?
10. Have they undergone any changes? Please elaborate.
11. What influenced or caused these changes?
12. Are you able to detect disturbance in your environment?
13. What indicators do you look out for?
14. What is used as indicators of a healthy natural environment?
15. In a situation of disturbance or loss of biodiversity, what is done in order to restore the environment?
16. Have your adaptive strategies changed in any way?
17. Were social sanctions parts of traditional resource management? Please elaborate.
18. Were there any incentives for sound resource use? Please elaborate.
19. What is the cause of the change in your adaptive strategies?
20. What natural resources do you use during a period of abundance?
21. What of during a bad period?
22. How are ecologically sound management practices maintained?
    Use stories and anecdotes.

**Section 3: The effects of the Government policies and structures on the Basarwa's natural resources related livelihood practices?**

1. Are you aware of any Government Policies and Laws on wildlife conservation and management?
2. How do these laws affect your people? How have these laws influenced your land use and natural resource management systems?

3. Does your community benefit from wildlife resources in this area? How does the community benefit?
4. Are you aware of government policy of creating wildlife management area and controlled hunting areas?
5. Where are the CHAs and WMAs in your area?
6. Is the location of these CHAs and WMAs related in any way to your traditional territories?
7. Does the Moremi Game Reserve and other national parks and game reserves around you benefit your community? Please elaborate.
8. Do these protected areas conflict with any activities of the community?
9. Do you have any CBNRM initiatives in your community? What projects have you planned for?
10. How do you plan to manage the resources that your projects will be dependent on?
11. How much does your management plan rely on traditional knowledge and traditional management systems? If it does not rely on TMS, why is that?
12. Who would you rely on for assistance and why? Do you have any influence on the quota setting by the DWNP?
13. What type of changes has CBNRM brought to your community?
14. What type of benefits have accrued to you from the Tourism industry? Elaborate.

## *Question Guide: Key Informant Interviews*

1. Is land use conflict a problem in this area? If yes, what is the nature of this conflict?
2. Does the community have resource rights? Please elaborate.
3. What institutions are in place to regulate access to resources?
4. Is poverty prevalent in this settlement? If yes, what would you say is the cause of this plight?
5. What in your opinion do you see as important for the livelihoods of the community in this settlement?
    a. resource rights (land and natural resources)
    b. education
    c. cash income
6. Please elaborate on your response, for instance when in the year is cash income most important?
7. What are the income opportunities for the community in this area?
8. Do Government policies and regulations influence the livelihood strategies of the San communities in this area? Please elaborate. i.e. which policies?
9. Does the community benefit from the protected areas such as game reserves and national parks around them?
10. Do communities influence Government policy? How?
11. Do you think CBNRM is likely to benefit this community? Please elaborate.
12. Does this community have the necessary institutional structures for CBNRM to be successful? Please elaborate.