INDIGENOUS WILDLIFE MANAGEMENT KNOWLEDGE SYSTEMS AND THEIR ROLE IN FACILITATING COMMUNITY-BASED WILDLIFE MANAGEMENT PROJECTS IN BOTSWANA

by

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ABSTRACT

The current plight of biodiversity decline has led ecologists, resource managers and policy makers to search for new approaches to reverse the gloomy trend. The aims of the present study were to investigate the potential contribution of indigenous knowledge systems in wildlife management/conservation as a basis in improving community based natural resources management projects in Botswana and to asses the link between indigenous ecological principles and conventional ecological approaches in wildlife conservation.

For the purpose of this research, hunting was chosen as a parameter for assessment of the indigenous conservation/management strategies. The choice was based on the knowledge that hunting, as a consumptive form of wildlife utilisation, plays a pivotal role in the long-term viability and sustainability of wildlife populations. The research approach made use of documentary data, traditional gathering, interviews involving key informants and focus groups and participant observation. The nature and purpose of the research called for snowball sampling technique which ensured purposive sampling.

The greatest challenge that face indigenous knowledge systems is that they lack systematic documentation as they are only in the minds of local people and they are orally transmitted between generations. The threat towards this knowledge base is that it is often marginalised and lost in the modern times due to fragmentation and homogenisation of cultures and traditional institutions that supported it. It was through the urgent need dictated by this status quo that this research project was conceived in an attempt to document, understand and cautiously interpret the systems and practices for potential contribution to conventional natural resources management strategies.

Research findings showed that communities had resource management and conservation strategies based on sound ecological principles though these were marginalised in favour of conventional inadequate conservation attempts that had no relevance to the cultures resident within the ecosystems. It is these resource use strategies together with the traditional institutions and structures which regulated them, that suggestions and recommendations made by this

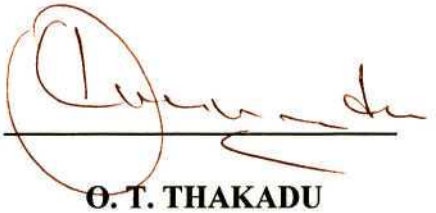
research calls for their revitalisation and policy, legal and institutional reforms and harmonisation to accommodate and give way to the adoption process in conventional conservation endeavours.

PREFACE

The research work described in this dissertation was carried out in the School of Environment and Development, University of Natal, Pietermaritzburg, from July 1996 to January 1997, under the supervision of Professor Andrew M. Kaniki.

The field work took place in Botswana under the supervision of Dr Richard H. V. Bell, Senior Wildlife Park Planner, in the Department of Wildlife & National Parks, Botswana. Field work was carried out in Ngamiland, within the North West District Council, from July 1996 to December 1996. Throughout field work, contacts were maintained with the University supervisor, Professor Andrew M. Kaniki.

These studies represent original work by the author and have not otherwise been submitted in any form for any degree or diploma to any University. Where use has been made of the work of others it is duly acknowledged in the text.



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Finally, I offer my deepest and heartfelt gratitude to my wife, Kelly Thakadu for her support and active participation in proof reading and editing the dissertation.

LIST OF ABBREVIATIONS AND ACRONYMS

!Kung - Sarwa word for all San speaking tribes

ADMADE - Administrative Management Design Programme

BaNoka - River people

BaSarwa - Local name for all San speaking tribes

Biodiversity - Biological diversity

CBNRMP - Community-Based Natural Resources Management Programme

CHA - Controlled Hunting Area

COBRA - Conservation of Biodiversity Resource Area Programme

DWNP - Department of Wildlife & National Parks

Ecosystem - Ecological system

Ecozone - Ecological zone

IKS - Indigenous Knowledge Systems

Ju/'hoansi - San speaking tribe resident in /Xai /Xai

Kgosi - Chief

Kgotla - Traditional communal meeting place

LIFE - Living In a Finite Environment

LIP - Locally Influential People

Matsegakwe - People of the dryland or sandveld

Molapo farming - Floodplain farming

Molapo - River

Mongana tree - Acacia tree

Mophato (singular)/Mephato (plural) - Regiment/Regiments

N!xore - Sarwa word for traditional land territory

NG - Ngamiland

SeTswana - Botswana local language

SGL - Special Game License

Tshwaragano - Unity

CHAPTER 1: INTRODUCTION

1.1 Conservation, Development and Indigenous Knowledge Systems

Since the 1950s most state conservation agencies have presided over the decline of wildlife resources (Marks 1984) despite the introduction of elaborate multifaceted conservation approaches and quasi-military units equipped to eradicate poaching. Given the apparent inadequacy of these conventional wildlife management in Africa, which were inherited from the colonial era (Kawache 1993), biologists, policy makers and wildlife managers are investigating to find new approaches to arrest this crisis (Makombe 1993; Nsanjane 1993). One of the answers to this predicament has being found to be the development of new integrative models which demand close cooperation among all levels involved with the natural resources and conservation values (Makombe 1993; Marks 1984). Most of the conventional approaches implemented within Africa are exotic and they marginalise nearly all indigenous ideas, identities and how nature is conceptualised together with the social linkages of people with their environment (Nsanjane 1993; Simbotwe 1993). This approach overlooked the historical evidence proving that most communities have utilised natural resources over centuries without impairing their capacity to support them and their successive generations - the very essence of sustainable development (Chidumayo 1993; Kawache 1993; Ulluwishewa 1993). Makombe (1993) pointed out that Africa has paid and is still paying heavy prices for overlooking the social realities determining the interactions between its people and wildlife.

The indigenous knowledge system is being regarded in developing countries as a basis for establishing a realistic blend if not an alternative to the current inadequate conventional natural resources conservation attempts (Kawache 1993; Marks 1984; Quiroz 1996). In response to this realisation, an attempt to rediscover how communities managed their livelihood and decision-making process in resource use within the recent past took advantage of a rationale that local communities possess a pool of knowledge of the ecosystem in which they live and ways of ensuring that natural resources are

sustainably used (Kawache 1993; Ulluwishewa 1993). This indigenous knowledge can therefore be tapped and used as a basis for environmental conservation. The search coincided with a general trend in rural development studies to include local communities in planning and management of natural resources in an attempt to promote economic growth through devolution, decentralisation and local communities empowerment (Mwagiru et al (1989); Agrawal 1995; Lelo & Dyiek 1995). It was to this effect that a call to recognition, respect and reinforcement of indigenous knowledge as a basis in forming alternative development model was made by Fernandez (1994).

In Southern African context, this emerged as community based natural resources management programmes with the notion of enabling the rural communities to share the control and management of natural resources such as wildlife, forests and fish (Rihoy 1995). Even prior to this awakening, indigenous knowledge systems have made positive contributions in agriculture, medicine and health care, food preparation and preservation, land use, education and host of other activities in rural communities with some adaptations (Warren 1991; Davis 1993; Ulluwishewa 1993; Chavanduka 1995). In conservation arena, indigenous resource management knowledge can be used to complement the modern scientific approaches. The two approaches should be seen to be complementary rather than competitive (Kawache 1993; Showers 1996) because each has its own strengths and limitations. With the present trend in most African countries of advocating for community empowerment through community based natural resources management, it is imperative to propagate indigenous systems that are relevant in hunting, problem animal control, wildlife conservation education, animal counts and/or anti-poaching so as to give the communities due recognition.

The greatest challenge for indigenous knowledge is that it is usually not documented because it is only in the minds of the local people and is passed from generation to generation orally. There is therefore a need to document, understand and cautiously interpret the indigenous knowledge systems for potential contribution in present natural resources management strategies (Nxumalo 1995).

1.2 Indigenous Knowledge Systems and Conceptual Framework

Indigenous knowledge denotes a cumulative body of knowledge generated and evolved overtime, representing generations of creative thought and actions within individual societies in an ecosystem of continuous residence with an effort of coping with the ever changing agroecological and socio-economic environment (Fernandez 1994; LaDuke 1994; Lawas & Luning 1996; Serrano 1996; Warren 1996). Though terms like traditional, local, community and rural people's knowledge are normally used interchangeably with indigenous knowledge, this should not be anyhow equated to include the modern day exotic attitudes and practices. It simply depicts indigenous knowledge belonging and identifiable in its roots with the grassroots people. It is generally agreed among authors that the knowledge is rooted in a specific local context, environment and culture (Warren 1991; Mishra 1994; Agrawal 1995; Crowder 1996; Heyd 1996; Jain 1996) and it is a result of millennia of a close and careful observation of local conditions, complex processes of experimentation and readapting previous solutions to suit the dynamic socio-economic and natural environment.

The pool of knowledge has being recognised by practitioners in the field of agriculture and rural development and extension to constitute a stock of wealth that should be tapped out for long-term sustainability and not only for development projects but also conservation of biodiversity (Quiroz 1996). Indigenous knowledge systems, described by Quiroz (1994) as a product of holistic systems of perceptions, relationships and organisational arrangements, had suffered neglect and ridicule over centuries as they lack systematic documentation. They are orally transmitted and engraved in the minds of the indigenous peoples. Attempts were initiated to arrest this information base before it was totally lost and it was during the course of this information retrieval and documentation that a realisation came that it offers an untapped source of information that can immensely contribute to sustainable resources management, conservation and utilisation of the natural resources and global knowledge. This was based on the evidence that the indigenous communities have successfully subsisted in marginal areas for a long time

without impairing the long term sustainability of the resource base wherein they subsisted.

1.3 History of Conservation: Africa

The history of natural resource conservation in Africa has in its making advocated more for preservationists strategies which were characterised by top-down approaches (Dladla 1995) and much divorced from the African values and aspirations (Daniels 1991). The legal framework of conservation paradigm in Africa could be traced back to various European origins which were succinctly described by Thresher (1996) as feudal in concept and archaic in application. It is this strategy that historically is reputed for brewing conflicts between controlling bodies, mainly the state, and rural Africa because it was this resource wherein the future of rural Africa hinged. Cunningham (1985, 1988) described the resource base as a buffer to rural communities against poverty, unemployment, health risk and seasonal famine. For this reason he argued that the principal contributing factor to Batswana's nutritional success at the peak of 1980's drought, in the Kgalagadi, as observed by Grivette (1979), was a diversity of food base from the wild. Rural Africa developed antipathy towards these conservation attempts which they felt were imposed on them and alienated them from the very source of their subsistence. Adams and McShane (1992) in observation of this status quo, blamed the failure of conservation programmes to the continual reluctance to accept vital links between indigenous culture and the survival of wildlife by building physical and legal barriers between people and wildlife. One of these barriers came in the form of enactment of vigorous repressive law enforcement bodies throughout Africa which otherwise proved ineffective as African faunal resources continued to decline.

Conservationists, ecologists and biologists, in realising this continued decline amidst all the legal and armed human resources personnel set to arrest the decline, focussed their attention to expensive research projects on scientific and ecological studies in an attempt to unravel this mystery. In pursuit of all these strategies, there was still a marked continued neglect to address the conflicting people/conservation interaction which

according to Cunningham (1985) is a general problem that clouds all insight in conservation problems in Africa. It took time for African conservationists to learn a lesson that it was difficult if not impossible to implement sound resource management without a coordinated approach to the intertwined social, cultural, economic and political problems (Agrawal 1995; Dladla 1995; Kroma 1995; Quiroz 1996).

The awakening to this fact came about with conservation paradigm shift to a more integrated approach that recognised the need for promotion and empowerment of the communities by linking economic and social development to natural resources management. It was then that innovative integrated conservation and development programmes such as Communal Area Management Programme for Indigenous Resources (CAMPFIRE) in Zimbabwe (Maveneke 1995), Community Based Natural Resources Programme (CBNRMP) in Botswana, Administrative Management Design Programme (ADMADE) in Zambia, Living in a Finite Environment (LIFE) in Namibia (Ashley 1995), Tete CBNRM project otherwise locally known as Tchuma Tchato (our wealth) in Mozambique (Cruz 1995), Conservation of Biodiversity Resource Areas Programme (COBRA) in Kenya (Masika 1995), Ujirani Mwena (good neighbourliness) in Tanzania (Dembe 1995) and initiatives from South Africa and Uganda (Rihoy 1995) were conceived.

This whole concept came as a shift from the introduction of inappropriate and exotic conservation policies which clouded the success of conservation in Africa. It should be noted that the success of any conservation attempt, as much as development endeavours, lies on the commitment and cooperation of local communities. They are the very people bearing daily costs of living with the fauna. In giving the local communities greater role in the management of their own resources and effectively returning to them some of the control they lost in the past, it is now envisaged that Africa's precious natural resources will be guaranteed to the coming generations. This on itself will constitutes the basis of sustainable use paradigm.

1.4 Legal and Policy Framework of Conservation in Botswana: CBNRM

1.4.1 Legal

History of conservation in Botswana, has also been influenced entirely in its course of development by the colonial conservation policies, practices and perceptions. Batswana had customary laws and practices that regulated resources management and utilisation, including wildlife. These laws and regulations were engraved in indigenous practices and system developed over time. The first enactment of game statutory law came about a year after the British Government assumed jurisdiction over Botswana in 1885, then known as Bechuanaland Protectorate. The law set up precedence for the current day licensed hunting, hunting season and quota restrictions.

These statutory instruments were initially set to apply to foreigners for which case they exempted the tribesmen (White 1995). However, with time, these laws evolved to affect the tribesmen. This became evident in the 1893 Proclamation where there was a shift of powers of issuing licenses from the chiefs towards the Assistant Commissioners and restriction to the number of persons who could be included in that license (Spinage 1991). Though this enactment advised for the consent of the chief, still the Assistant Commissioner could out of his own discretion reject or approve such consented application. The Game Law (Amendment) Act of 1886 was later repealed by the 1925 Proclamation No.17. Outstanding contribution made by this proclamation was redefining and classifying game into three categories, Royal, Large and Small game. The latter was also repealed by the 1940 Proclamation No. 19 which introduced restrictions on hunting times.

Unlawful methods of hunting were later promulgated in the Proclamation No. 22 of 1961. It was in this proclamation that the indigenous methods of hunting like poisoned weapons, pitfalls, stakes, snares or enclosures were declared illegal and

a shift from using tribal territories towards Controlled Hunting Areas system was legislated, with the latter implemented in 1968 through Statutory Instrument No. 4. Six years later, the Fauna Conservation Act No. 47 of 1967 was enacted and made vital provisions by legitimising hunting by Remote Area Dwellers and at the same time advocating for their use of indigenous weaponry. The Act however swallowed the category of royal game to conserved animal status. This Act was shortly followed by National Parks Act No. 48 legislating preservation areas and Statutory Instrument No. 64 which introduced tribal territory hunting regulations. Important contributions of this instrument was the inclusion of tribal game and empowerment of tribal authorities to appoint licensing officers. The Tribal Territory Hunting Regulations were later abolished by a Statutory Instrument No. 18 of 1979 and consolidated into a new legislature, Fauna Conservation (Unified Hunting) Regulation of 1979 which became generally applicable to Botswana. As the names implies, this legislature unified all the tribal territory hunting regulations marking a move to nationalisation of hunting regulations. The Act legitimised hunting all year round by Remote Area Dwellers through the provision for Special Game License[1] (SGL). This is a license given in respect of any animal other than protected game animals to citizens of Botswana who are principally dependent on hunting and gathering veld produce for their food. The Fauna Conservation Act of 1979 and National Parks Act were finally repealed[2] by the enactment of the current Wildlife Conservation & National Parks Act No. 28 of 1992. The subsidiary legislatures were maintained for which reason the Fauna Conservation (Unified) Hunting regulations are still in force today. It is the Wildlife Conservation and National Parks Act No. 28 of 1992 which facilitated the implementation of the Wildlife Conservation Policy of 1986 which is the backbone of reintroduction of community involvement in conservation.

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[1]A Special Game License is a license given under the provisions of section 30 of the Wildlife Conservation & National Parks Act No 28 of 1992.

[2]Section 94 (1) of the Wildlife Conservation & National Parks Act No. 28 of 1992 to this effect stated that 'the Fauna Conservation Act and the National Parks Act are hereby repealed. Subsection 2 of the same section however provided for the saving of all subsidiary legislatures made under the said repealed acts.

However, with all the various laws enacted and regulations made over this time period, Botswana's faunal resources are still in a state of continual decline (Mordi 1991). This is evidenced even by the Department of Wildlife & National Parks (DWNP) Research Division report which indicated that all the animal species in Botswana are in a state of continual decline with the exception of only the elephant (*Loxodonta africana*) and red lechwe (*Kobus leche*) (DWNP 1995a). Report following then put extra two species, blue wildebeest (*Connochaetus taurinus*), subpopulation of Ngamiland and impala (*Aepyceros melampus*) on the non-declining list and alludes that uncertainty still surrounds the trends of most populations (DWNP 1995b). The report concludes flagging a typical suggestion not new to many conservationists - the possibility to study the population under decline.

From all the DWNP reports, management plans, policy instruments, consultancies reports, wildlife resource regulations and guidelines studied so far it was amazing that it is traditional not to even mention the concept indigenous knowledge systems. So far, it is only from one project proposal that a mention of the word was made though in ridicule in that the author stated that "CBNRM opens in the western Botswana context an opportunity to make functional the use of the *so called* indigenous knowledge systems" (Van der Sluis 1994:3). The current green paper on CBNRM policy, has followed the same trend by being silent on the value of this knowledge base and not even advocating for its potential contribution to the process of community empowerment and broader environmental conservation. Local empowerment should not be seen as fully attained until the local communities' knowledge base and intellectual well-being are respected and considered in all levels of conservation and development attempts. Agrawal (1995) cautioned that ignoring people's knowledge is to ensure failure in development and this statement is as true to conservation as it is to development. It should not be seen that this knowledge base is still marginalised by the legacy of Eurocentric systems and their consequent models of conservation

and research initiatives.

1.4.2 Policy

Though there are a number of policies formulated concurrently with the evolution of Acts pertinent to faunal resources conservation, there are two overriding policy papers which revolutionised the whole concept of conservation in Botswana by advocating for transfer of part of decisions making process from government to local communities. The Wildlife Conservation Policy (Government of Botswana 1986) and the Tourism Policy (Government of Botswana 1990) passed by the Government of Botswana provided a legal framework and advocated for greater involvement and participation of rural communities to cultivate a spirit of ownership and ultimately responsibility for the wildlife resource.

The Wildlife Conservation and National Parks Act No. 28 of 1992 (Government of Botswana 1992) facilitated community-based wildlife utilisation and management programmes. The underlying concept behind this approach is to encourage the communities to manage the wildlife resources in a sustainable way by transferring responsibility, decision-making and benefits of utilisation (Rihoy 1995). It was to this effect that the Minister of Local Government, Lands & Housing stated in his opening speech at the second San international conference that "the government aims at ensuring environmental consciousness in development programmes by encouraging the local communities to take part in conservation through community-based natural resources management programmes. This strategy is based on the belief that the best way to conserve the environment is to have community-based resource management programmes based on the people's participation" (Government of Botswana 1993). The overall long-term objective of CBNRM programme has been summarised by Van der Sluis (1994) as a way of enhancing sustainable natural resource use to the benefit of the local population by so doing integrating development and conservation.

The implementation phase advocated for a move from traditional approach of working *for* the communities towards working *with* the communities thereby strengthening their economic position and claim making capacity and increasing their control over crucial resources. Community empowerment therefore gives way to making functional use of indigenous knowledge systems with regard to wildlife management through which valuable cultural entities will be preserved and also contribute to regeneration of due recognition. Cultural diversity and biological diversity should be viewed as two sides of the same coin because the two affect each other (Quiroz 1994).

Since the initiation and implementation of community based natural resources management programmes in Ngamiland District in Botswana, no survey has been conducted to document this indigenous knowledge and assess its soundness and/or relevance to the present conservation demands. There is therefore a need to unearth this indigenous knowledge system within the project areas to aid in assessing possible incorporation at this early stage of implementation. The overriding aim of this research project was guided by this need. The project is meant to help in documenting and assessing both the potential practical importance and ability of indigenous knowledge to improve community based wildlife management programmes in Controlled Hunting Areas (CHAs) earmarked for community use in Botswana (see Appendix I).

1.5 Aims and Objectives

The aims of this study were to investigate the potential contribution of indigenous knowledge systems in wildlife management/conservation as a basis in improving community based natural resources management projects in Botswana and to asses the link between indigenous ecological principles and conventional ecological approaches in wildlife conservation.

For the purpose of this research, hunting was chosen as a parameter to asses indigenous conservation/management strategies. This was done because the intensity at which

hunting is being done and the value and perception placed on this activity by the indigenous populations and current management approaches is critical to the long term welfare of the faunal populations.

To accomplish these goals, the following objectives were set:

I. To conduct a survey of indigenous wildlife management knowledge systems and practises within two local communities, Sankuyo and /Xai /Xai in the North West District Council in Botswana.

ii. To analyse the strengths and weakness of indigenous knowledge system in the light of conventional wildlife conservation approaches and contemporary conservation policies.

iii. To assess the potential practical importance of indigenous knowledge systems for community based natural resources management projects.

iv. To assess the impact of the use of indigenous knowledge system in wildlife management in general.

1.5.1 Research Questions

Based on the above objectives the following research questions were generated to direct the research:

I. What kind of indigenous wildlife management knowledge systems and practices have the two local communities, Sankuyo and /Xai/Xai in Botswana used and continue to use?

ii. What are the strengths and weaknesses of these indigenous knowledge systems in the light of conventional wildlife approaches and contemporary conservation policies?

iii. What are the potential practical applications of indigenous knowledge systems of the Sankuyo and /Xai/Xai for community based natural resources management in the light of contemporary conservation approaches and policies?

iv. How useful are indigenous knowledge systems in wildlife management in general?

1.6 Motivation and Choice of Study Areas

The study was restricted to northern Botswana because it is an area flourishing in faunal resources. Communities studied constituted the BaSarwa, who, according to history are the indigenous people of Botswana and the BaYei ethnic grouping who were the first to settle in northern Botswana after the Khoisan. Their preference over the BaSubiya was influenced by their historic intimate connections with Ngamiland. This was also the basis of preference and choice of the BaSarwa over the BaHerero in /Xai /Xai. Moreover, I had interest and love for these two communities for I have worked intimately within them for over three years, seeing them, mainly Sankuyo, going through a process of drafting a deed of trust to give them the legal support to manage their community wildlife area as a legal entity.

The BaSarwa/BaYei combination is important because in policy consideration and formulations, the various ethnic cultural heterogeneity and practices should not be overlooked rather ways of harmonising them should be sought for. It was upon this understanding that a choice of two cultures living in different environments was based. This provided an opportunity to search for areas of commonalities and differences in indigenous knowledge systems and practices within two separate environments. This also calls for other comprehensive studies of other ethnic groupings on the same subject for further comparisons, which are quite critical in policy consideration.

CHAPTER 2: BACKGROUND OF STUDY AREA

2.1 Botswana - Country Profile

Botswana covers an area of 581 730 km^2 with population of over 1.3 million people. The country generally has a flat terrain and essentially a rock filled basin levelled with Kalahari sand. The monotony of the Kalahari sands and savanna scrub is broken occasionally by the unique wetland and an inland drainage basin of the Okavango system and the Makgadikgadi Pans. The white pans characteristics of the Makgadikgadi give way to waving grasslands that break through to the lushness of the Okavango. The Okavango delta is ecologically important as it harbours a significant proportion of Botswana's wildlife resources. The high ecosystem and habitat diversity formed by the characteristic shifting hydrological-geological environment of the delta makes it rich in biodiversity.

Botswana has a dry, semi-arid climate with dry winters from May to early August. The rainy season is normally between November and April though early rains from September are not unusual. Rainfall in Botswana is characteristically unreliable as evidenced by the recurrence of droughts.

Botswana is an independent multi-party democratic country with the legislative powers vested upon the National Assembly. There is the House of Chiefs composed of eight tribal chiefs of the main tribes and seven other elected members. Historically the leadership structure of a tribe consisted of a chief (*kgosi*) and a member of the royal family, his family members and their servants. The *kgosi* had ultimate authority and considerable rights and obligations (Schapera 1970). The Batswana have evolved a system of social security through the extended family system- now in a state of decline particularly in urban centers, where all related members of a family have rights and duty of support.

For administrative purposes, the country is divided into nine districts - North West (Ngamiland and Chobe), North East, Central, Kagtleng, South East, Southern, Kgalagadi

and Ghanzi (see Appendix II). There are also four town councils and one city council. Key institutions found in every district are Tribal Administration, District Administration, District Council and a Land Board. A district is represented by a District Commisssioner, under whom *kgosi* falls and is responsible for the planning and implementation of the various district development programmes. During the colonial era, the country had three categories of land, the native or tribal reserves, crown and freehold land (see Appendix III).

2.1.1 Northern Botswana

The history of Northern Botswana is closely linked to Zambia and middle Zambezi area in terms of its making (Tlou & Campbell 1984). Northern region is charecterised by three perenial river systems, the Okavango, Chobe and Zambezi, the latter forming an internatinal boundary between Botswana, Namibia and Zimbabwe. The river systems played a central role in the making of the history of the region. They were a major route of migrations and cultural changes and historical connections between Central Africa and Southern Africa. The high local ecosystem diversity evident in this region offered a wide range of food gathering and production systems associated with the agrarian and hunter-gatherers societies.

Historians records depict that BaYei lived in Northern Botswana and returned to Zambezi/Chobe area between the 14th and 15th century. Before their arrival, the Khoisan inhabited northern Botswana. The BaYei moved back permanently to northern Botswana and settled around Okavango Delta in about 1780. The BaYei, Hambukushu and Basubiya origins and intimate associations are traced back from central Africa in the remote past. The three groups are believed to have migrated together to the Zambezi river.

The BaYei migrations to Botswana followed the river systems in pursuit of fertile agricultural land and fishing places. The BaYei migrations routes are believed to have followed the Selinda spillway to the Okavango panhandle. However,

another group, comprising the ancestors of the current day Sankuyo residents, passed through the present day Moremi Game Reserve. These migrations were gradual in that the nature of their economic activities were not similar to the nomadic hunter-gatherers and hence required time. The close association of BaYei and other ethnic groups with the river earned them a name *BaNoka*, people of the river. The communities co-habitated, interacted, adapted to and adopted each others' cultural practices to suit the ecological changing environment.

2.1.2 Ngamiland

Ngamiland is situated in the north-western corner of Botswana and covers an area of 109 500 km^2. 91 490 km^2 of this area is tribal land and 17 640 km^2 is stateland. There is no freeland. The district is divided into eight planning zones with Maun as the capital. For local governement, Ngamiland is part of North West District Council and is also the tribal center of BaTawana Tribal Administration.

The BaTawana originally formed part of the Bangwato of Central district but broke away because of a dispute during the late 18th century and established an independent state in Ngamiland in about 1795 (Tlou & Campbell 1984). The BaTawana first moved to Lake Ngami in 1824 after settling at Boteti near Kedia Hill and then to Toteng. At one point the BaTawana set up their tribal capital at Tsau in the 1870s (Lee 1979) but ultimately moved and established it at Maun (T. Paul 1996 pers. comm[3]).

Before the arrival of the BaTawana, Maun was called *Kau*, which was a SeSarwa word meaning "the place of reeds". The original word was corrupted by the BaTawana and was pronounced '*Mau*' with consequent addition of the locative pronoun "*ng*" making the present name, Maung. The locative pronoun and the original word "*Kau*" meant "at a place of short reeds". This was evident in that Maun was still flourishing with short reeds over the past decade. It is also

[3]**Mr T. Paul, Department of Wildlife & National Parks. P. O. Box 11. Maun. Botswana.**

reported that the name Ngami and Nhabe are Sarwa derivations corrupted by the BaTawana (T. Paul 1996 pers. comm[3]). The tracing of origins of names of many places in Ngamiland back to Sarwa origins strongly attest that they are the oldest inhabitants of this area.

The BaTawana had strong political organisation and army for which reason they easily conqured and dominated the BaYei, Bangologa and San groups whom they found inhabiting Ngamiland. Oral history reveals that BaYei could not attempt to fight the BaTawana tribe for fear that they had strong charms that make them very strong, powerful and effective during warfare. This helped the BaTawana to expand and establish themselves quite easily within Ngamiland.

Other tribes living in Ngamiland are the River San or *BaNoka*, some of whom live in Khwai and Godigwa. The other Bushmen tribe currently lives at Mababe and are known as *Matsegakwe* - the people of the dry land. All these Bushmen tribes lived a normadic life, hunting and gathering. A section of the OvaHerero, known as the Mbanderu fled to Botswana from Namibia in 1905 because of the threat of the extermination by the Germans (Lee 1979). These Herero refugees passed through Dobe//Xai /Xai area and continued eastward where they finally settled among the BaTawana. Some of the Hereros remained in this area until present.

Both the BaYei and Hambukushu were forced south into the Delta because of the expansion of the Lozi empire along the Zambezi river during the end of the 18th century. Tlou (1985) records inhabitants of Ngamiland before the coming of the BaTawana to have consisted of the BaSarwa, both the sandveld (*Matsegakwe*) and River (*BaNoka*) Bushmen, BaTeti, BaQanikhwe and BaGumahii. By 1936, more than seven tribes were recorded to be resident in Ngamiland while ten years later a record of twelve tribes were found and censured. The BaYei population was 13 261 (Tlou 1985; Morton & Ramsary 1987) and was the majority tribe followed by the BaTawana tribe in terms of population.

2.1.3 Socio-economic and political organisation

All the pre-BaTawana tribal groups resident in Ngamiland lived in small isolated independent settlements or bands. Residents of the sandveld, mainly the BaSarwa subsisted mainly as hunter - gatherers while the River San supplemented this with fishing. They depended on natural resource base which was abundant - consisting of faunal and floral resources. They were skilled in making skin or leather articles used for clothing and as blankets. They killed small and big game animals and their nomadic life-styles followed the movements and abundance of these resources. The BaSarwa principally depended on hunting game and gathering veld products.

The rest of the pre-BaTawana tribes, mainly the BaYei, BaSubeya and Hambukushu practised diversified economies. They practised agriculture, both pastoral and arable farming, fishing, hunting and gathering of wild products. These tribes are well acclaimed for *molapo* or floodplain arable farming. Hunting and gathering therefore played a very significant role in the indigenous economies of the two societies.

It is well attested that the BaSarwa political structure is egalitarian in nature (Tanaka 1980; Fortmann 1986) consisting of bands headed by most senior individual. A band will ussually consist between 25 - 50 individuals. The BaYei political structure hinged around a village made up of sparsely scattererd settlements each headed by a headman. Scattered settlements were mainly dictated by the environment under which they lived and the type of economic activities which they were involved in. They lived within the delta and the size of the delta islands regulated the number of households that could be accomodated at the same time allowing enough land for agricultural pursuits.

2.2 The Study Area

The study was conducted in Sankuyo and /Xai /Xai villages which are all located in Ngamiland district in the northwestern part of Botswana (see Appendix IV).

2.2.1 Sankuyo

Sankuyo village, situated 95 km north-east of Maun, falls within controlled hunting area (CHA) NG34 which is situated in the eastern part of the Okavango wildlife management area and borders Moremi Game Reserve to the south and to the east. It falls within Zone 7 of Ngamiland District Planning zones. It is located within the BaTawana tribal territory and consists of two ethnic groups, the BaYei and BaSubeya with the former constituting 88.7% of the total population of 382 persons (Maotonyane 1996).

The current residents of Sankuyo trace their origins from Diyei in Namibia, within the Caprivi Strip. The people migrated along the Khwai river in search for animals, fish and fertile farming grounds. They settled at the then Kudumane or Khusa, currently known as Mababe under the chieftainship of Mayenge. With the consequent drying of the river, the people moved along the river channel until they settled at the current site of the village - Sankuyo[4] in 1970. The BaYei are the principal riverine fishermen and practised *molapo* farming. The economic base of the village is mostly subsistence traditional agriculture, hunting and gathering mainly practised in NG34, an area designated for community wildlife utilisation.

Sankuyo village residents have formed themselves into a trust - Sankuyo Tshwaragano Management Trust which gave the village a legal right to manage the natural resources within NG 34 for the benefit and development of the community of Sankuyo.

2.2.2 /Xai /Xai

/Xai /Xai village is situated in the Western Communal Remote Zone 6 of North West District Council about 10 km from Namibian border and 300 km west of

[4]Sankuyo is a SeYei word for *Ficus sycomorus*, (*Mochaba* tree) and it was within the perimeters of this tree species that the initial permanent village setting took place.

Maun. The village is located on the boarder of CHA NG3/4 with NG4 designated for community use (see Appendix IV). It falls within Zone 6, otherwise known as Western Communal Remote Zone of Ngamiland District. The village is currently under the facilitation of Netherlands Development Organisation, involved in a process of establishing a community trust which will be responsible for the overall decision making in natural resources management.

Ethnic groups found in the village are the BaTawana, BaHerero and BaSarwa with the latter dominating in number though power in terms of headmanship is held by the Herero. They are all subjects of BaTawana tribe. The current population estimate for /Xai /Xai is 343, of which 81% is BaSarwa with the remainder being Baherero, BaTawana and others[5] (E. Ruigrog 1996 pers. comm[6]).

The BaSarwa tribe resident in /Xai /Xai are the *Ju/hoansi* - 'the real people' and have a history of settlement in /Xai /Xai that goes back to centuries. The different *Ju/hoansi* bands had their traditional hunting and gathering grounds both in Namibia and Botswana. In Botswana, the current CHA NG4 constitute part of the traditional hunting and gathering places. The people used to traverse these two countries freely following supply of water, veld products and wildlife.

The encroachment of the BaTawana and BaHerero came about after 1795 and 1904 respectfully when these two tribes came into Ngamiland. The two tribes co-habitated over time and this was more intensified around the 1970s with the introduction of social-infrastructural facilities like the school, health facility and a borehole. The three tribes lived together and practised mixed economy of gathering, hunting and battering though the BaTawana and the BaHerero are

[5]This group constitute temporary residents and government officials working in the village.

[6]**Mr E. Ruigrog. Netherlands Development Organisation (SNV). Natural Resources Management Advisor. Private Bag 1. /Xai /Xai. Botswana**

principally subsistence arable and pastoral farmers.

The village residents are currently in the process of forming a legal entity that will give them legal right to manage NG 4.

CHAPTER 3: LITERATURE REVIEW

3.1 Introduction

Studies and consultancies previously taken were not comprehensive enough and were mainly undertaken to underscore and discredit indigenous hunting methods and the importance of subsitence hunting to indigenous economies. Studies conducted on local communities pertaining generally to natural resources utilisation were aimed at blaming the resource degradation and faunal declines to local communities. The studies mostly reviewed and documented patterns of natural resources use and the extend of exploitation. Among the researchers who worked in Botswana were Lee (1979), Wilmsen (1989) in western Ngamiland, Heinz (1978/79) in southern Kgalagadi, Tanaka (1980) and Schapera (1938, 1953) who carried out his studies in many parts of Botswana.

3.2 Review

Lee's work in Western Ngamiland carried in 1963 made an intensive documentation of the traditional resources management and practices but did not make considerable attempts to asses the ecological relevance of the practices. However, this and other studies are commendable for their intensive contribution in quantifying the use of the resource and making resource inventories of the area. The study also followed the general trend of failing to qualify a practise, system or culture as either indigenous or a morden innovation in its making. Most of the studies reviewed so far seem to have failed to discriminate between indigenous and non-indigenous practices. Lee (1979), in his documentary indicated that BaSarwa used dogs and horses in their hunting pursuits. Probing on this issue during interviews and other related studies on BaSarwa disproved this as never having being indigenous to these cultures. Though currently the BaSarwa in /Xai /Xai hunt with dogs, horses and donkeys, this was not indigenous to them but was only introduced and adopted as a traditional practice after the arrival of the Herero groups, whose indigenous cultures used dogs and horses. However, these inaccuracies and ambiguities are inevitable as long as instant investigations become the plight of the

day, mainly for researchers not groomed up within the environment. The researcher strongly subscribe to the fact that indigenous knowledge systems and practises are dynamic for which reason great care should be taken in documenting the knowledge not to mix it with modern or traditional system. Instances of hunting with muzzle-load guns were reported as having indigenous practices within BaYei of Sankuyo but this was later disqualified on the basis that these were innovations that came about with the colonists and missionaries.

Tanaka's (1980) work which commenced in 1971, in !Xade area around the Central Kgalagadi Game Reserve constituted a documentary of dietary life and other food centred activities of the San. In the course of his observations, he retrieved some of the indigenous practices associated with hunting as one of their forms of economic activity. However, the author followed the normal trend of many anthropological researchers in making no attempts of interpreting the ecological implication of such practices. The study however, provided an insight and scope for comparative analysis between hunter-gatherers in different environments and exposed to different developmental challenges. It forms the basis of future comparative analysis studies between different societies in the area of indigenous knowledge systems and resource management.

Mordi (1991) conducted a study on Attitudes Towards Wildlife in Botswana in about ten villages, including the capital city. His studies, which showed positive utilitarian attitudes towards wildlife mainly in village settings, gave an indication and insight on historical time dependence and importance of fauna to the economies of rural Botswana. The effects of education, development and economic status were also put on the balance and depicted a tendency and a shift towards neutralistic and humanistic attitudes. Though Mordi did his investigations on people who had undergone serious attitudinal revolution, his findings, depicting that the Batswana are not indifferent to wildlife irrespective of the socio-economic status, gave an indication of the strength of the bonds developed in the historic times with these resources.

Recent study by Moganane and Walker (1995), commissioned by The World

Conservation Union, which primarily aimed at documenting traditional uses of the faunal and floral resources and how indigenous knowledge system could improve sustainable development, represents the best attempts to address conflicting development and conservation issues. However, the methodologies used in extracting data on indigenous knowledge system were not suitable to the nature of the information sought. It should be noted that though local and indigenous knowledge can be taken to imply the same thing, local knowledge can constitute morden knowledge systems which are not necessarily indigenous to the area. Rapid Rural Appraisal and Participatory Rural Appraisal methods are best employed when the knowledge system sought is known by all people for then this will ensure maximum participation and contribution. Using this method can adversely affect data quality because there is a possibility of encroachment of current knowledge systems from respondents who find themselves growing in the context of that knowledge, irrespective to its origins. This is a similar methodological error that lead to many imprecisions and ambiguities observed by Tanaka (1980) in the work of Schapera about the Khoisan Peoples of South Africa in 1930. The researcher based his findings on the informants like missionaries, hunters, and travellers who were very foreign and recent regarding their term of stay within that environment.

Moganane and Walker's study was general in approach because it encompassed on woodlands, veld products and wildlife. It was therefore in the interest of this current study to refine and focus indigenous knowledge system to wildlife management by picking only one parameter - hunting. It has also been re-enforced from this study that the defined parameter on its own is quite extensive as it involved holistic views and approaches to matters pertaining to socio-economic, political and natural environment. The essence of sustainable development hinges on attaining both ecological and economic soundness without any social cost. However, this study attempted to bridge the gaps left by Moganane and Walker (1995) and further extend the work to areas which need immediate attention in that the communities therein are well advanced in CBNRM project implementation phase. It is anticipated that the study will also benefit conservation agencies interested more in faunal resource sustainability, for that is their main area of focus.

Important initiatives are also made both regionally and internationally to focus discussions and research on Indigenous Knowledge Systems (IKS) and networking. In the context of Southern Africa, the initiatives lead to the conception of Indigenous Knowledge Systems and Peoples in Southern Africa in 1993 with the aims of documenting IKS and assessing their potential contribution to improved community-based environmental care.

CHAPTER 4: METHODOLOGY

4.0 Introduction

Research methods and tools usually employed in gathering data on indigenous knowledge systems include participatory appraisal, communal or public gathering, group discussions, participant observation, structured or unstructured interviews, focus groups, key informants, community workshops, administration of questionnaire, use of documentary data, public records, case studies, life history and panel discussions (Opoku 1994). The choice of the method depends on the type and quality of information required, socio-economic and political setting, time frame and resources available for a given type of research problem. For acquiring accurate and detailed information these methods can be combined.

For the purpose and the nature of this research undertaking, the following research methods and tools were used in data collection:

1. Documentary data
2. Traditional communal gathering (*kgotla*[7])
3. Interviews
   a. Key informants
   b. Focus groups
4. Participant observation

These methods were chosen in the light that the research was undertaken in a rural setting where majority of the people are illiterate and most of the respondents, who formed the

[7] *Kgotla* refers to both the institution and the place. As an institution, *kgotla* is the decision-making body at the village or community level while as a place, it serves to accommodate a wide range of forums from conflict resolution to duty allocation to regiments and working groups. The headman (or paramount chief in tribal capitals) is the leader of the *kgotla* though he may delegate elder members to preside over other matters.

bulk of focus groups and key informants, were elderly for which reason contemporary research approaches like "dish-out" questionnaires were considered not appropriate. For this reason the researcher used the questionnaire as his personal guide when interviewing. This ensured uniformity in interviewing individual respondents and thorough coverage of the issues investigated.

4.1 Methods and Tools

4.1.1 Documentary data

A survey of existing body of literature relevant to the subject were assessed and reviewed. Net-working was developed with the regional body for Indigenous Knowledge Systems and People's of Southern Africa, the Centre for International Research and Advisory Networks and other indigenous knowledge resource centres. Regional and local information on current and previous relevant studies were reviewed and revised from both non-governmental and government institutions. Research projects in the field of indigenous knowledge systems were assessed for background knowledge. Files and reports from Department of Wildlife and National Parks, local and central government departments in Botswana were studied for relevant information on hunting, history and the welfare of the communities under study. This secondary data was used in scoping, discussing and making inferences and interpreting the systems and the practices. Documentary data was also used during interviews to open discussions on certain aspects of the knowledge system and practices which the respondents seemed to have omitted and for confirmation on the validity of information found in documentary data.

4.1.2 Traditional communal gathering (*kgotla*)

Kgotla meetings were held with the respective communities at the inception phase of the research project and also at the end. Initially the meetings were aimed at stimulating and developing proper relations by making a public introduction and outlining the purposes, plans and potential benefit of the research to the community. Preliminary introductory meetings were held with the

traditional leaders and administrative structures available by so doing legitimising the researcher's entry into the area.

A communal meeting, where the project and its personnel was introduced by the traditional leader, was organised. During this meeting, general discussions on the subject were prompted especially since the meeting was participatory in nature. The public gathering helped in overcoming the "intruder mentality" perception as association with traditional leaders in this forum gave credibility and integrity.

Nine of the initial resource persons (key informants) were identified during this meeting by community members. Contemporary research issues like note-taking, audio and/or video-recording and photography taking were addressed at this early stage to create a sense of freedom, flexibility to choose and solicit for general opinions and feelings (Feuerstein 1990). This helped in that during the course of the data gathering the respondents were well versed on their purpose and therefore did not become sceptical except in few cases where people who were absent during this meeting were interviewed.

The last *kgotla* meeting held provided a forum for feedback and confirmation of the validity of the findings. The researcher also used this last *kgotla* meeting to get the feelings of the general public relating to the status of indigenous knowledge systems. This was done after subjecting all the individual respondents to this phase of the questionnaire and hence reiterating this here was to get a general picture from a bigger forum, mainly while the practices were still fresh in their memories after the feedback.

4.1.3 Interviews

Individual respondents and groups were subjected to structured and unstructured interviews. The method proved effective because of its flexibility when compared with formal questionnaire (Blalock & Blalock 1970).

4.1.3.1 Unstructured interviews: This approach, though it required knowledge and general direction, greatly allowed for informality and consequent flexibility in adapting questions to the actual answers given by the respondent. A separate questionnaire general in approach to the subject was designed and used during these interviews (see Appendix V). Its use before the structured interviews helped in identifying key issues around indigenous wildlife management and focussing on relevant ones when using other data collection methods. This was further used in pre-testing the questionnaire. It was used to establish extent of the knowledge system. It involved more or less ordinary conversation which used free-response questions to dig deeper for a meaning during the course of the interview by asking more about particular answer that the respondent gave (Feuerstein 1990). This was relevant for this research project in that most indigenous knowledge systems practices involved taboos, totems, myths and legends, beliefs and customs, religious practices, ceremonies, festivals and rituals which needed probing for cautious contextual analysis and interpretation.

It also helped in forming a clearer picture of the situation. Through this data collection technique the relationship between the respondent and the researcher was enhanced as follow-ups were made on many occasions to verify certain findings from other sources of information or resource persons. In /Xai /Xai, the services of an interpreter were solicited for as seventy-five percent of the respondents interviewed were either not confident or fluent with SeTswana language.

4.1.3.2 Structured interviews: Since this method required exact knowledge of the kind of information wanted and where it can be extracted, it was deployed after the unstructured interviews, following a questionnaire that was designed specifically for this phase of data collection (see Appendix VI). The questionnaire was designed after identifying key issues from

unstructured interviews. It adopted and adapted certain questions from the unstructured interviews questionnaire. It was used with key informants, pre-arranged household visits and focus groups and involved a list of structured and organised questions meant solely to obtain certain specific information from the respondents (Nachmias & Nachmias 1976). This method was appropriate for the target respondents because most of them were not able to read and write.

The challenges of building strong relationships, trust and confidence between the interviewer and the interviewee(s) were not critical during this project work because the interviewer was well familiar with the interviewees though in an official capacity. The effects of cultural and language barriers, which are reckoned critical in indigenous knowledge systems research (Opoku 1994) were minimal in this research as the researcher was familiar with some of the cultural ethics and the majority of the respondents could communicate well in SeTswana.

During the interviews, the researcher avoided the risks of being emotive and interjective by adopting a "student attitude" and objectivity in the light that indigenous knowledge systems are area and culture specific (Maundi 1995). This was taken to be imperative because personal preconceptions conceived through this attitude might have impacted the scope, quality, direction and outcome of the information obtained from the respondents (Opoku 1994). The researcher therefore depicted willingness to learn the interpretations and perceptions of other local tribal and ethnic groups of which he was not familiar with.

However, in cases when the researcher felt there was a risk of missing areas of interest since the method left little opportunity for the unexpected to come up (Feuerstein 1990), some additional free-response questions were included to break the monotony of the questionnaire. This

further helped unearthing new areas for discussions and acquisition of extra information which acquired significance in the final analysis.

4.1.3.3 Key informants: These were individually interviewed and included traditional leaders, locally influential people (LIPs) and various people that held specialised knowledge of interest and relevance to the subject. Most of these were subjected to both structured and unstructured interviews. It was through key informants that a snow-ball of most resource persons was established. Most of the respondents who monopolised most of the focus group meetings were made to constitute this group by later been subjected individually to probing interviews within areas of interest which they portrayed during focus group meetings. The researcher chose to start with key informants so that out of them he could identify people to constitute focus groups.

4.1.3.4 Focus groups interviews: This data gathering technique made use of group interaction in production of data and insight around a specific question. The researcher was very cautious during the selection of focus groups because factors like size, age, gender, composition, socio-economic status and cultural customs were noted to be critical in the quality and the quantity of data that can be extracted (Merton et al 1990). In Sankuyo, two regiments (mephato)[8] were used to constitute different

[8]These are organisations of men or women of the same age group. They are grouped traditionally under one name that identified them. They were taught similar things at the same time under the traditional initiation school. There are ten regiments identified to have been present in Sankuyo. These were, Majahela, Mabuapedi, Madisakgosi, Maletamotse, Matola, Maisatumo, Mahenyantwa, Maganakakgomo, Mahatshwa and Maolola. Majahela, literally meaning *the people who just eat and do nothing else* was a group embracing all the teenagers and below, Mabuapedi comprised of lads while Madisakgosi *(the chief's guards)* were people who had graduated from initiation school. Maletamotse *(the village guards)* was the next elderly regiment with the oldest as Maalola - phate which entirely comprised of all old men in the village. The current regimental structure last set up is Maletamotse which has a total of only three living members. This regiment is made up of people born in 1920 and 1921. The headman of Sankuyo village falls within this regiment.

focus groups and this created team spirit and identity. One regiment constituted five people while the other constituted only three. Numbers constituting these focus groups were lower because these represented oldest people in the village most of whom were not alive during the time of the interview. This maximised and enhanced involvement and freedom of expression.

In /Xai /Xai, since regimental set up was not part of the social structure, band leaders with specialised knowledge in hunting were used to form focus groups. Another focus group was also set up consisting of women and this was used to get information on the role that men played as hunters and how the women benefitted.

Though the researcher did not base more of his indigenous knowledge information retrieval from youngsters, this group of people contributed significantly in setting the agenda for probing in terms of the legends and life-histories that they were told by their ancestors. The timing of the interviews were in all occasions set at the convenience of the respondents so much that some of the meetings were held around fire-places during the evening hours.

These focus groups meetings were quite resourceful in that they allowed for;

- concentrated integrative observation on the subject within a limited time.
- probing and prodding to generate quality information.
- development of a forum for debating issues and sharing knowledge.
- observation of respondent's impressions, attitude and knowledge of subject discussed.
- production of data and insight not accessible to outside

groups mainly when focusing on specialised knowledge held by few local experts like hunters.

- deductions of dynamics of everyday social discourse perceivable from the way the group supports, debates and resolves issues.
- degression to aspects of topic not anticipated like side conversations on some relevant historical event or even the way a particular proverb involving animal species was coined.

Notwithstanding, the challenges encountered here were that the locally influential people (LIPs) at times dominated the discussions and thereby overshadowed the contributions of the rest, a condition noted inevitable by Maundi (1995). The headman of Sankuyo village, who was the oldest within the Maletamotse regiment, hijacked the discussions on several occasions. In /Xai /Xai, this condition was evidenced between the experts in specialised knowledge systems. They monopolised the discussions by making the less knowledgable shy away from contributing and fully participating.

On encountering these challenges, the researcher recommended setting guidelines agreeable to all by team members, to govern the process of the discussions. This greatly minimised the "leader effect" that was inherent within the groups.

The purpose of each meeting was made explicit during the selection of the members and at the beginning of the meeting. This was done to make all the respondents feel comfortable, flexible and maximise their individual contributions and participation without intimidation.

4.1.4 Participant Observation[9]

This method was supplemented by a variety of data collection tools like key informant interviewing, collection of life histories, structured interviewing and questionnaire administration (Sanday 1989; Maundi 1995). Collection of data here involved full participation in the life of the group. It was challenging and time consuming in that its effectiveness and consequent success hinged upon appropriate relations which were established between the researcher and the host, a condition noted to be critical by Blalock & Blalock (1970); Nachmias & Nachmias (1976) and Sanday (1989). The method was employed to ascertain the validity or truthfulness of the data collected through interviews. The method proved effective in that it provided a deeper understanding and enlightenment on issues which were not explicit from other methods.

The method was used on a three-day field exposure to animal tracking technique. During this time, the researcher sought for explanations by asking questions in relation to issues and behaviours of particular interest observed. The respondents were randomly picked for probing on the course of field observation. The three respondents who took part in this traditional hunting expedition were volunteers. However, it should be noted that though all these were previously subjected to other forms of data gathering techniques, the majority of the oldest respondents could not participate as they perceived the method to be too tiring for them or were incapacitated to do so by lack of eye sight and other physical disabilities associated with old age.

The fact that this procedure did not also involve the actual killing of an animal was also a deterrent factor in many who could have loved to participate. The

[9]Four different positions of continuum of roles usually played by field researchers have being described by Babbie (1992) as complete participant, participant-as-observer, observer-as-participant and a complete observer. Each approach has its own merits and weaknesses and for the purposes of this research, the researcher played the role of observer-as-participant and participant-as-observer. The choice of these roles depended on methodological and ethical considerations.

actual hunting and killing of wild animals could not be done during the time of this project phase because it was during the closed season. The researcher also initially hoped to utilise SGLs which are valid for hunting all year round but could not materialise because by the time the research was conducted, these SGLs were still suspended pending the outcome of a consultancy report examining among other things, the current parameters of the license utilisation and impacts on wildlife numbers. The consultancy was commissioned by the Government of Botswana and started in October 1995 and the findings are yet to be submitted to the Government for approval. The researcher could have also requested for the Director's Permit to hunt during a closed season but due to the bureaucratic pathway to be followed, the researcher found it not worth the effort because of the limited time left to finish the project.

The method was so resourceful in that all the issues, techniques and parameters attained through interviews were verified and clarified in practice. The researcher interchangeably played the role of observer-as-participant and participant-as-observer during this field research. This was so because the researcher initially identified himself as a researcher and depicted willingness to interact within processes related to hunting.

4.1.5 Sampling

The choice of the respondents in this field research made use of snowball sampling[10] method. The method entailed asking a preceding respondent to recommend others worth interviewing (Barbie 1991). It was through this procedure, initially developed in a *kgotla* meeting, that an ever increasing set of sample observations was developed.

A sample of respondents initially identified in a *kgotla* meeting were later used as informants in identifying others with indigenous knowledge base for inclusion

[10]This is sometimes referred to as chain referral sampling.

in the sample. The identified and recommended respondents were later followed and after the interview they in turn made recommendations. This sampling method was considered appropriate for this type of field research because it was very critical in terms of data quality to choose people with comprehensive understanding of indigenous knowledge systems related to resource management. The sample derived through this approach is known as a purposive sample (Barbie 1991).

The initial research introductory *kgotla* meeting was attended by sixty-one people in Sankuyo and twenty-seven in /Xai /Xai. The latter had less attendance mainly because it is habitual that most BaSarwa do not attend *kgotla* meetings. However, it was interesting that the attendants still suggested the key informants from BaSarwa ethnic group in absentia. Of the four initially identified, three were physically disabled. In Sankuyo five key informants were recommended during the initial *kgotla* meeting. At the end of field work, a total of forty-one people were interviewed from both villages.

The last *kgotla* meeting, which was a forum for feedback and assessment of the status of indigenous knowledge system was attended by seventy people in Sankuyo and forty-one in /Xai /Xai. The researcher supplemented /Xai /Xai *kgotla* meetings by organising meetings with individual wards[11]. The meetings were organised with the help of ward leaders who always actively participate in communal meetings. The ward meetings were held mainly to cater for full involvement of the BaSarwa who usually shy away from attending *kgotla* meetings.

[11]These wards were formed through the facilitation of NRM Advisor as units from which the current interim committee for natural resources management was formed. The wards were also used as the basis for 1996 community quota sharing and distributions. The community intentions are that this should continue in the future to other resource benefit sharing opportunities.

4.2 Results and Analysis

The results of the research project were analysed using inferences made from documentary data. Research studies and current discussions and published documents related to the subject under study were reviewed and compared with the current findings. Observable characteristics were made during the interviews and field exposure to tracking.

Interpretations were also made from the key informants during interviews as the researcher probed for meaning and understanding of the phenomenon described by the respondents. The researcher also made his observations out of which he made inferences and interpretations of the phenomenon under scrutiny. Some of the practices and behaviours observed and explained by the respondents were contextually analysed.

CHAPTER 5: RESEARCH FINDINGS

5.0 Introduction

This section entirely deals with presentation of findings as taken from the respondents during interviews but as for the actual implications, this is separately dealt with in more detail in the next chapter. However, implications found within this section should only be taken to reflect specific answers to questions from the interviews.

5.1 Indigenous Hunting Administration

5.1.1 BaSarwa

It became apparent during the interviews that traditionally hunting was administered through an indigenous institution. This institution was respected by the community. The indigenous management structures consisted of hunters from each household with the eldest representative automatically given the authority as a 'leader.' The most striking aspect of the BaSarwa community was their reservations in calling their leader the "chief" or "headman". This is so because BaSarwa community constitutes an egalitarian society. However, even from this egalitarian set up, the most senior person in terms of age usually assumed leadership role through respect.

This person was charged with the powers to dispatch a hunting expedition and he was in most cases the most experienced hunter. He was also responsible for the resources within a *n!ore* and could give consent or refuse consent to other band members to utilise the resources within their area. He also had powers to deliberate with other band members on issues affecting the daily welfare and sustenance of camp social life. He also would give a final word on discussions regarding camp relocations but not necessarily hijacking or dominating the deliberations. He was a band spokesman. If need arises this person was charged with the responsibility to initiate negotiations to use other bands' territory for natural resource utilisation. These responsibilities were fully discharged with

consultations with other band members.

Young men were taught hunting skills by participating fully in meetings held prior to hunting expeditions and the hunting itself. The leader, who was not necessarily obliged to participate in the hunt, would remind the people of the hunting territories and conservation ethics to be observed during the hunt.

Mainly a hunter within the BaSarwa community was someone endowed with ancestral powers and charms. Some claimed that they assumed powers as hunters through ancestral visitations which occurred in form of dream and visions. The dreams and visions were usually interpreted by elders who by so doing legitimised the hunter. The respondents felt that this was nature's way by which management and control of hunters was done. During the process of legitimisation, the new hunter was strengthened by charms and rituals. Another ritual was held after the first kill of a hunter. The hunter was obliged to set aside the left portion of the animal for this activity. The ritual was usually done by a band leader who was in most cases also a ritual healer. The young amateur hunter will then accompany elders on their hunting forays.

After the first kill by a young hunter, depending on the sex of the animal killed, the hunter was tattooed on either the left arm for a female kill or the right arm for a male kill. The respondents still had these tattoos even at the time of the interview. Five of these respondents interviewed claimed to be band leaders and specialised hunters for their bands. This was also confirmed by women and other band members and it also became evident from the respect and confidence they had towards these respondents. Tattoos were made as a sign of initiation to welcome the individual into a life of a hunter. Charms were inserted within these tattoos to strengthen the hunter for maximal fulfilment in hunting endeavours. Charms were also used before a hunting expedition was dispatched to spell luck on the hunter. It was also reported that even during hunting the charms were used to help spot the animal sought which in most cases was quite accurate. This could

not be done during the tracking field exposure because none of the ritual leaders were present.

5.1.2 BaYei

Hunting was administered through the chief or his representative known as a headman. Chieftainship and hence headmanship were assumed through lineage patriarchal inheritance. The eldest son born in a royal family would resume this role when his father dies or in cases when he is still young, a regent will take over until the young chief or headman is reckoned mature enough to rule. However, during his stages of growth this prospective tribal leader was respected and honoured as the tribal leader.

A headman had powers over land and available natural resources within the tribal area or territory. These powers could not be abused by the headman mainly that it was inherent within these cultures that "the chief was the chief because of the people." He was therefore vested with powers to administer hunting within a tribal land on behalf of the people. These powers were delegated to this person by the paramount chief. This was even practised after the BaYei were colonised by the BaTawana.

The headmen, mainly when they were subjects of another tribe like the BaYei were subjects to the BaTawana tribe, paid tribute to the paramount chief by giving him the upper elephant tusk in case of elephant hunt. The other tusk was maintained by the headman. Through this practice, the paramount chief also took part in wildlife resource control and management. As a matter of fact, all the resources within a tribal area belonged to the paramount chief though he might have delegated the powers of resource regulation and utilisation to his subjects.

Usually when the chief or his representative desired a hunt he pursued this by

delegating any of the then existing mephato[12] to go and hunt. Each *mophato* was headed by someone from the royal family line. The various regiments were exposed to hunting expedition by the chief's order as a training. The strength of the regiment was measured by its successes in hunting assignments and with time the regiment was assigned to hunt more challenging and dangerous species like elephants, rhinoceros and lions. *Mophato* delegated for hunting would be accompanied by one or more delegates from the next oldest age regiment. This was to ensure that the younger regiment follows and maintains proper hunting skills and ethics and also to help in case they depict inefficiency and cowardice in hunting. This was more prominent and enforced when a dangerous problem animal like a lion was followed to be killed. The elderly man would after the hunting expedition report to the chief and his regiment on the strength and brevity of the younger regiment which he accompanied.

Depending on the strength, bravery and degree of adherence to indigenous conservation/hunting ethics and requirements displayed by the regiment, the elders could confide in the regiment to entrust them with traditional administrative issues that would demand their bravery in the future. In most cases a regiment that depicted bravery in hunting expeditions would be made to participate at the forefront during tribal wars over land and other natural resources.

Even though every man could participate in a hunt, there were people within the community who were known as hunters. These people had specialised knowledge regarding hunting and skills for which reason individual households who wanted to go hunting would always team up with them. Hunting was either done

[12]Though the chief many order any regiment to go on a hunting expedition, it seems that it was Matola, Maletamotse and Madisakgosi who were frequently engaged for this undertaking. This according to the respondents, could have been because they were still at the prime of their years and hence qualify for this exposure. This also served as training exercise for them, and was also previllaged to other regiments ahead when they passed these stages.

individually or pursued through the chief's or headman's orders mainly when game animals designated as belonging exclusively to the chief were to be hunted. An individually organised hunt was always reported to the headman. In some instances the hunter would give the headman some portion of the meat from the animal killed to show respect.

Animals reserved for the chief or designated as royal game were eland (*Taurotragus oryx*), giraffe (*Giraffa camelopardalis*), rhino (*Rhinocerotidae spp.*), hippopotamus (*Hippopotamus amphibius*) and sable *(Hippotragus niger)* and roan (*Hippotragus equinus*). A kill from a hunting expedition ordered by the chief was in most cases shared by all people. On arrival of the hunting regiments people would flock to the community kraal with ululations and in a spirit of ecstasy to welcome the regiments. The meat was cooked and shared among the community members in a festive activity marking the significance of the success of the hunting regiment or given as a take-away home by the regiments.

5.2 Land Use

5.2.1 BaSarwa

It became apparent that *!Kung* had traditional territories where hunting and gathering took place exclusively for a specific band. A band assumed exclusive rights over the area and the resources therein. This land territory, known as *n!ore,* usually had a characteristic feature of a pan, lake or area where water was easily accessible, be it underground or surface water. Underground water availability was determined by the presence of oasis or lushness of a place.

The hunting territories were designated in relation to either camp patterns or location around physical features like pools and lakes. Though the BaSarwa community was migratory or nomadic, settlements or camp patterns and locations were more influenced by the availability and abundance of natural resources like water, wildlife, and various veld products because these played a significant role in their indigenous economies. Natural resources were a backbone for human

survival and hence this subsistence base dictated temporal settlement bases.

Natural features and their orientation within the landscape played a significant role in marking or delineating hunting territories. Where present, hills, river valleys and other natural features were used to designate the boundaries but in most cases they were imaginary. An attempt during the field exposure to be shown the boundaries of territories depicted a variation on their exact locations, but in some cases it was agreed on some common features like hills and river valleys.

Each band would move within its *n!ore* seasonally such that it was normal to find a *n!ore* containing at least three camps. The movement from one camp to another was influenced by seasonal resource availability and abundance. One characteristic attribute common within a band living in a *n!ore* was a spirit of resource sharing. To this effect it was reported by one of the respondents that;

'*all hunters hunted for the band, there was no room for selfishness, even the veld resources collected by women were equally shared within the band'.*

The most spectacular one mentioned by the informants, most of whom were hunters and band leaders in senior ages was that hunters would even give away their arrows to other hunters and in case of a kill, the rightful owner of the arrow will be privileged to distribute the meat within the band. In cases when a hunter was not successful in his hunting pursuits over several occasions, he would abstain from hunting. This was attached to the belief that it was a sign that ancestors might not be happy with the hunter for which reason during this period of abstinence, the hunter would still be served with meat just like any other member of the band. There was no prejudice when it comes to meat sharing and apportionment.

5.2.2 BaYei

Different land use types were practised by the BaYei within their tribal territories. The people were an agrarian society who kept livestock and ploughed the land. They lived in scattered settlements along the river channels. Their close association with wetland ecosystems show the type of indigenous economies they were involved in. Apart from being arable farmers, the BaYei people were great fishermen. To this they came up with canoes and nets which they deployed in this fishing activities.

More still, the people were involved in *molapo* farming. This involved ploughing within the flood plains of rivers utilising the moist environment persistent within riverine ecosystem. The BaYei reported that since they found only the BaSarwa within Ngamiland, their ancestors established for themselves hunting territories covering most parts of Ngamiland though mainly concentrated within the swamps. As a tribe they had exclusive rights over their tribal territory and the resources.

5.3 Hunting Seasons and Times

5.3.1 BaSarwa

BaSarwa, in their traditions practised winter hunting as it was during winter season when meat could not run the risk of spoilage. Fresh meat could further made into biltong and utilised over a long period of time. Most of the respondents stressed that in the past meat was eaten over a long period of time as opposed to the current practices that consumption is not sustainable. For this reason, hunting was not done on frequent occasions, a situation well attested by the respondents as a key to wildlife resource sustainability in the past. To this effect, one respondent said,

"*We hunted in the past only for the pot, not for business pursuits. Though we enjoyed hunting, we never took it for a spot. Wild animals were a sense of and reason for our survival. We were therefore naturally obligated to conserve it well*

and that is why we only hunted if there was a need. This type of attitude that everybody knew by then helped to carry the wild animals to the current generations. We are now restricted to hunt as we did in the past because it is said that the animals are finishing. It is true, they are not as many as they used to be during our youth days. This is so because of guns, business and covetousness"

The respondents said that there was marked preference for male animals during breeding period. This was done until the young ones were considered to be old enough to fend for themselves. Big game species like gemsbok (*Oryx gazella*), eland (*Taurotragus oryx*) and giraffe (*Giraffa camelopardalis*) were not hunted in summer because it was taken that because of the bulk of their meat, most of it will be spoiled before it is made into biltong. Though this was done mainly on the basis of preservation of meat, it gave these game species time to recuperate. During summer months small game animals were preferred more than big species. Hunting was also minimal outside winter as this coincided with a period of abundant and diversity of veld products and hence peoples' subsistence was entirely based on these. It was during winter months when floral resources were low that hunting was intensified (Table 1a).

5.3.2 BaYei

Hunting for the BaYei was done throughout the year but at differing intensities. During breeding periods only male animals were killed to avoid making the young ones orphans. As a matter of fact it was reported that during hunting, hunters opted always for male animals instead of female ones. This preference was made on the understanding that if males are reduced within a population, this would reduce intra-specific competition for females. With fewer males remaining, there would be less fighting and hence less consequent deaths through competition for females.

It became evident that though hunting was done all year round, most hunting was done in winter. This was so because in winter meat could be easily processed into

biltong and stored to be eaten over time without the risk of being easily spoiled by the intense heat of summer months. Moreover, for the BaYei tribe, this was also dictated by the type of indigenous hunting methods which they used, mainly pitfalls and snares. Pitfalls during rainy seasons got filled up with water and hence rendered ineffective in this endeavour while snares were made less effective by moisture they absorbed from dew in the morning and rain water. Snares during rainy seasons were spoiled as they rot and hence were easily torn by an animal caught in a struggle for freedom from the snare.

Hunting was also reduced during rainy season because people were deflected to take care of other duties. Mostly this marked the beginning of the ploughing season and men and women participated equally in this endeavour. This complementarity of duties (Table 1b) reduced hunting intensity and gave the animals time to recuperate. Fishing was also a major undertaking during this period.

Birds, just like game animals, were hunted all year round but during planting season killing was done mainly as a control measure as birds like guinea fowls used to unearth the seeds and destroy seedlings.

Hunting was mainly done in the early hours of the mornings and late afternoons when game animals were grazing. It was perceived that during the early afternoon, mainly when it was hot, most game species will be under shades resting and hence this made animal sightings and spotting quite difficult. The hunters also knew places and times where they could easily find their preferred game species. This depicted an understanding of animal distributions, patterns, behaviour and habitat preferences. The most common habitats were rivers, lakes, areas where there was small and soft tender grass and open plains for specific species. These predictions on timing and habitats preferences were developed over time of observation and experience by hunters.

Table 1a Seasonal Calender Hunter-Gatherer Society (/Xai /Xai)

Activity	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Gathering												
Hunting (Big game)												
Hunting (Small game)												

Table 1b: Seasonal Calender: Agrarian Society (Sankuyo)

Activity	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Rains												
Lands Prep												
Ploughing												
Planting												
Weeding												
Wildlife Scaring												
Harvesting												
Gathering												
Hunting												
Fishing												

Key: Shaded parts represent the actual description indicated.

5.4 Indigenous weapons: Tools and techniques

5.4.1 BaSarwa

A hunt was usually organised and preparation made during the night preceding the hunting trip. Bands of hunters would meet and share their knowledge on the current animal distributions, patterns and state. Women occasionally participated in these preparatory meetings. They were reckoned very resourceful in terms of information sought on the knowledge of the distributions and abundance of various wildlife species and this was based on the understanding of their daily interactions with the animals during the gathering pursuits. Women spend most of their time collecting and gathering veld products which accounted for about seventy-percent of the subsistence economy though it varied with seasons. With the knowledge of the time invested by women in the bush for gathering, men respected them in provision of accurate information that can lead to a successful hunt in the light of the animal sightings and spotting made.

Apart from distributions and patterns, hunting territories would also be discussed and each hunting band would be given its direction of hunt. A hunting foray usually consisted of at least two experienced hunters. A hunting trip usually started early in the morning before sunrise and may take a day up to a week. During the night fire camps were set up and night vigil was taken in shifts to guard against predators. The early hours of the night were used for story telling, folklore and tales and sharing of hunting experiences. This time was resourceful to the young hunters because they learned from the experiences shared by the elders the joys and the challenges of a hunter. Hunting tools and techniques used by BaSarwa were snaring, use of clubs and bow and arrow.

5.4.1.1 Snaring

Snares were mainly employed when a small game animal like duiker and steenbok together with birds were sought to be hunted. The snaring method was mostly preferred by young boys and old

men. The former used the technique as an attempt to gain hands on experience and skill in hunting while the latter due to their old age and associated physical disabilities like lack of eye-sight, the method served as the only alternative option where they could be viable because it is less tiring and could be done within a short distance from the camp.

The snares were made from *Sansevierea scrabrifolia*, the size and the length of which was made to suit the target animal. Choice of location of a snare was made after careful observation of fresh tracks and sightings which ascertained the animal's home range. When this was confirmed, a line of bushes would be set up living gaps at certain points. This would be left for some time until it is felt that the animal is used to the entry points. The snare will then be put up and checked on daily basis. Birds were normally baited using this method.

5.4.1.2 Bow and arrow

For the bow and arrow method, the arrowhead was mainly poisoned using a toxic substance. The toxic substance used was taken from pupal forms of Chrysomelid beetles collected mainly during summer months. The larval forms of this beetle fed from *Commiphore sp* before burrowing into the ground and finally changing to pupal stage. The pupa, contained in a soiled-shell structure is ground into powder and mixed with a watery substance extracted from *Asparagus exuvialis*. The resultant mixture was further mixed with chewed fresh bark of *Acacia mellifera* (*mongana* tree) to make it sticky. It is this final mixture that was then be applied to the arrowhead.

The effectiveness of the poison depended on the concentration,

proportions of other toxin carrying tree-species mainly *A. exuvialis* and the age plus size of the target animal. There is an age range within the life of tree where the effectiveness of the toxin is at maximum. *Sansevieria spp.* was reckoned to be critical in the toxin-mixture make up. The poison-mixture was usually stored and could be used until the next collection season.

5.4.1.3 Tracking

BaSarwa community depicted a high degree of tracking skills. They used animal tracks in search for game while in the bush. They could clearly distinguish and identify various animal spoors in terms of their size, age and the time at which the animal might have passed. They used this estimation to extrapolate the distance the animal could have moved taking in consideration the nature of the tracks, that is, if the animal was grazing, running or walking. Though the freshness of the spoor was the most determining factor in estimating the distance of the animal followed, behaviour and elements of weather like wind were considered mainly because they affected the spoor. In case the animal is a grazer traces of grasses that fell off while it grazed were picked and inspected for fresh saliva or degree of freshness within the grass. For browsers leaves and branches would be inspected.

Shade of trees were also used to estimate the time at which a tracked animal might have passed a certain place. This is so because animal would normally bask under shadows during hot days and out grazing during morning and late afternoon hours. Animal spoors spread in open places were taken as an indication that animals were grazing. With change in the orientation of the shadow, animals tend to congregate on the shadowy side and the BaSarwa used this with the knowledge that the orientation and size

of the shadow changed with the sun, which made them to extrapolate the times when the animal could have been in a certain place. Animal habitats, pans and pools were used as starting points in the search for game species. These techniques were well articulated during the field exposure and they were so accurate because about ninety-percent of our attempts we were able to make precise spotting.

5.4.2 BaYei

The BaYei tribe in Sankuyo used pitfalls and snares or traps in their hunting pursuits.

5.4.2.1 Pitfall

The pitfalls were dug by a group of men using wooden hoes and were enclosed using traditional bush fence. This was done to direct the animals in the direction of the pitfalls which was usually covered for camouflage with sticks and grass. The pitfalls were usually employed during dry season when there were no rains. The reasons for this were two fold. Firstly, during the rainy season people were more committed to subsistence agricultural pursuits than to hunting. Secondly, during rainy seasons the pitfalls got filled up with water such that they were rendered unsuitable to be used to trap animals for hunting. They considered it unethical to kill animals by leaving them to drown in water.

The pitfalls were not used haphazardly such that any wild animal could just fall in there. The size and depth of the hole dug determined the type of animal that could be trapped therein. It was made selective as hunters used to drive the species chosen to be hunted in the direction of the enclosed pitfall. The pitfall was usually surrounded by traditional bush fence or poles and the entrance was closed immediately after the hunt. The selection of the species driven inside this enclosed pitfall was mainly based on sex, age and

the number of animals needed by that hunting expedition.

Women actively participated in hunting only after a kill was made. Their main role was in helping the men to process the meat into biltong immediately after the men had skinned the animal. They also helped in cooking the more easily perishable internal organs like the liver, gut and the intestines. Women's minimal participation in the actual hunt was justified on the grounds that though they used to accompany men for hunting, most of the time they were involved in collection of edible veld products and other natural resources. The hunters most of the time subsisted on these resources for which reason women's role in a hunting expedition was to offer service and support to the hunters. The traditional cultural settings and practices defined duties and responsibilities on the basis of sex for which reason none of the women could become a hunter.

Pitfalls were also minimally used in problem animal control within the fields. A pitfall was dug in a specific place where a problem animal would normally enter the field to raid the crops during the night. This was more used in the control of game animals like kudu (*Tragelaphus strepsiceros*) which often would jump over the traditional bush fencing material around the fields to raid the crops. After careful observation for areas of frequent entry, a hole would be dug next to traditional bush fence within the jumping distance of a kudu. Usually when such an animal comes during the night and jump over the traditional field fence, it will land straight in the spiked hole and be killed. For small game animals like duiker, steenbok, jackals and porcupines which opened their way through the traditional field fence, traps were commonly used more so that a previously opened spot was used again in an attempt to raid crops or predate on livestock. It was also common that people kept vigil in their fields guarding against nightly raids by larger mammals.

5.4.2.2 Snares

The snares, which were also used in hunting pursuits, were made from the bark of *Adosonia digitata* (Baobab tree) the size and the length of which could be adjusted or set to suit the target animal. The snares were also not employed all year round in that they were season specific. They were not used during rainy season because they were rendered ineffective by dew and rain water. They got spoiled as they tend to rot when soaked with water or moisture. The traps were made out of processed tree barks of certain tree species and from tanned animal skins. The trees were preferred for the strength of their barks and durability. The size and the strength of the trap determined the size and hence the type of the animal that could be caught or trapped.

Snares were also minimally used during ploughing and planting season as a measure for problem animal control. Birds like guinea fowls used to flock to the fields during planting season and eat up both the seeds and the seedlings.

5.5 Systems

5.5.1 BaSarwa

From BaSarwa ethnic group totems mentioned were pangolin (*Manis temminck*i), monitor lizard, tshessebe (*Damaliscus lanatus)*. It was believed that if a person eat the meat of this totem animal they somehow become insane and act like a ghost or become terminally ill. They also held superstitious believes that anyone who trespassed into one grouping's territory could not be able to hunt any animal he wants unless given the permission.

It was reported that in case of any the alien band hunters trespassing hunting territories without the knowledge and consent of the indigenous lawful owners, the

hunters would find it very difficult to spot the animals they are looking for. At times the hunters could spot the specific species they wanted to hunt but the moment they try to shoot it, it would somehow turn into a small game animal not fit for human consumption. Superstitious believes as this one were inherent in these cultures and were used to deter other hunters from trespassing in other people's territories.

It was believed that lack of success in hunting attempts over time was a sign of ancestral discontent over the hunter. For this reason an unsuccessful hunter would desist from undertaking hunting activities for sometime until he has a feeling that he can start again.

5.5.2 BaYei

The wildlife resource was more governed in the past by totems, beliefs and superstitions. From BaYei tribe it came clear that there were and are various animals representing totems. These were elephant (*Loxodonta africana*), hippopotamus (*Hippopotamus amphibius*), crocodile (*Crocodilus niloticus*), and some species of fish. It is claimed that when a person endeavoured to eat meat from a totem animal, this always posed serious health hazards in his/her life. Even fat derived from elephant which was used as a traditional lotion always left skin problems from individuals whose totem animal was an elephant. One of the respondents indicated this abnormality even at the time of interviewing.

The community believed that totems are dictated by God upon various people as he wills. Currently it is reported that some of the people disregarded these totem species and utilise them in any way possible without any side effects while some still adheres to this system strictly. The respondents equated some of the natural disasters like draughts and hailstorms to ancestral anger and judgement regarding the marked deliberate move from adhering to these practices.

5.6 Status of the knowledge systems

The respondents reflected that indigenous knowledge systems and practises are being eroded by morden developments and infiltration of new cultures that are adopted mainly by the youngsters. The developments brought social, political, economic and administrative changes which greatly affected the integrity of traditional institutions and indigenous models of subsistence economic systems. This brought changes in people's attitudes towards wildlife and hunting.

The resulting situation was a marked moved from subsistence utilisation of wildlife towards commercialisation, which, according to the respondents, lead to unsustainable and uncontrolled harvesting of the faunal resources. Intrusion of alien resource conservation regulations and policies, modern weaponry and veterinary fences were raised as some of the contributing factors that disadvantaged application of indigenous knowledge systems and practises.

5.6.1 Changes in traditional institutions

The indigenous institutions, which to some extent regulated resource use in the past, had dramatically changed as modern institutions are now developed in line with western type of governance. These traditional institutions are now eroded and where they still exist, people do not adhere to them as it was the case in the past. Most of the powers which were vested on these traditional institutions have been taken over by the modern system of governance. People indicated that the chiefs role currently revolves around mediation but in terms of natural resources allocation, this responsibility is handled by conservation agencies, to which they pay little if any attention to their legal provision. Just like other natural resources like land, the control of wildlife resources have shifted in power from the traditional indigenous institutions to government. The respondents said that the reason for the general apathetic response is that people had social ties with the indigenous systems of resource management while contemporary ones are more alien to them. They show up only when they come to arrest them.

The modern conservation attempts in their initiation did not give heed to nor considered these social ties and this made people dispirited and rebellious to the new systems in place. The people perceived the conservation agencies as policing agencies raping them of the resources upon which they have a right to subsist on.

The respondents in the two communities indicated that they still respected their traditional leaders amidst all sanctions imposed on them in relation to discharging their traditional duties. In Sankuyo they justified this that even in their Notarial Deed of Trust they have put both their headman and the paramount chief of BaTawana as the ex-officio members of the Board of Trustees. The people still held in esteem the authority that these indigenous structures had in regard to the societal welfare. In /Xai /Xai the people's tendency to conglomerate around their elders was a clear indication of this status quo. The current ward-structures formed as units for natural resources management decision-making forum and committees and ultimately channels for resource benefits sharing showed this affiliation to elders as people who were associated together in the previous bands tended to opt to stay together in many situations. This excludes the encroachment of the BaHerero in the said wards in that they never had this type of structure in their history.

5.6.2 Changes in peoples' attitudes

The respondents showed that the peoples' attitudes had adversely changed over time towards the faunal resources. However, they blamed this attitudinal change to the imposition of laws on the use of wildlife. People said in the past the animals belonged to the people and they were under the powers of responsible chiefs or his representatives. They said that their customary laws were effective in that monitoring was easy as all the people fell under the chief or headman. Under the indigenous culture, everyone was a policeman because they knew they owned the resources communally for their societal welfare. Now that everybody minds his/her survival and pocket, people are individualistic and this has lead to the overall erosion of the cultural identity of the community. This change in attitudes which

came through developments opened ways to private gains so much that meat is not apportioned as it was in the past.

The intrusion of foreign cultural practices also in the communities were blamed to be negatively impacting the attitudes of people to wildlife and the indigenous institutions. People are now adopting town lives and attitudes where people are self-centred and have no regards to leaders. The people showed that people no longer regard their relatives.

The people also strongly indicated during the course of the interviews, emotionally during focus group meetings that commercialisation of game animals had changed completely the attitudes of the people. They contested that in the past people hunted only for the pot of their families while these days people hunt for business or pleasure. The people persistently pointed to the safari operators that they are the people to whom the government have now sold their land and wildlife. Peoples' behaviour towards wildlife had now changed from seeing wildlife as a resource vital for survival but rather as a business venture. They said that this market hunting economy is the one that makes harvesting of wildlife not sustainable.

5.6.3 Fences

Due to erection of veterinary cordon fences mainly in Ngamiland, the respondents felt that this has greatly impacted the wildlife resource in terms of their numbers and their long term viability. This also affected the size and extend of indigenous hunting grounds and territories and hence rendered them incapable of following their indigenous systems of resource management. Migratory communities were made sedentary and therefore resources within their vicinity were quickly exploited. This situation was raised up in /Xai /Xai as people complained that the fences have even restricted wildlife outside their present hunting area. The two communities, who were all affected by the livestock disease control fences in the past, showed that the fences had changed their indigenous hunting area very much. They said that even if they would be allowed to hunt freely as they wish, there are

fences all over the area which have killed a lot of game animals.

5.6.4 Developments

People within the two communities said that the introduction of the modern weaponry was on itself the end of wildlife. They said that with their indigenous methods there was a limit on the number of animals one could kill. Now with motorised transport that could even go into previously unaccessible areas, people can easily kill as many animals as they want in a short time. The headman of Sankuyo village, to this effect could clearly report with unbelief the massive killings he once observed in 1942. He said that a 'Boer' came within their area and shot and killed indiscriminately many animals. He said the man, who to him seemed to be trigger hungry as his intention was not to eat the animals, was arrested at the ruling of Chief Mathiba, the then paramount chief of BaTawana and his vehicles confiscated.

The respondents also mentioned population growth and the consequent mushrooming of settlements everywhere as causative agents to resource degradation. They said people move all over the country and lose their cultures and this creates instability within the people.

5.6.5 Regulations and Policies

The people showed bitterness to the department of Wildlife and National Parks by saying that since its creation it has put restrictions on indigenous hunting habits. They said the government did not consider them as people whose ancestors had stayed with animals in the past without laws and regulations but still the animals existed. The BaSarwa were very strong on this saying that the life-style and identity of BaSarwa is all in game animals. They said the regulations set were meant to cut them off from their customary source of protein.

The people also complained about the restriction of indigenous hunting methods in that not everyone is rich enough to own a gun. Creation of parks and game

reserves restricting resource use in these areas was seen as an area of contention in Sankuyo. People said that the boundaries of the Moremi Game Reserve were extended without their knowledge and consent and eventually they were even denied resource use rights.

The people said in the past they had all their time to hunt and hence they have developed hunting ethics that showed preference to hunting male animals over female ones. The breakdown of this system of making a kill of a male animal in preference to a female one was blamed on the introduction of modern hunting season and time limits for daily hunting. It was pointed out that since people are competing with time and season to make their legal kill, they are forced not to be selective because they just want to maximise their chances of getting the licenced animal. They said this was not so in the past because people used to hunt the animal of their choice at their own time and chance.

5.7 Summary

The two communities had systems and practices relating to wildlife utilisation. Respondents showed that they had customary rules and guiding principles that controlled their use and access to the wildlife resource. These local communities had customary laws engraved in rules, ethics, taboos, totems, myths, superstitious and religious beliefs and subscribed to ritual practices. There were seasonal taboos and resource use restriction imposed on the communities and this shaped their behaviour and attitudes in resource use and management. Land use patterns also followed restrictions imposed by seasonal variations and people had exclusive rights over their territories and the resources therein and could offer inclusive rights to aliens. The systems and practises were transmitted orally through forklore and tales.

CHAPTER 6: ANALYSIS OF FINDINGS

6.0 Introduction

Based on the findings from the two communities, the results were comparatively analysed to identify areas of commonalities and differences. This chapter present the various sub-variables identified within each ethnic group in terms of their similarities and differences.

6.1 Commonality

6.1.1 Indigenous Resource Management Structures

Traditional leaders like the chief or his representative and/or elders were all vested with the responsibilities and powers of resource management under the indigenous cultures. Hunting was pursued through the knowledge and authorisation of these indigenous institutions. Though everyone could hunt, there were people within the communities classed as hunters because they possessed specialised hunting knowledge assumed either through experience or ancestral gifts. However, these people owe alliegience to the respective authorities in charge of resource utilisation.

6.1.2 Indigenous Channels of Communication

Indigenous knowledge was shared, transmitted and gained through oral communication or hands on experience. Legends, folklore and story telling constituted much of this information sharing. Young men, who were mainly involved in hunting, were taught the skills and the ethics of hunting and other related resource management by participating in meetings organised by elders. From the BaYei cultures this was even more formalised through the regimental structure where men and women were brought together and groomed on the affairs of life. They also gained experience as they accompanied elders in hunting forays or made their own personal endeavours out of sheer interest. Hunting experiences were also shared with the youngsters by the elders around fire places during the

night.

6.1.3 Hunting Seasons and Times

Hunting was mainly done during winter season between May and July (Table 1a & 1b). Preference for this period was mainly dictated by the type of indigenous weaponry that was employed during that time. Snaring and pitfalls, hunting techniques used by these cultures, were rendered ineffective or totally unsuitable for use during other seasons save winter period. Barks of trees which were traditionally processed in making snares were rendered less effective during rainy seasons as they rot when soaked with water or moisture. Only during winter when there were no rains could this method be effectively used. Pitfalls used by the BaYei were also rendered unsuitable as they get filled up with water and in some cases subsided as the soils were sandy.

Indigenous communities did not have set time-frames of hunts, that is, no restrictions in hunting either during the day or during the night. However, hunting forays were usually started just before sun-rise while it was clear enough to distinguish and follow animal tracks. The search would normally continue until it is dusk. However, the fact that people knew that they have all the time in terms of days to pursue their targeted animal, they would not make any haste in following the animals during the night. This was also accredited to the fact that under indigenous hunting strategies, there was marked preference for male and mature animals during hunting.

Though hunting was continuos in both societies, winter was the main hunting period in that it was the period when big game species were hunted. It was mainly the small game which was hunted on continuous basis and this was more pronounced on the BaSarwa. They, however, did not intensify hunting pursuits during other periods because veld products - which were gathered all year round, were most abundant and hence offered an alternative subsistence resource base. In agrarian society, commitment to other economic activities like ploughing were

given more attention and hence less or no hunting at all (Table 1b). Hunting outside winter was mainly pursued through the chief's orders or when meat was needed for special occasions.

6.1.4 Hunting Tools and Techniques

The indigenous communities used simple hunting tools and techniques, bows and arrows, snares and pitfalls. Snares and pitfalls, were used with caution to avoid killing of non-target animals and massive numbers of target species. The techniques followed in ascertaining of animal habitats and territories prior to setting pitfalls and snares well attested that these were made to be selective. The sizing of the of the diameter of the snare to fit the leg, neck or any target organ of a particular animal species clearly depicts that the whole process of hunting through this method was thought of and well organised.

The digging of the pitfall to fit the size of a particular animal together with the construction of bush fence enclosure around the pitfalls also show that these indigenous communities always had target animal species. It was however admitted that this method was detrimental to small game animals though it was on rare occasions. The simplicity (nature) of the types of the digging tools, that is traditional wooden hoes, used under indigenous cultures also served as an indication to the size of the pit that could be dug and hence the number of the possible kills. Generally, the hunting tools used were not so much effective to mine the faunal resources as is the case with the modern weapons. The type and efficiency of indigenous weapons used dictated the species, size and number of animals that could be killed.

6.1.5 Systems

Resources use and management was regulated through a set of totems, taboos and superstitious believes and myths. People paid referential fear towards these systems and practices. There were various sets of systems that were in place and they served in regulating certain social behaviours relating to various aspects of life,

including various natural resources use and management.

6.1.5.1 Totemism

The two societies had different animal species representing their totems. These were seen to differ even within one ethnicity. It was believed that totems are god-given and it was regarded a taboo to hunt, kill or eat one's totem animal. The tribes had closed affinity with these totemed animals through previous encounters with the ancestors. The animals were revered and it was perceived great honour to greet elders calling them by their totem animal.

6.1.5.2 Taboos

Taboos were also commonly used among the two societies and though they covered the whole societal day-to-day living and affairs, some of them were specifically relevant to resource management and utilisation. It was evident that the "do's and don'ts" widely in place in the past were not explained to younger generations quite easily. However, the wisdom behind most of the taboos was to regulate resource use. It was considered a taboo to hunt or kill a totem animal and it was superstitiously believed that any attempts to disregard the taboos could bring about detrimental results to the individual and/or family.

6.1.5.3 Superstitions

A number of superstitious believes were made evident within the two societies even though they differed. These superstitious beliefs governed or regulated resource use. Superstitions, totems and taboos were so closely associated such that it was even at times difficult to separate the three. The making of a successful hunter was believed to be a supernatural intervention and gift such that lack of success over several occasions was thought to be a sign of discontent from the ancestors or gods on an individual. Dreams and visions were widely associated with fortune or

misfortune depending on the type and interpretation and were used in the making of a hunter.

6.1.6 Ecological Understanding

The two societies illustrated through the wisdom behind indigenous knowledge and systems and practises an awareness and understanding of the environment in which they lived and subsisted together with the ecological processes. This knowledge base was build up through time of observation and experience. Certain animal species were associated with certain habitats and localities. The descriptive names of wild animals and plants in indigenous language indicated a wealth of knowledge regarding habitat preference by different species and their behaviour, which in essence constituted ecological understanding. The application of this knowledge became more evident in animal tracking technique where a high degree of knowledge of animal behaviour and distribution patterns were practically applied. Identification of animals during tracking was not only based on spoor identification but also make use of feeding habits - grazers or browsers.

The location of snares and pitfalls after observing animal movements and frequency of spotting in an area over time depicted a knowledge of animal behaviour, habitat preference and territoriality. Since the snares and pitfalls were not put haphazardly, special consideration and attempt was made to kill a target animal. The size of the snare also brought in the parameter of choice of target animal and hence selectivity.

Floral or faunal resources that were used as toxins also proved a reservoir of knowledge of bio-chemical make up of these resources. Even the naming of these plants species have an implication of their chemical constitution. Collection of certain resources at particular periods or seasons and places indicated the knowledge of environmental variation and the life-cycles of the species concerned.

6.1.7 Social Integrity and Cohesion

Resource sharing was practised within the two societies. This was a cultural practice that was inherent within the indigenous communities and it strengthened the social fabric of the societies. Resource sharing was made easy through the extended family structures, the nucleus of which was the chief or the elder. Communal sharing of the resources instilled a spirit of communal ownership and hence conservation and management commitment. The customary rules and regulations, practices and beliefs that were enshrined within the communities served to hold the social fabric and order of the society and at the same time acted as stabilising force. It was these indigenous rules and practices which actually made a society or a community to identify as one. Rules were engraved in the moral cultures of the society and regulated individual behaviour.

Hunting in both societies studied was done entirely by men while women mainly pursued gathering of veld products used to supplement protein from meat. There were defined complementary roles played by men and women. People were responsible enough in carrying these duties and obligations fully to the benefit of their extended families. Provision and family support was basically shared as women contributed veld resources while men provided meat protein.

6.1.8 Territoriality

The communities had hunting territories in the form of tribal areas or *n!ores*. These areas were big enough to cater for the subsistence needs of the resident community. Natural features were used to delineate the territorial boundaries. It was within these territories that hunting was done by the customary owners and outsiders. The alien tribe or band members could however be allowed to hunt within other's tribal territories after being granted consent to do so by the relevant indigenous authorities because the communities claimed exclusive rights over the resources within their *n!ores*.

6.1.9 Land Use

Within the tribal territories and *n!ores* various land use types were pursued following land suitability and compatibility. These were more in line with the type of economic activities undertaken by each ethnic group. The agrarian society used the river as a source of water for both human and livestock consumption, fishing and hunting while the flood plains were used for *molapo* farming. Usually settlements were scattered over a wide area. This was so because of the nature of the delta ecosystem these societies were operating in and the individual family fields that sandwiched the huts.

The hunter-gatherer society constituted a simple land use type of seasonal settlement camps and hunting and gathering areas. The people lived a nomadic life-style within their band territory. Their movements followed the seasonal distribution patterns of the faunal and floral resources.

6.2 Differences

6.2.1 Resource Apportionment

Faunal resources, as well as floral resources belonged equally to the people though in all the societies studied they were vested upon the authority of an indigenous leader. Everyone within the society was the custodian of the resource which was perceived as a gift or heritage from the ancestors. However, from the BaYei cultural practices, there were specific animal species regarded as belonging to the chief. This practice was not found among BaSarwa.

This deviation within the BaYei should not be seen to have granted the chief exclusive rights to the designated resources because in many occasions the chief would give an order for these animals to be hunted, mainly the regiments. The meat from this kill would be communally shared either by being distributed to the members of the regiments who participated in the hunt or cooked at the *kgotla* in

which case everyone may come and have a share. In this way the chief was able to regulate the hunting of that particular animal species for the welfare of the community. It was inherent within this culture that 'a chief was the chief because of the grace of his people'.

The chief could also order a hunt when there was a community occasion or rituals where meat would be needed. Therefore the reservation of certain animal species for the chief was not done to fulfil the chief's selfish endeavours but rather to serve the community. There were again specific organs like the chest which were normally given or reserved for the chief. The community as a whole took pride in this undertaking owing to two factors. The chief was well respected and people paid homage to him for all the traditional obligations and duties he undertook. Secondly, the chiefs by then were supported by the tribe. They were not on a payroll and hence it was perceived a moral responsibility by the community to take care of the chief.

This practice was more or less similar to the *!Kung* practice as certain organs from the very first kill of a hunter were given to the band leader. The band leader used these portions to undertake ritual requirements for the welfare of the hunter and the community at large because any deviation from this may result in heavy penalties from the ancestors not only upon an individual but the whole band.

6.2.2 Totemism

Generally the systems and practices of regulating faunal resource management and utilisation were more similar than they were different. Though the underlying concept and purpose of the system and practice could be the same, it became evident that the way it was done differed not only between ethnicity, but also within the same ethnic group. An example of this is found in the totemism and taboos. The two ethnic groups studied had different totems. There was also a marked difference between the superstitious believes between the two communities.

Moreover, each ethnic grouping had more than one totemic animal and different family bands had different animals as their totem. It was however equally tabooed between the two ethnic groups to hunt, kill or eat a totem animal.

6.2.3 Indigenous Weaponry

The BaSarwa showed an advancement in terms of tools they used in hunting by their spectacular use of bow and arrow which was regarded not an indigenous practice in the BaYei tribe. This kind of development was more encouraged by the type of economic activities which the two ethnic groups were involved in as part of their indigenous culture and practice. The BaYei, unlike the BaSarwa were not only focussed on hunting and gathering for their subsistence but rather complemented this with agricultural pursuits involving pastoral and arable farming (Table 1a). They also were acclaimed fishermen. Therefore it was this diversification of economic and production activities that made BaYei to be less development in the technological advancement of their weaponry when compared to the BaSarwa.

6.3 Summary

The systems and practices between the two communities had many things they held in common. This was so because though the administration of a certain practice might differ within one ethnicity, its interpretation, purpose and focus would be similar. It was this meaning behind systems and practices that formed the basis of resource use management and hence made the systems similar in practice.

CHAPTER 7: DISCUSSIONS

7.0 Introduction

This chapter presents the discussions of the findings. It draws from the interpretations of implications as explained by the respondents and observed by the researcher. Documentary data is extensively used also for inferential and contextual analysis and deductions. This helped in comparing and contrasting opinions and observations and formed the basis of conclusion and recommendations. Different parameters identified from the preceding chapters are discussed individually.

7.1 Traditional Wildlife Management

Based on the findings of this study, it is evident that indigenous communities had traditional management systems which were very effective in environmental management. From this research, it was further made apparent that hunting under indigenous practice was sustainable in that people hunted animals only when there was a need, and were not intensively hunted during the breeding season. However, in cases where this was done, mainly in line with small game, care was taken not to hunt the young ones or leave them orphans. People developed strategies of coping with various environmental changes by developing conservation ethics engraved within systems and practises. These resource management strategies depicted sound scientific and ecological considerations and it was these strategies which were well rooted within the cultural setting of the local communities that were marginalised because no attempts were made to discover their ecological and scientific quality.

The history of faunal conservation laws in Botswana well attest that the laws imposed in people were done without any research consideration or awareness on the people/wildlife/conservation interaction such that there was marked going back and forth in its making. A clear example is seen in the restriction of hunting on BaSarwa community together with abolishment of the use of indigenous weaponry, which was later

reintroduced. Bow and arrow hunting, which all along was declared illegal method of hunting, was also reintroduced in 1994. This is a clear indication that marginalisation of these indigenous system and practices only occurred in haste or in favour of western approaches, most of which are or were not even scientific.

Some of the indigenous attempts were valued initially in the making of fauna conservation laws but with time they were excluded and I consider that as an erroneous move that lead to the current state of the faunal resources. Through nationalisation, communities were ostracised from managing the resources to their benefit, and wildlife, rather than becoming a valuable commodity was transformed to a nuisance that constrained production in rural communities by threatening crops, livestock and the local population (Winer 1993, 1995) I differ with Spinage (1991) when he argues that nationalisation of hunting control was a better arrangement when compared with tribalist administration. He urges, though to his disadvantage that universal application of principle laws had their loopholes in liberalisation of certain provision like killing of a problem animal and decline in penalties on game law defaulters. There are two major points raised by this statement supposedly said to justify and advocate for the ineffectiveness of the faunal laws. Firstly, when people are divorced from their traditional interactions with wildlife, it ceased to become an asset and became a liability. That is why people could just continue to kill animals under the auspices of problem animal control. This was a justified response to a liability. Secondly, it becomes questionable how possible it could be that with a better centralised arrangement in place, why should one be bothered with low penalties? This alone is an indication that with the introduction of 'the better system', poaching level increased and hence there was a need to lift up penalties as a form of deterrent factor.

7.2 Ecological Understanding and Perception

The local communities had shown an extensive knowledge of the faunal resources in terms of their biology, behaviour and ecology. The traditional names of animals and plants carried profound meaning and insight in the ecological setting of the resources and

this culture inherent in these local communities extended even to other resources like soils (Musonda 1994). Tanaka (1991), who devoted portion of his research to archiving this information concluded that San's attitudes towards wildlife could well be derived from their linguistic taxonomisation whereby animals were classified categorically in terms of their edibility and various cultural identities accorded to such animals.

Peoples' migrations with seasonal changes to areas where they knew the fauna and even the veld products would abound also suggest that people had understanding of seasonal migrations of fauna and floral resources. This knowledge of seasonal variations of natural resources in terms of type, place and abundance depict a sense of understanding the dynamics of resource ecology and the processes governing such - which in essence is ecosystem dynamics. Similar findings were made by Mishra (1994) that people used resources on seasonal terms and turns depending on their abundance. This disputes the assertions by Mordi (1991:145) that "all that people know is that animals are abundant in the forest. Lacking a scale to measure what is left and what is lost, lacking the wherewithal to take census of the animals, lacking insight into the biology of animal reproduction and population dynamics, people believe that wildlife is inexhaustible" This is not true because the fact that people in their animal tracking systems could distinguish between the feeding habits of animals and classify them as grazers and browsers, determine the age by looking at the size of the spoor, prefer to kill male animals than females to reduce the number of bulls, put snares strategically after ascertaining animal territory or home ranges and associating animal with their habits is a message enough on its own that the indigenous communities had an understanding of animal behaviour, biology and ecology. It is even surprising that Mordi himself could fail to know the springbok habitat preference by associating it to forest habitat.

Since the indigenous communities have this ancient pool of ecological understanding and perception, this offers opportunities for tapping this information and utilising it in research partnerships with the indigenous communities. This practice has already found a breakthrough in the area of agriculture where indigenous farmers and scientists have formed joint ventures for information sharing and promotion of concerted undertakings

where through collaborative and interactive ways methodologies and approaches were developed together with the farmers (Showers 1996; Quiroz 1996). Department of Wildlife & National Parks in Botswana should be commended here for the current efforts taken to include community escorts guides in training them to document information on animal counts and spotting but I would suggest that this is not all that it takes to maintain partnerships. It involves a two way communication and information sharing.

The culture of omission of indigenous knowledge and practices found inherent in past environmental conservation research studies was blamed by Sekhwela (1992) as a proponent of lost opportunity of building upon and utilising this knowledge. Current ecological research studies should aim at bringing together biophysical and socio-economic environments in their pursuit of understanding and offering solutions to the current environmental dilemmas. Dikobe et al (1996) held a similar view that scientific research pursuits in relation to forest resources should also focus on unearthing indigenous resources management knowledge, and exploring their models for potential contribution to the modern scientific approaches which seem to be inadequate. This is as well true to faunal resources as it is to the forests. However, though this certainly defy Mordi's (1991:165) view that it is an unrealistic claim to presuppose that local communities possess any peculiar information on "fauna habits and ethos about which scientifically trained ecologists and wildlife are ignorant of", I propose it as a way forward to both community empowerment and sustainable management of natural resources.

The ADMADE programme in Zambia, should be seen to be a step ahead in this endeavour in that a research biologist is attached to work in every community managed area, maintaining close links with indigenous communities and complimenting contemporary research methodologies in areas like wildlife monitoring. The duties of the said office revolves around working with the communities in matters related to animal research and quota discussions.

7.3 Traditional Institutions

It is evident that the sustainability of the faunal resource base in the indigenous communities was very much dependent on the strength of the indigenous institutions that were in place as they were vested with management decision-making powers regarding the regulations of the natural resources. Similar observations were made by Niamir (1995) and Kakonge (1995). However, the strength of the traditional institutions also relied entirely on the social cohesion within the society. Traditional proverbs like '*kgosi ke kgosi ka batho* (the chief is a chief by the grace of the people)', '*kgosi ke thotubolo, o olela matlakala otlhe* (the chief is a dumping place, he takes every refuse)[13]' shows the type of responsibility accorded to the chief towards his people and his people towards him. As stated by Mishra (1994), these local traditions and perceptions revealed how cultural and ecological balance was maintained. The chief and the elders were accorded respect as they were seen to maintain order and justice within the society. In cases of the BaSarwa community, most of these traditional leaders were also ritualists. The success and sustainability of CBNRM in Botswana therefore lies in the involvement and empowerment of these indigenous structures, a similar view shared by Kakonge (1995).

The erosion of this traditional structures could be blamed on the legacy of colonialism. The colonial masters on their arrival set up administrative structures which undermined the traditional institutions in regard to the powers they were accorded under traditional systems. Fortman (1986) found that the traditional institution in precolonial days had considerable powers and made similar observations that colonialism for the most part, eroded and circumscribed the powers of the chief. Even after independence, the countries' administrative and political structures which took over could not recover from the colonial aftermath quickly so much that authority of the said institutions were further reduced. Even the policies put in place after independence together with their consequent

[13]This means that the chief is responsible for all the tribal welfare of the society so much that anything brought do him, whether good or bad, he has to address it. He treats people equally.

acts depicted this colonial mentality. The Tribal Land (Amendment) Act[14] No.49 of 1969 (Government of Botswana 1970) pioneered this by taking off the powers of determination of customarily forms of tenure of land away from the chiefs and vesting it upon land boards. Section 17 of Tribal Land (Amendment) Act 1993 imposed a further duty of defining land use zones within the tribal areas on Land Boards. The Fauna Conservation (Amendment) Act No. 1 of 1979 followed suit by replacing all previous references to the tribal bodies by Land Boards (Spinage 1991).

The traditional institutions, mainly the chiefs, were appeased on the course of the way and by the time they realised that they were caught in the appeasement trap, it was already late. Continual assertions made by Spinage (1991:12) on this issue are even made clear on the following letter he cited from Sillery from the British Colonial Office to Chief Kgama, Sebele and Bathoen;

'*Outside of the boundaries now laid down for the chiefs, the British South Africa Company will administer; but the Chiefs will continue to have the hunting rights which they now enjoy, provided they agree to observe a "close season" and that they will nominate certain hunters for each year, to whom hunting licenses will be issued by the proper authority*'

To this effect Spinage (1991) claims that though the letter sounds like making conditional rights, the chiefs never objected to the decision implying that they happily consented to the decision. I disagree with the analogy in that though commonly silence is taken to imply consent, in this case the chiefs found themselves already in a trap with no alternatives but to be silent. They realised that they were already appeased in the laying down of the boundaries and setting of the 'proper authorities' (whether it was through their consent or not the author did not mention), they at least should secure the hunting rights as their means of survival by bowing to the demands.

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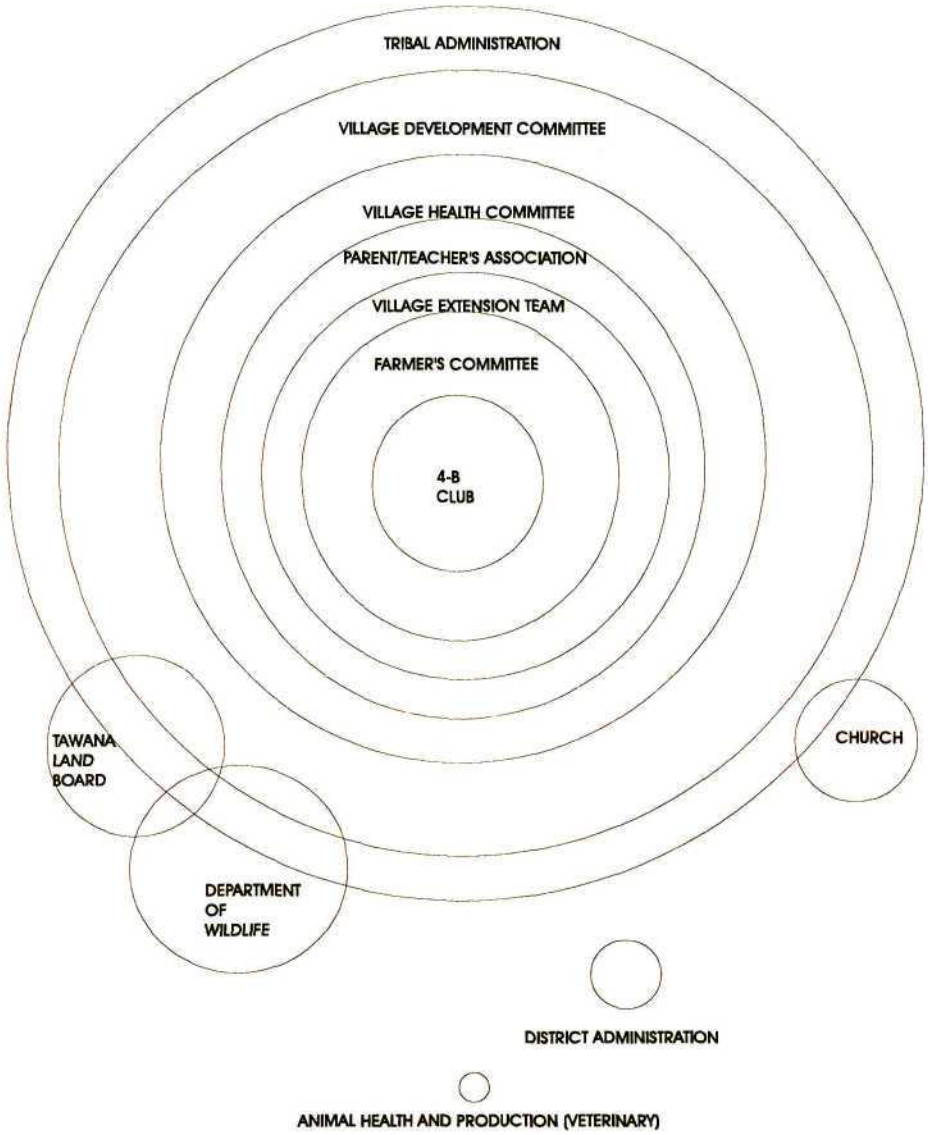
[14]Provisions of Section 13 (1) of this Act were presented as follows; All the powers vested in the chief under customary law in relation to land, including...shall be vested in and performed by a land board acting in accordance with the provisions of this act.

It is this marked power stripping from indigenous traditional resource management structures that lead to the collapse of the institution. The collapse was then followed by the collapse in the community itself because tendons coordinating the muscles of the society were attached to this institution. The chief, headman or elder was seen as a source of motivation, strength, inspiration and a symbol of unity of the community.

The spectacular move that saw the shifting of chieftainship from the people came when these traditional leaders were salaried and treated as civil servants. The chiefs then were left without any autonomy for they had to dance to the tune of their masters. During the precolonial days, chiefs were supported by the community and since they were now detached from the communities, the state took over this responsibility and obviously with this system in place, conflicts of interest were inevitable. Schapera (1970:248) made this observation when he stated that "by 1940 they (*the chiefs*) had been reduced in some respects to the status of subordinate government officers, but the administration allowed them to retain and sometimes itself made use of their legislative powers". The previous 1994 chieftainship crises in Ngwaketse tribal authority is a symptom of this underlying contention.

Though chieftainship as an institution is dying away, the situation is not hopeless in Sankuyo. Maotonyana (1996) from her findings of socio-economic baseline study in the village found the institution to be still strong. From the institutional ranking diagram developed by the people, tribal administration was ranked as the base upon which all other village based institutions rested and should originate (Figure 1).



LINKAGE AND RELATIVE IMPORTRANCE OF SANKUYO VILLAGE INSTITUTIONS, NOVEMBER 1995

Figure 1 Sankuyo Institutional Ranking Diagram (Source Maotonyane 1996)

The linkage and size (indicating importance to the community and working relations) accorded to Tawana Land Board and Department of Wildlife & National Parks shows the historic working relations this two departments had painted with the community. However, since this institutional ranking was done during the preparatory and facilitation meetings leading to the formation of a community trust paving way to community

management of their natural resources under the facilitation of the said departments, it is expected that the cordial relations that existed between the community and the departments will change the people's perceptions towards these departments.

Similar observation were made in /Xai /Xai mainly from the BaSarwa community, who form the majority of the population, as the orientation of the current physical settlement set up depict that they are still retaining their unique previous social band order and relations (E. Rugrog 1996 per comm). The people who belonged to the same band made aggregated huts in the same place where their band leaders settled in the village. This was observable even when I interviewed the once-upon-a-time band leaders. Rugrog (1996 personal comm.) observed this correlation in the development of community wards structure put in place for management of the community wildlife quota. All the people who belonged to the same bands previously showed preference to form wards together with the exception of Baherero who had to fit themselves within these wards.

These observations made from these two study areas might be shared by many communities within the country. There is therefore a need for intensive research studies country-wide similar to the one undertaking by Maotonyane (1991) as a baseline study to see the potential of revival of the traditional structures that were lost. Molamu et al (1995) also recommended for revitalisation of family extended structures because it could serve as a forum in resource use decision-making and help in broadening participation base within the community. It is then that pragmatic strategies can be set up for a way forward towards this institutional awakening.

7.4 Indigenous Hunting Practices

Some of the indigenous practices in hunting within the societies showed that there were ecological considerations worth incorporating in the present wildlife management attempts. The most important of these were selective hunting of male animals, winter hunting and confirmation of animal habitats and territories prior snaring. However, this systems of practice were encouraged by the absence of hunting times and seasons. People

knew that they could take their time in being selective because they have all the time at their disposal for hunting. Now, with the introduction of limitation in terms of hunting time and period, people are preoccupied with the intention not to miss the opportunity and hence would kill any nearest animal irrespective of sex. It should be noted that this practice of reducing the number of males within the flock was very inherent within the agrarian cultures and it was depicted in the coining of a proverb "*poo ga di ke di tlhakanela lesaka*", meaning two bulls cannot live together in one kraal. Used in terms of family setting it implied that it is impossible to have two heads in one house[15]. I believe this came out of observation of domestic livestock behaviour and interactions and this was adopted to wildlife and revealed in local preferences to kill male animals[16] so as to reduce them. This follows a simple biological phenomenon of intraspecies competition. With more males or bulls within a population, there will be marked competition for females and hence consequent fighting given way to survival of the few fittest animals. Rather than letting nature take its cause, the indigenous communities took advantage of this practice

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[15]I think it suffice to say that this is what tribal authority has suffered, it couldn't withstand the administrative horns of the bull of colonialism, hence its consequent defeat.

[16]I clearly recall one day after I addressed a group of headmen and agricultural conservation committees members from all over Ngamiland district during a conservation conference at Nokaneng, in November 1994 on the decline of buffaloes within the district how one farmer confronted me during questions and comments session. The man took his time by explaining how the decline of all the wildlife species in Botswana should be blamed on the Department of Wildlife and National Parks. He said the department should be blamed because they have allowed foreigners to come in and hunt without any hunting ethics, consideration and experience. He said these hunters kill any animal they come across just because it is in their license while the indigenous communities used to show preference for male animals during their hunting. He said they did this with buffaloes and that is why they never have reports that the animal are declining. As it is typical of any civil servant confronted with the unexpected, I had to justify technically how impossible and outdated that practice is even though as a biologist I knew the ecological importance of the practice. Moreover, little did he know that among the possible reasons behind the decline suspected by the report, over hunting by citizens due to their lack of marksmanship in shooting as compared to the non-citizen hunters were entertained as a possibility. It was not long that the department gave an order that every buffalo license should be endorsed that only male buffaloes should be killed. This was one of the strategies set to try to arrest the 18% annual buffalo decline within the district. It was then that this comment stuck more in my mind so much that it became one of the driving forces of doing this project.

and practised hunting as a culling method. With fewer males, less intraspecies competition and more females would be fertilised to reproduce. However, this practice is dead within the indigenous cultures, not necessarily because they did not want to practice it, but because they are forced by time limitations imposed on them by alien rules and regulations.

Policy makers should be informed that these indigenous practices lost to current policy direction should be revisited and revived in an attempt to come up with concerted conservation efforts through partnerships. This will be made possible by the fact that since the department of Wildlife & National Parks allocate a community wildlife quota annually and the legal management structures are in place to account for the use of this quota, the communities can be given autonomy to spread the quota across the year. The communities will include this in their annual management plans that should be submitted annually to the department prior to issuing of the quota. This allowance will make the communities to hunt the animals at their own pace accommodating their indigenous practice. The communities' previous practices of hunting small game outside the customary winter hunting season will still be followed as small game will be killed during this time and big game species killed during winter. It should be noted that the indigenous hunting season that was dictated upon the communities by climatic and seasonal conditions falls well within the parameters of the current conventional hunting season, which runs from April to September. With this, there is no need for a change. Spreading out the quota will help promote hunting male animals only which is ecologically sound. The community can be informed to establish regulations to this effect following the provision made in Section 15 (see Appendix VII) of their Notarial Deed of Trust (Sankuyo Tshwaragano Management Trust 1995).

7.5 Indigenous Resource Use Strategies

The resource use strategies that were in place were commendable in ecological terms in that they allowed for sustainable harvests in different environments. The nomadic life-styles practised by these cultures helped to give the resources in different ecological

settings time and seasons to recuperate. The diversification on modes of economic subsistence found in the BaYei shows that the people did not exploit the resources to an extend of impairing their regenerative abilities. People subsisted on agricultural products and fishing on a particular seasons, and assumed hunting in winter and all these activities were supplemented by a diversity of veld products which were seasonally gathered. Tanaka (1970) reported that the San dietary patterns and constitution were dictated by seasonal changes of the food items. Maotonyane (1996) also made an inventory of veld resources that were used seasonally in Sankuyo. These generalised and innovative subsistence and natural resource base utilisation strategies sustained the indigenous resources and the indigenous communities.

The communities had shown interest in following these indigenous strategies for they perceived that they were sustaining the resources. This is well evidenced by the inclusion of the resource governance bye-laws and sanctions section in their notarial deed of trust (Sankuyo Tshwaragano Management Trust 1995). Section 15 (1) (see Appendix VII) made this provisional by advocating for the establishment and development of bye-laws and sanctions governing management and utilisation of natural resources by the Board of Trustees, and by general members as individuals, within the area (referring to the community CHA area). The community intends under this section to establish bye-laws for 'any resources over which it has been granted rights of utilisation by virtue of the contents of lease agreements with Tawana Land Board or quota allocation or agreements with the Department Of Wildlife & National Parks'.

During the deliberations leading to the development of this Notarial Deed of Trust, of which I was one of the facilitators, people gave out concerns that people from within and without come in the area and cut thatching grass indiscriminately while it is not yet fully ripe. For this reason the resources have been overutilised beyond their capacity to regenerate and to support the ever-growing needs of rural populations. Under indigenous practice, the community showed that the people waited for the chief or headman's ruling to declare open season for grass cutting. This was done after the chief had consulted with his elders ascertaining that grass had fully repined and the seeds are dry enough for

dispersal. In this way grass was able to grow again in the same area year after year. Irresponsible, uncontrolled and untimely harvesting has now reduced the grass spatially. Now that the chief's powers and responsibilities have been expropriated to law enforcement institutions as the resources were nationalised and taken over by new administrative structures which lack the capability of even monitoring resource utilisation, they felt inclusion of the said regulations will help monitor the situation.

The shift of powers from the indigenous management structures which was followed by nationalisation of the resource are the very factors that have lead to Hardin's popular notion of Tragedy of the Commons (Hardin 1968). Because of the tradition of community resource management and its residual strengths, which rested on the traditional institution, communities had collective incentive to manage natural resources. Though Hardin's analysis of the situation was meant to discredit the common property resources use, it should be noted that Hardin failed to direct the blame to the right culprit. Greed manifested through individualism was symptomatic and it was not the cause of resource degradation. Individualism was the result of something and was manifested as an alert system. Its presence and reoccurrence gave alert that something has gone wrong, and this was the breakdown of the traditional management institutions - the root cause.

Moreover, Machena & Vanek's (1995) argued that Hardin's notion that the resources held in common will inevitably be overexploited and degraded was conceived out of failure to differentiate between an open access system and common property regime. The former, which is the current day nationalisation, creates a 'free for all' resource while the latter is characterised by specified behaviourable rules and group size. Similar views held by Murphree (1993) showed that in open access regime, resources are utilised opportunistically without any management while in communal property resource regime there are rules governing access or exclusion. These behavioural rules are enshrined in customary laws, communal codes, traditions and practices inherent and unique to a specific number of people and governed by a respected indigenous authority. It was when this authority collapsed through colonial intervention that management or self management of resources utilisation also failed with the inevitable consequences of the

common property resources degenerating into open access resource. Similar observations made by Armitage (1996) depicted that the strength of communal land systems in Tanzania rested on the maintenance of the traditional-cultural and resource-use systems and institutions.

Customary resource law has been superseded by several Acts geared towards improving resource management. Of significant importance is the Agricultural Resources Conservation Act which is supposed to control utilisation of natural resources. This Act provided for the establishment of Agricultural Resources Board which is vested with considerable natural resources management powers which are falling on deaf ears of indifferent communities. The resulting situation brought by these Acts has been the usurping of power and responsibilities away from indigenous management structures that were entrusted with these responsibilities and the consequent breakdown in social cohesion.

During a Regional Natural Resources Management Annual Conference attended by practitioners from Southern Africa in 1995 in Botswana, a note flagged to the readers conferred the message that the tittle of the conference, 'The Commons without the Tragedy', was meant to disproof that management of communal land resources was not bound to follow Hardin's tragic path (Rihoy 1995). It should be seen that the current provisions in lease agreements between the communities and Tawana Land Board defeats this admirable intent because the provisions still advocate for a free-for-all resource regime.

The current lease agreements for resource utilisation within community areas offering inclusive rights to any citizen of Botswana need to be reviewed mainly for community managed areas because this will impair communities attempts of resource monitoring within areas designated for their use. Though this was done to safe-guard the interests of the local communities in regard to their traditional user rights, it should be known that it now defeats the anticipated wise use of the resources by the communities. Outside communities will continue to use the resources with no consideration of the societal long

term integrity. It still has opened the resources to abuse through its open access system. It is this open access system associable to nationalisation of natural resources that had impaired the long term sustainability of natural resources because access is controlled by national bodies and control of users' behaviour is implied through legislation with little if any enforcement (Dikobe et al 1996).

7.6 Indigenous Conservation Ethics and Systems

It became evident that the communities had religious beliefs and traditional cultures which contributed significantly to the protection of not only wildlife, but also other natural resources and promoted conservation of biodiversity. The conservation ethics and the values were expressed in taboos, totems, laws and customs which were passed from generation to generation orally. These indigenous conservation systems were very similar in many cases. In both societies studied, some wild animals were considered as totems. The significance of, and the respect, fear or abhorrence accorded to such species originated in beliefs of common ancestry and superstitions associated with some kind of protective or evil deeds involving the species in the long past. Tribes in Botswana have specific wild animal as their totem and identifies somehow with such species. These totem species were protected and in most cases eating or killing of the species was forbidden or tabooed.

Another classic example is found in Ghana's rural areas where forests were protected because they were regarded sacred through customary laws and practices. Of particular importance is the establishment of the Baoben - Fiema Monkey Sanctuary which was based on the strong belief that Black and White Colobus, Spot nose and Mona monkeys were the companions of their ancestors (Bakarr et al 1993). With consequent threat put on these monkeys due to acculturation process, the Baoben and Fiema communities came together with an idea of forming a sanctuary to ensure their long term protection. Though the establishment of these forests was primarily based on religious and cultural beliefs, they have made significant contributions to the protection of these forest ecosystems. This instilled a sense of knowledge of these species from one generation to another thus

enhancing positive actions and conservation attitudes.

Schapera (1970) found similar observation in favour of trees. He found that the indigenous communities had seasonal taboos governing the cutting of trees. The trees were not cut normally between January to April and according to Lestrade, cited in Schapera (1943:263), the taboo period gave just enough time for trees to "strengthen and habilitate themselves sufficiently to render a certain amount of thinning out unharmful". This was ecologically sound. Moganane and Walker (1995) made similar observations that tree harvesting was governed by taboos to which superstitious beliefs of curses, bad luck or natural disasters were attached to the defilement of such taboos.

Some species, a situation shown in Sankuyo and generally held by the tribes in Botswana or generally Bantu cultures, were denoted as royal game and hence exclusively reserved for royal families and royal use. This species designation of royal game was a form of control in hunting that specific species because it could not be hunted unless only through the chief's ruling. Owen-Smith (1993) made similar observation in Namibia and noted that the meat obtained during these 'royal hunts' were shared communally and hence reinforced the chief's integrity and authority. The animals were not designated to satisfy the chief's selfish ambitions. Chidumayo (1994) also gave an example whereby Tonga Chief Mwanachingwala held rights to hunt around Kafue River. He concluded that harvesting of Kafue lechwe (*Kobus leche*), which was done at the chief's ruling through organised annual communal hunts that were sanctioned by traditional rights and rituals affirmed principles similar to modern ideas of sustainable culling. These royal animals were also used during tribal activities like the installation of a paramount chief.

This practice is still held in Botswana as seen in 1995 when the Paramount Chief of BaTawana, Tawana was installed as a chief. The tribe requested from the department of Wildlife & National Parks to be issued a license to hunt a lion. The chief put on the lion skin after been sown in as a symbol of honour, respect and authority. Chief Tawana participated in this hunt as a tribal practice. It is this practice that was intrinsic in the African culture that helped to prevent the over-harvesting of such species in that they

were rarely hunted. Other tribes in Botswana used leopard skins. These were classic conservation values that were enshrined in superstitious and religious beliefs.

The wildlife clubs of Botswana, mainly consisting of primary school pupils, secondary and tertiary education students, should be informed on these practices, their ecological implications and they be debated upon in comparison to the current scientific attempts in conservation. This will form the basis of positive conservation attitudes. This will again close the gap created by the loss of the indigenous cultures wherein the elders used to transfer the information to the youngsters orally and through experience. This has been usurped by modern day education system which does not even propagate these practices but rather focuses only on western concepts, thereby depriving the scholars this vital information.

It is worth noting that inclusion of 'royal' game as a category of game animals in the previous game laws was a notable contribution. Though opinions might differ here in that inclusion of this 'royal class' in game regulations was welcomed by the Europeans because it was also their basis of classification (Owen-Smith 1993), I credit it in that it was compatible with African systems and practices and hence it gave recognition to the indigenous system of classifying animals. The replacement of this clause immediately after independence by the word 'conserved' species should be seen as a draw back and could have been judged by the communities as a mark of total alienation, not only from wildlife as part of their indigenous economies but also alienation from identifying with it. People perceived that wildlife no longer belonged to them as there was no longer any connotation of identifying with chieftainship.

A superstitious belief that lack of hunting success by a hunter meant ancestral dissatisfaction and hence temporal abstinence of the hunter from hunting pursuits was in a way regulating and managing the number of hunters. Ritual practices to be performed on behalf of amateur hunters as a sign of legitimisation also served as a way of controlling and administering the number of hunters within an area.

7.7 Indigenous Weapons

Indigenous weapons, though prohibited during the course of the development of fauna conservations laws, should be seen to have been less detrimental to wildlife populations when compared with the current weaponry in place which actually mine wildlife. I would concur that if ever anything, the modern weapons should have been declared illegal rather than these. It is usually assumed that these were not selective, mainly pitfalls and snares but this study proved otherwise. Use of enclosed pitfalls and putting snares within the observed habitats and pre-studied territories showed that the hunters were very cautious to avoid this possibility, which is not foreign to even gun users. Inclusion of Section 48 (1 & 2) in Wildlife Conservation & National Parks Act No. 28 of 1992 which provides steps to be followed after killing or injuring animals by error or accident while hunting 'still using the legal hunting methods' shows that some methods were favoured while others were marginalised without any base. This is one of the practices to which Chidumayo (1993) said they were not explored by western conservationists but rather were dismissed without and investigation and examination as ignorant superstitions rather than as a means to communicate and formulate ways by which one could become familiar with a world view shared by most rural Africans.

This state of affairs is true for Botswana in that after declaring bow and arrow as an unlawful method of hunting by exclusion from Section 57 (5)[17], it was later reintroduced

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[17]Reads, 'No person shall, except under and in accordance with the written permission of a licensing officer, use for the purpose of hunting or capturing any animal any immediate means other than a hunting rifle, a shotgun or a dog used subject to the limitations as may be imposed by regulations;
Provided that the provisions of this subsection shall not apply to any person acting in accordance with the provisions of section 46 (1) or section 47 (1), or to the extend that regulations made for the purposes of section 30 provide otherwise in respect of persons hunting in accordance with the provisions of a special game license'.

in 1995 as a trial, subsequent to which it was legalised in 1996 hunting season. This deletion and reintroduction of certain practices show that things were initially dismissed, without any consideration, let alone of their ecological significance. However, it is commendable that the section quoted above exempted Special Game Licenses holders from its provisions, which was also reintroduced after its initial omission.

Prohibiting the use of snares, pitfalls and bow and arrows in problem animal control also needs revisiting because from this study the communities showed that this was not done haphazardly as was and is always implied. Current justifications of exclusion of these gives an indication that it was taken as if a pitfall or snare was just put anywhere in the middle of nowhere while in actual fact they were strategically set in kraals and fields for problem animal control. The indigenous hunting weapons should be legalised and the control and monitoring of their administration will lie in the community quota management structures. This can be included in bye-laws set by the communities. The bye-laws should discourage the use of wires and ropes as snares because wires were not part of the indigenous culture and practices. It is note worthy that Lewis and Carter (1993) cited Chief Shikabeta making a similar concern that wire snares were not used in the past, and their possible intrusion if snaring is reintroduced, can have adverse effects on wildlife.

It is the limitation imposed by the type of snares used that encouraged and defined the winter hunting season, for this was the only season when snares could be effective. They were rendered ineffective during rainy seasons. Use of wires and ropes will therefore defeat the season specificity of this method, which had ecological contribution. Winter is out of the breeding season of game animals and therefore winter hunting helped to avoid the breeding herds during the breeding period.

7.8 Population and Settlements

Although there is a general consensus that traditional management systems of resources were made sustainable at low population densities, to the contrary LaDuke (1994) argued

that populations of North America's indigenous people were substantially higher than the current levels. This shows that management of natural resources within that ecological setting was done sustainably even in denser populations. This argument is critical to the whole debate on indigenous knowledge system because its dismissal, apart from being made on the basis of its backwardness, found its grips in being applicable only in low population densities.

I also argue that population by itself cannot be taken as the only parameter to dismiss the potential contribution that indigenous knowledge can offer in biodiversity conservation. If then we admit that at the current levels of population indigenous knowledge system is redundant, are we saying that we are fighting a loosing battle in biodiversity conservation? Definitely the current conservation attempts have proved ineffective and there is urgent need for new models, shift in conservation paradigms or else Africa is heading to an ecological collapse. Indigenous knowledge is one of these new integrative models and the new paradigm shift suggested as a move to community participation through respect and acknowledgement of the potential contribution of the knowledge system to global knowledge of resource management. It was the social ills inflicted within rural Africa by imposing alien resource management strategies and destroying the indigenous structures that held together and motivated societal cohesion, which even at current population levels, indigenous resource utilisation and management could still be sustainable in their presence.

The legacy of top-down planning that had no respect towards the welfare of the indigenous populations are the core things that brewed up the contentions. People were moved from their ancestral grounds and were forced to aggregate in one place under the auspices that it is then that developments will be brought closer to them. With expectation coupled with bitterness these African societies gave up and to their surprise they were presented with developments far divorced from their daily needs. These strategies ignored the subsistence mode of the communities that was the key to resource sustainability - that is seasonal shifting following seasonal resources availability which gave the resources previously exploited time to recuperate. Traditional land use system, which allowed for

shifting or seasonal migration and settlements structure in which people spread themselves thinly across the landscape were vital for sustainable resource use. The current settlement policies which tends to force people to aggregate themselves together at certain minimum numbers prior to recognition as a settlement encourages the erosion of this practice.

7.9 Development and Education

The nature and path of development in Africa have shown that the grassroots knowledge and participation were not taken in consideration. Swamson (1995:1), in attempt to answer the question on the causes of biodiversty decline said that "biodiversity decline from *a* perspective is not the consequences of either development or underdevelopment but rather the results of a choice of a particular path of development". This is true in that most of the development policies and their consequent move towards open access resource use regime force the poverty stricken communities to marginal lands where the resources were overutilised and degraded. The consequent imposition of alien resource management laws and regulation, foreign knowledge and ideas without regard to local knowledge has lead to rural Africa being indifferent and showing no sense of commitment to such attempts.

This has lead to marked unacceptableness by the recipient communities to grant support to these new and imposed developments and administrative structures. Most of the developments brought to rural Africa were not compatible with their needs. Projects were planned and implemented without participation of the communities, be at project formulation or implementation and at the end of the day they were expected to foresee that they will be sustainable. Most of these developments, since they displaced rural Africa from the resource base wherein they have subsisted, resulted in loss of wealth and created a situation in which most indigenous communities were forced to live in circumstances of material poverty.

Education, with all its importance, has been seen to be a major cause in the loss of

indigenous knowledge. Moganane and Walker (1995) and Kothari (1995) who studied communities in Botswana and Ecuador respectively held similar conclusions that because children and adults no longer spend time with each other than it used to be, the traditional channels of oral communications had been destroyed. The situation is ameliorated by the type of education instilled within African academic institution whereby anything indigenous is equated as outdated, inferior and barbaric while western concepts are are seen as the only answers to the current surmounting socio-economic and environmental problems and challenges. However, this belief have proven wrong in the area of natural resources conservation because with all the models of conservation put in place since the time of the struggle for Africa, the survival of Africa's diversity of wildlife has been seen and described by Musokotwane as 'a race against time' (Makombe 1993:1). Semali (1996) observed that while African students are groomed up from birth in a cultural setting that stresses practical knowledge and respect for elders, a conflict is created by the school system where lessons offered have little if any relevancy to African village life styles. The systems of schooling, with their characteristic legacy of colonialism, make Africa to look to the Western countries for solutions to problems which are endemic among them. It is high time that Africa has learned a lesson that indigenous knowledge, if it is entrenched in curriculum studies and development, then it will be a step marking a shift from this colonial legacy in which case this will even influence research attempts towards this area that will offer home-brewed solutions to ecological problems.

The wisdom of indigenous knowledge systems and practices is lost in our modern times as a result of fragmentation of cultures which supported them. Urban migration has also contributed significantly to the oral transference of indigenous knowledge.

CHAPTER 8: CONCLUSION AND RECOMMENDATIONS

8.0 Introduction

The central questions of this research dissertation revolved on assessing if indigenous wildlife knowledge systems could form a basis in improvement of community-based natural resources management programmes and whether there is any link between indigenous ecological principles and conventional principles or stratergies for wildlife conservation. As a basis for addressing these key goals, a set of four reasearch questioins were raised as laid in section 1.5.1. This chapter addressees the four research questions generated basing on the findings, analysis and discussions already made.

Basing on the conclusions and discussions, a set of recommendations and further actions devised to enable IKS to infiltrate smoothly as a partner knowledge in conservation in prospect for adoption process are suggested.

8.1 Conclusion

8.1.1 Indigenous Wildlife Management Knowledge Systems and Practices in Sankuyo and /Xai /Xai:

The two communities studied have religious beliefs and traditional cultures which contributed significantly to the protection of wildlife, ecosystems and promoted the conservation of biological resources. These systems and practices were expressed in taboos, totems, customary laws and regulations, superstitions beliefs, environmental ethics and values and were passed from generation to generation orally. Interpretation of dreams and visions were also used as a basis of finding a meaning in resource utilisation and management and certain anticipated social and environmental phenomenon. The regulations were enforced through a system of superstitious believes, ethics, sanctions and customary practices. Totem species with special cultural values and ancestral associations were accorded special protection. Oral transmission was through folktales, proverbs and organised traditional institutions like regimental structures. Some species were exclusively

reserved for elders or royal families and were only hunted on specific occasions for the welfare of the whole society.

Systems that are still extensively adhered to are totems and taboos. Most of the people still regarded it a taboo to eat or even kill their totem animals. Some people still rely in dreams and visions as a way of predicting the success of a hunting pursuit. Most of the systems have been invalidated by legislations and developments. The various kind of systems and practices were extensively dealt with in Chapter 6 and 7.

8.1.2 Strength and Weaknesses of Indigenous Wildlife Management Knowledge Systems and Practices:

8.1.2.1 Strengths

The strengths of IKS mainly rested in the fact that the systems were well rooted within communities at grassroots level, in a specific local context, environment and culture. The systems in the course of evolution were influenced by the socio-economic and political factors of the resident communities for which reason they had a holistic view of issues pertinent to environmental and societal well being. Moreover, the holistic approach of IKS in resource management/conservation was based on sound ecological principles that an ecosystem involves interactions of diversity of organisms interdependent on one another. Indigenous wildlife management systems were holistic catering for all the interdependence of all living organisms within their natural environment. This made the systems and practices to be identifiable in their roots with the grassroots people and hence they receive all the rapport, commendation and commitment of such societies. These are the ingredients that are deficient in the conventional conservation policies and attempts. The success and the effectiveness of IKS entirely rested on the will that was inherent among the societies as they identified with the systems on day to day basis. The

systems were locally generated and hence received community compliance.

The systems and practices were widely known within the societies identifying with them as they were part and parcel of daily life. Their mode of transmission, which was oral was quite efficient because it was initiated right at immediate family level and extended out to social structures that were in place by then, like regiments and hunters groups. This massive awareness-raising made throughout a person's entire life instilled positive conservation attitudes and behaviours. The systems were engraved in the minds of the people and hence people were always conscious of them. Current conservation policies are only known to the few elites and even if an attempt is made to publicise them to the local communities, they are not marketable because they are not relevant to socio-economic and political settings of the local communities. This on itself is the explanation of marked antipathy of local communities to the conventional conservation attempts.

The systems were dynamic in that they were adapted to suit changing ecological and socio-economic environments. Through this process of adaptations, the knowledge base of the resident communities on ways of dealing with specific environmental challenges was broadened. The systems and practices in their evolution and development path built on this information base. The systems also assumed their strength in their specificity in terms of ecosystems or ecozone. The systems and practices in place were unique to certain environments. The customary rules and regulations were put in place to regulate resource use taking in consideration from a broad perspective all environmental variations found in a specific ecosystem of residence. It was this specificity that made resource use and conservation attempts manageable, practical, and easily monitored. Conservation measures were also effective, efficient, cost effective and attainable because the resources needed to achieve it were all

focussed within a specific ecozone. This is not always the case with conventional conservation measures because in most cases conservation policies are formulated from models developed in a foreign and dissimilar, unique environments and in their implementation they are made to be generally applicable to or 'the' answer in all ecozones. Apart from been discredited for their marked annulment of socio-economic and political set ups, these nationalised policies are not always effective, either because of the irrelevancy to the ecozones targeted or their general approach which does not fully address the various components of the ecosystem. Some of the policies, if by chance they become relevant and suited to a specific ecozone, they are quickly made irrelevant because every ecosystem is dynamic. The lack of political will to easily change policies lend itself to this policy redundancy.

Enforcement of systems and practices, which governed and regulated resource use, and was engraved in the form of customary law - set of rules and regulations, was effectively done. Reasons behind this were that IKS was a form of cultural identity and people's self-esteem was build upon this cultural identity. There was communal cooperation, commitment and will in making sure that the systems and practices were adhered to and fully respected. People had collective incentive to enforce 'their' regulations for the long term societal integrity and because the resources were communally and equitably owned. More still, the resources were the very source of survival though after the encroachment of conventional conservation regulations people were alienated from this resource base for which reason the wild animals were reduced to a status of a nuisance and liability. Since enforcement was extensively done at grassroots level, there was minimal resource abuse. Current conservation agencies lend over enforcement role to demotivated anti-poaching staff who pay occasional visits or patrols to the areas. The success of law enforcement under IKS rested entirely on public participation and commitment at grassroots level.

IKS also owed its strength and success in respect accorded to the indigenous resources management institutions. The institution was a symbol of unity and strength and the societies confided in this institution for overall management of the resource. The social fabric and effervescence of the whole society or band originated from this institution. The institution identified and interacted with the public on daily basis. In the recent past, under current conservation institution, the communities only interacted with the institutions after a poaching incidence. This brewed conflicts and contentions and antipathic responses by the local communities towards the conservation agencies.

Indigenous wildlife conservation systems were practised within small populations and hence transmission and knowledge of the systems and practices were easy. Social cohesion owing to the presence of extended family structures made resource apportionment feasible. It was this resource apportionment that reduced the pressure of resource over-utilisation and abuse.

8.1.2.2 Weaknesses

IKS in wildlife management and generally, is culture and ecosystem specific and therefore this makes their application to be restricted only to particular localities. Attempts to implement IKS nation-wide may be a cost in time and effort. Since the systems and practices are culture specific, IKS is more prone to unpredictable changes due to the current pressures of cultural fragmentation and homogenisation. These pressures which degrades IKS are a result of modern developments encouraged by the historical marginalisation of the systems and cultural convergence. Drastic changes to cultural attitudes, practices and perceptions can negatively affect the ecosystem of residence because the cultures were built in the context of the ecosystem.

The systems are also susceptible to misinterpretation because in most cases, oral tradition only informed and stressed on what should be done, and rarely on the why. It was in the 'why' wherein the wisdom of the practice was found. Most people conformed to the systems as an acceptable cultural mode of conduct and made no attempts to unravel the meaning behind the taboos, totems and superstitious beliefs. This is a similar condition that faced the current conservation agencies in that people were never told the 'spirit of the law' but rather emphasis was put on the do's and the don'ts together with their consequent penalties of the defaulters.

IKS was not equally available and propagated to all people within the society because there were aspects of the knowledge system known only to certain number and unique group of people. This constituted specialised knowledge. Examples here are ritual leaders, traditional doctors and certain hunters. Immediate loss of these individuals from the society could mean loss of the information itself together with the potential wisdom it could offer. IKS can also be an area of confusion because apart from its culture and locality specificity, there were also variations within one ethnicity. Totem animals differed within the same ethnicity. This also directly affected taboos in that a totem animal was not normally eaten and/or killed. The presence of different totem animals then point out that one clan could as well consume others' totem animal.

Another weakness was dependency in superstitious beliefs and myths. These in most cases depended on one's beliefs. Since individuals in these indigenous cultures were raised within homogenous religious believes and practices, people's attitudes and moral behaviours were modelled and influenced by these believes. The current threat is that these are interpreted by alien cultures as mere superstitious beliefs and myths which hold no water. Disruption of traditional channels of communicating these systems

and beliefs have resulted in the inevitable displacement by other religious believes which are against everything indigenous in practice. These alien religious beliefs were enhanced in their propagation by technological advances and inclusion within current education system which suppresses and undermines IKS.

8.1.3 Potential Practical Applications in CBNRM and Wildlife Management:

Based on the findings of this research study, it became apparent that indigenous wildlife knowledge systems can immensely contribute to natural resources management in that they were built on sound ecological principles that are similar to the current conservation principles. Some of the indigenous practices in hunting within the societies showed that there were ecological considerations worth incorporating in the present wildlife management attempts. Important contributions could be made through partnerships in areas like natural resource monitoring, research, problem animal control, environmental conservation education and law enforcement.

However, IKS potential contribution in CBNRM and wildlife management/conservation efforts will only be made possible through reforms in conventional conservation policy and legal instruments. These reforms should be made to give way to the adoption process of the systems. IKS will therefore complement by closing the gaps left or not fully addressed by the conventional conservation attempts. In this way CBNRM and wildlife management can benefit much from IKS. The next section deals with recommendations, suggestions and further research studies which forms the backdrop to sustainable resource management through the benefit of IKS.

8.2 Recommendations

1. Devise research partnerships with the indigenous communities. This can be done by opening dialogue with the communities and making concerted effort in

developing methodologies and approaches together with the indigenous communities. This will help to establish right combination of collaborative research methods in resource management strategies agreeable to both parties. Through this, the communities will show a sense of commitment to the research findings because they participated and were involved in the formulation of research projects.

2. Incorporation of tracking abilities in current animal surveys techniques. Since currently the ground surveys for animal census involve data gathering during dry and wet season only, that is twice a year, the collaborative research methodologies developed can be used by the communities on daily basis, as they interact daily with the faunal resources to document animal track sightings. This will help improve the quality of data generated through animal census and contribute to better animal population estimates because documentation will be done on daily basis.

3. Researchers dealing with ecological studies should aim at bringing together bio-physical and socio-economic environment in pursuit of understanding and offering solutions to the current environmental dilemmas. The way forward for this is to equate equally the bio-physical and socio-economic environment because the two affect each other. The interactions of societies with the ecosystem should be considered in every ecological research. It was this omission made by past researchers and policy makers that has resulted in the current antipathy of the local societies to the conservation ventures recommended by the scientists.

4. Conduct intensive socio-economic base-line studies on communities earmarked for CBNRM projects for institutional rankings. This will help to form a broader picture of the current attitudes of the local communities towards traditional institutions. From the cooperate findings of these studies, pragmatic strategies could now be set towards traditional institutional awakening. This is essential in that this study only focussed on two communities and ethnic groups but for policy reforms to cater for

revitalisation of traditional institutions national consensus is of paramount importance.

5. Policy reform and reorientation of legal framework that marginalised traditional institutions and practices in natural resources management. Consultations should be made with the communities and other stake-holders to solicit for the views on policy shift from nationalisation of natural resources towards common communal property resource use system. Common property resource use by individual communities should be governed by customary bye-laws set by the communities. The bye-laws will also regulate resource use by other alien communities to avoid making the resource an open access type.

   Policies and legislative instruments that need reforms and amendments arc Wildlife Offtake Policy, Land Use Policy, Green Paper on Community Based Natural Resources Management Policy, Wildlife Conservation & National Parks Act, Tribal Land Act and the Agricultural Resources Conservation Act.

   Legal and policy reforms to be put in place should all make provisions for establishment of bye-laws by communities for natural resources management. This will give the communities a mandate for enforcement.

   Moreover, all these policy and statutory documents should be harmonised to avoid conflicting resource use. Administrative management areas should also be similar in all policies dealing with natural resource management and utilisation. This calls for collaboration and involvement of all departments and agencies responsible for policy formulation to effect this policy harmonisation. This should be done concomitantly with policy and statutory shift already recommended.

6. Establish common property regimes with local communities with strong proprietorship and explicit inclusive and exclusive access rights.

7. Revive by way of inclusion in legal instruments the indigenous practice of selective and male animal preference in hunting. This can be done by giving the communities the mandate to spread the quota across the year and making reforms in the Wildlife Offtake Policy. Regulations governing this practice may be made by the communities as customary resource laws.

8. Revive seasonal harvesting of natural resources by giving the communities autonomy to regulate resource harvesting times and seasons. Communities should be given the mandate to enact customary rules and regulations that will monitor this practice.

9. Revitalise, re-empower and give autonomy to the traditional institutions. This will entail general institutional change to accommodate the autonomy that will be accorded to these indigenous resource management structures.

10. Indigenous Knowledge Systems (IKS) should form the basis of environmental conservation education within all conservation agencies.

11. Research on indigenous hunting techniques to be undertaken in partnerships with the indigenous communities for comparative analysis with modern weaponry.

12. IKS should form the basis for morden educational system by been regarded as a vital base and component in every subject matter. This is made possible by the fact that the holistic nature of IKS gives it a broad spectrum of coverage in all spheres of life. IKS can also contribute to studies in Environmental history because it brings history in perspective. Inclusion in educational endeavours will also help contribute to global knowledge and bridge the gap created by the disruption of traditional channels of communication.

13. IKS should form the basis of all research undertakings and consultancies on natural resources management and utilisation. Research attempts should build on this

information base. Making IKS component as the basis of research will greatly help in reinforcing insight on current ecological issues through comparative analysis because it will bring into view the historical perspective.

8.3 Further Research

1. Assessment of the impact of economic and production diversification on the technological advancement of indigenous weaponry within similar ethnic groups exposed to different spatial environments.
2. Indigenous Fish Harvesting Knowledge Systems and Their Potential Contribution to Sustainable Utilisation within the Okavango Delta in Botswana.
3. Comparative analysis studies of indigenous wildlife management systems and practices between communities with different economic systems and their impact on natural resources sustainabilty.

8.4 Summary

There might be no ready made answers for the current complex environmental dilemmas which are manifested in the decline and loss of biodiversity and cultural diversity. However, lessons from history have shown that in conservation, active participation and resource control by local communities is a vital ingredient in achieving sustainable resource use and development. It is therefore imperative to fully recognise the value of the indigenous knowledge systems and practises if ecosystems and biodiversity are to be managed sustainably. However, the degree of participation and control will be enhanced partly through respecting and recognising the complementary role that the local communities' knowledge systems can play in resource management in the light of the conventional endeavours. Empowerment of local communities should not be seen to be fully achieved until their knowledge base is given equal treatment with other forms of knowledge systems applied in conservation.

REFERENCES

Adams, J. S., McShane, T. O. (1992). *The Myth of Wild Africa: Conservation Without Illusion.* pp. 138-227. 1. W. W. Norton & Co. New York.

Agrawal, A. (1995). Indigenous and Scientific Knowledge: Some Critical Comments. *In: Indigenous Knowledge and Development Monitor 3(3)*:3-6

Armitage, D. R. (1996). Environmental Management and Policy in a dryland Ecozone: The Eyasi-Yaeda Basin, Tanzania. *In: Ambio; A Journal of the Human Environment. 25(6)*:396-402

Ashley, C. (1995). Community Based Tourism as a Strategy for CBNRM: Options and Potentials for Achieving Conservation and Development Through Non-consumptive Tourism in Namibia. *In*: *The Commons without tragedy? Strategies for Community-based Natural Resources Management in Southern Africa. Proceedings of the Regional Natural Resources Management Programme Annual Conference: Botswana.* Rihoy, E. pp. 56-94. SADC Wildlife Technical Coordinating Unit. Malawi.

Bakarr, M., Bourg, N., Pitkin, B., Rymph, B., Wilkie, D. (1993). An Action Program For Conserving Biodiversity In Africa. *In: African Biodiversity: Foundation For the Future, A Framework for Integrating Biodiversity Conservation and Sustainable Development.* pp. 23-67. Biodiversity Support Program. Maryland.

Barbie, E. (1991). *The Practice of Social Research.* Wadsworth Publishing Company. Sixth Edition. pp. 284 - 310. Belmont.

Blalock, A. B., Blalock, H. M (Jr). (1970). *Introduction To Social Research.* Prentice-Hall Inc Englewood Cliffs. Second Edition. pp. 91 - 110. New Jersey.

Chavanduka, G.L. (1995). The Missing Links. *Key Note Address for A Conference on Study and Promotion of Indigenous Knowledge System and Sustainable Natural Resources Management in Southern Africa.* Howick. South Africa. Unpublished.

Chidumayo, E. N. (1993). Realities of aspiring young African conservationists. *In: Voices from Africa; Local Perspectives on Conservation.* D. Lewis & N. Carter. pp. 49-55. WWF publications. Maryland. (1993).

Crowder, L. V. (1996). Comments on Indigenous and Scientific Knowledge: Some Critical Comments. *In: Indigenous Knowledge and Development Monitor 4(2)*:18

Cruz, E. (1995). Mozambique: Community Based Natural Resources Management Initiatives. *In*: *The Commons without tragedy? Strategies for Community-based Natural Resources Management in Southern Africa. Proceedings of the Regional Natural Resources Management Programme Annual Conference: Botswana.* Rihoy, E. pp. 205-208. SADC Wildlife Technical Coordinating Unit. Malawi.

Cunningham, T., 1988. Grassroots conservation. *In: Veld Products and People, African Wildlife*, Volume 43 #6, pp. 287 - 293 University Of Natal.

Cunningham, A. B. (1985). *The Resource Value of Indigenous Plants to Rural People in a Low Agricultural Potential.* PhD Thesis. University Of Cape Town. Cape Town.

Daniels, N. (1991). Guardian of Eden. *In: Africa Report.* pp. 13 -18. September - October 1991

Davis, S. H. (1993). Hard choices, Indigenous Economic Development and Intellectual Property Rights. *In: Akwe; Kon journal.* pp.19-25.

Dembe, E. (1995). Tanzania: A Review of the CBNRM Activities of TANAPA and Potential Linkages with SADC Countries. *In*: *The Commons without tragedy? Strategies for Community-based Natural Resources Management in Southern Africa. Proceedings of the Regional Natural Resources Management Programme Annual Conference: Botswana.* Rihoy, E. pp. 214-216. SADC Wildlife Technical Coordinating Unit. Malawi.

Department of Wildlife & National Parks. (1995a). *Progress in Wildlife Research in Botswana During the Calender Year 1994; Report to the Nation.* Government of Botswana. Government Printer. Gaborone.

Department of Wildlife & National Parks. (1995b). *Progress in Wildlife Research in Botswana During Calender Year 1995; Report to the Nation.* Government of Botswana. Government Printer. Gaborone.

Dikobe, L., Thakadu, O. T., Othusitse, B. & Tlaleane, M. (1996). *The Role of Indigenous Forests in Rural Development.* A Paper Presented at a Conference on Environmental Education in Southern Africa. Cape Town. South Africa. Unpublished.

Dladla, Y. (1995). An Appreciation of South Africa's Newly Emerging Conservation Policy. *In*: *The Commons without tragedy? Strategies for Community-based Natural Resources Management in Southern Africa. Proceedings of the Regional Natural Resources Management Programme Annual Conference: Botswana.* Rihoy, E. pp. 209-213. SADC Wildlife Technical Coordinating Unit. Malawi.

Fernandez, M. E. (1994). Gender and Indigenous Knowledge. *In: Indigenous Knowledge and Development Monitor 2(3)*:6-7

Feuerstein, M. T. (1990). *Partners in Evaluation; Evaluating Development And Community Programmes With Participants*. Macmillian Publishers. First Edition. pp. 45 - 102. London.

Fortmann, L. (1986). *The Role of Local Institutions in Communal Area Development in Botswana.* Land Tenure Centre Research Paper No. 91. Land Tenure Centre. University of Wisconism-Madison. pp. 39-40.

Government of Botswana. (1986). *Government Paper No. 1 of 1986. Wildlife Conservation Policy.* Government Printer. Gaborone.

Government of Botswana. (1990). *Government Paper No. 2 of 1990. Tourism Policy.* Government Printer. Gaborone.

Government of Botswana (1993). Second San International Conference: 11 - 14 October 1993. *Opening Speech by Minister of Local Government, Lands and Housing.* Unpublished.

Government of Botswana. (1992). *Wildlife Conservation & National Parks Act No. 28 of 1992.* Government Printer. Gaborone.

Government of Botswana (1993). *Tribal Land Act (Cap. 32:02).* Government Printer. Gaborone.

Grivetti, L. E., 1979. Kgalagadi Agro-Pastoral -Hunter- Gatherer; The Batswana Example. *In: Ecology of Food and Nutrition*, Chapter 7. pp. 235 - 256.

Hardin, G. (1968). The Tragedy of the Commons. *In: Science 162*: 1243-1248

Heinz, H. J. (1978/79). The Ethno-biology of the !Xo Bushmen: Knowledge Concerning Medium and Smaller Mammals. *In: Ethnomedicine 5(3/4)*:319 - 340

Heyd, D. (1996). Comments on Indigenous and Scientific Knowledge: Some Critical Comments. *In: Indigenous Knowledge and Development Monitor 4(1)*:12-13

Jain, S. K. (1996). Comments on Indigenous and Scientific Knowledge: Some Critical Comments. *In: Indigenous Knowledge and Development Monitor 4(2)*:30-31

Kakonge, J. O. (1995). Traditional African Values and their Use in Implementing Agenda 21. *In: Indigenous Knowledge and Development Monitor 3(2)*:19-22

Kawache, G. B. (1993). The Dilemma of an African conservationist: Reflections from the past, hopes for the future. *In: Voices from Africa; Local Perspectives on Conservation.* D. Lewis & N. Carter. pp.7-12. WWF publications. Maryland. (1993).

Kothari, B. (1995). From Oral to Written: The Documentation of Knowledge in Ecuador. *In: Indigenous Knowledge and Development Monitor 3(2)*:9-12

Kroma, S. (1995). Popularizing Science Education in Developing Countries Through Indigenous Knowledge. *In: Indigenous Knowledge and Development Monitor 3(3)*:13-15

LaDuke, W. (1994). Traditional Ecological Knowledge and Environmental Futures. *Colorado Journal of International Law and Policy. 5*:127-148

Laws, C. M. & Luning, H. A. (1996). Farmers Knowledge and GIS. *In: Indigenous Knowledge and Development Monitor 4(1)*:8-11

Lee, R. B. (1979). *The !Kung San: Men, Women, and Work in a Foraging Society*. pp. 76-190. Cambridge University Press. Cambridge.

Lelo, F., Dyiek, J. (1995). *Participatory Rural Appraisal field handbook for Participatory Rural Appraisal practitioners. PRA Programme*. pp. 6 - 10. Egerton University. Kenya.

Lewis, D., Carter, N. (1993). Interview With Chief Shikabeta; Traditional Ruler in Luano Valley, Zambia. *In: Voices from Africa; Local Perspectives on Conservation.* D. Lewis & N. Carter. pp. 71-78. WWF publications. Maryland.

Makombe, K. (1993). *Sharing the Land; Wildlife, People and Development in Africa.* International Union for Conservation of Nature - ROSA. Environmental Issues Series No. 1. pp. 11-17. Harare.

Maotonyane, L. B. (1996). *The Findings of Socio-economic Baseline Study in Sankuyo Village, Ngamiland District.* Government Printer. Department of Wildlife & National Parks. pp. 1 - 39. Gaborone.

Marks, S. A. (1984). *The Imperial Lion; Human dimensions of wildlife management in central Africa.* Westerview Press. pp. 1 - 10. Colorado.

Masika, A. (1995). Kenya; A Review of the Cobra Programme and Potential Linkages with SADC Countries. *In: The Commons without tragedy? Strategies for community-based natural resources management in Southern Africa. Proceedings of the Regional Natural Resources Management Programme Annual Conference: Botswana.* Rihoy, E. pp. 1-36. SADC Wildlife Technical Coordinating Unit. Malawi.

Maundi, P. M. (1995). Methodology For Collecting And Sharing Indigenous Knowledge: A Case Study. *In: Indigenous Knowledge And Development Monitor 3 (2)*:3-5

Maveneke, T. (1995). The CAMPFIRE Association: Enabling Producer Communities to Take the Lead in Zimbabwe's CAMPFIRE Programme. *In*: *The Commons without tragedy? Strategies for Community-based Natural Resources Management in Southern Africa. Proceedings of the Regional Natural Resources Management Programme Annual Conference: Botswana.* Rihoy, E. pp. 102-111. SADC Wildlife Technical Coordinating Unit. Malawi.

Merton, R. K., Fiske, M., Kendall, P. (1990). *The Focused Interview; A Manual Of Problems And Procedures.* Collier Macmillian Publishers. pp. 3 - 170. Second Edition. London.

Mishra, S. (1994). Women's Indigenous Knowledge of Forest Management in Orissa; India. *Indigenous Knowledge and Development Monitor 2(3)*:3-5

Moganane, B. O. & Walker, K. P. (1995). *The Role of Local Knowledge in the Management of Natural Resources with Emphasis on Woodland, Veld Products and Wildlife.* Forestry Association of Botswana. pp. 3-41. Gaborone.

Molamu, L., Monu, E., Painter, M. (1995). *Findings of a Socio-Economic Study of the Settlement of Zutshwa, North Kgalagadi Sub-District.* The Natural Resources Management Project. University of Botswana. Gaborone.

Mordi, A. R. (1991). *Attitudes Towards Wildlife in Botswana.* MSc. Dissertation. Yale University. New Haven.

Morton, F., Ramsary, J. (1987). *The Birth of Botswana; A History of Bechuanaland Protectorate from 1910 to 1966.* Longman Botswana. pp. 10 - 23. Cape Town.

Murphree, M. W. (1993). *Communities as Resource Management Institutions.* Gatekeeper Series No. 36. Sustainable Agricultural Programme of the International Institute for Environment and Development. pp. 1 - 13. London.

Musonda, F. (1994). Learning from History. *In: State of Environment in Southern Africa.* M. Chenje & P. Johnson. 1. pp. 21-35. The World Conservation Union and Southern African Development Community. South Africa.

Mwagiru, W., Thomas-Slayter, B. P., Ford, R. (1989). *An Introduction to Participatory Rural Appraisal for Rural Resources Management.* pp. 1 - 22. Programme for International Development and National Environment Secretariat. Nairobi. Kenya.

Nachmias, D., Nachmias, C., (1976). *Research Methods In Social Sciences*. Edward Arnold. pp. 73 - 118. London.

Niamir, M. (1995). Indigenous Systems of Natural Resource Management Among Pastoralists of Arid and Semi-Arid Africa. *In: The Cultural Dimension of Development*. D. M. Warren, L. J. Slikkerveer & D. Brokensha. 1. pp. 245-257. Intermediate Technology Publications. London.

Nsanjane, H. (1993). Introduction. *In: Voices from Africa; Local Perspectives on Conservation*. D. Lewis & N. Carter. pp.1-6. WWF Publications. Maryland.

Nxumalo, O.E.H.M. (1995). Indigenous knowledge system and natural resources management in South Africa. *Key Note Address for A Conference on Study and Promotion of Indigenous Knowledge System and Sustainable Natural Resources Management in Southern Africa. Howick. South Africa*. Unpublished.

Opoku, K. A. (1994). How do We Collect Information on Indigenous Systems? Paper presented in a regional Workshop on *Indigenous Knowledge Systems and Natural Resources Management in Southern Africa*; 20 - 22 April 1994. Matowanyika, J. Z. Z., Garibaldi, V., Musimwa, E. pp. 65 - 72. IUCN. Harare.

Quiroz, C. (1994). Biodiversity, Indigenous Knowledge, Gender and Intellectual Property Rights. *Indigenous Knowledge and Development Monitor 2(3)*:12-15.

Quiroz, C. (1996). Local Knowledge Systems Contribute to Sustainable Development. *In*: *Indigenous Knowledge and Development Monitor 4(1)*:3-5

Rihoy, E (1995). From State Control of Wildlife to Co-management of Natural Resources - the Evolution of Community Management in Southern Africa. *In*: *The Commons without tragedy? Strategies for Community-based Natural Resources Management in Southern Africa. Proceedings of the Regional Natural Resources Management Programme Annual Conference: Botswana.* Rihoy, E. pp. 1-36. SADC Wildlife Technical Coordinating Unit. Malawi.

Sanday, P. R. (1989). The Ethnographic Paradigm (s). *In: Quantitative Methodology.* Moanen, J. V. (Editors). Sage Publications. Fifth Edition. pp. 19 - 36. London.

Sankuyo Tshwaragano Management Trust (1995). *Notarial Deed of Trust for Sankuyo Tshwaragano Management Trust.* Monthe Marumo & Co. Attorneys, Notaries & Conveyancers. Gaborone.

Schapera, I. (1943). *Native Land Tenure in Bechuanaland Protectorate*. First Edition. pp. 255-265. Loveday Press. University of Cape Town.

Schapera, I. (1970). *Tribal Innovators: Tswana Chiefs and Social Change 1795 - 1940.* First Edition. pp. 4 - 70. Athlone Press. London.

Schapera, I. (1970). *A Handbook of Tswana Law and Custom*. Fourth Edition. pp. 1 - 118. Frank Cass & Co. London.

Sekhwela, M. B. M. (1992). Environmental Research and Environmental Conservation: Past, Present and Future. In: *Which Way Botswana's Environment?* Kalahari Conservation Society. 1. pp. 69-79. Gaborone

Semali, L. (1996). Comments on Indigenous and Scientific Knowledge: Some Critical Comments. *In: Indigenous Knowledge and Development Monitor 4(1)*:15

Serrano, R. C. (1996). Comments on Indigenous and Scientific Knowledge: Some Critical Comments. *In: Indigenous Knowledge and Development Monitor 4(1)*:14-15

Showers, K. B. (1996). Comments on Indigenous and Scientific Knowledge: Some Critical Comments. *In: Indigenous Knowledge and Development Monitor 4(1)*:13-14

Simbotwe, M. P. (1993). African realities and Western expectations. *In: Voices from Africa; Local Perspectives on Conservation.* D. Lewis & N. Carter. pp.15-2. WWF publications. Maryland.

Spinage, C. (1991). *History and Evolution of the Fauna Conservation Laws of Botswana.* pp. 7-46. First Edition. Botswana Society. Gaborone.

Swanson, T. M. (1995). Why Does Biodiversity Decline? The Analysisof Forces for Global Change. *In: the Economics and Ecology of Biodiversity Decline.* Swanson. T. M. First Edition. pp. 1 - 11. Cambridge University Press. Cambridge.

Tanaka, J. (1980). *The San, Hunter-Gatherers of the Kalahari: A Study in Human Ecology.* University of Tokyo Press. pp. 1-70. Tokyo.

Thresher, P. (1996). African Wildlife Rural Income and Law. *In: International Journal on Nature Conservation in Africa. 12(2)*:18-37.

Tlou, T. (1985). *A History Of Ngamiland: 1750 - 1906 The Formation of an African State.* Macmillian Botswana Publishing Company. pp. 8-33. Hong Kong.

Tlou, T., Campbell, A. (1984). *History Of Botswana.* Macmillian Botswana Publishing Company. First Edition. pp. 89-100. Hong Kong.

Ulluwishewa, R. (1993). Indigenous Knowledge, National Indigenous Knowledge Resource Centres and Sustainable Development. *In: Indigenous Knowledge and Development Monitor. 1*:11-13.

Van der Sluis, T. (1992). *Baseline Survey of Western Communal Remote Zone 6: Ngamiland West.* Volume 1 pp. 99-150. Government Printer. Gaborone.

Van der Sluis, T. (1994). */Xai /Xai Community Based Natural Resources Management Project Proposal.* pp. 1-21. Netherlands Development Organisation. Gaborone.

Vanek, E. & Muchena, O. N. (1995). From Ecology Through Economics to Ethnoscience: Changing Perceptions on Natural Resources Management. *In: The Cultural Dimension of Development*. D. M. Warren, L. J. Slikkerveer & D. Brokensha. 1. pp. 505-511. Intermediate Technology Publications. London.

Warren, M. D. (1991). *Using Indigenous Knowledge in Agricultural Development*. World Bank Discussion Paper No. 127. World Bank. pp. 1-34. Washington.

Warren, A. (1996). Comments on Indigenous and Scientific Knowledge: Some Critical Comments. *Indigenous Knowledge and Development Monitor 4(1)*:13-14.

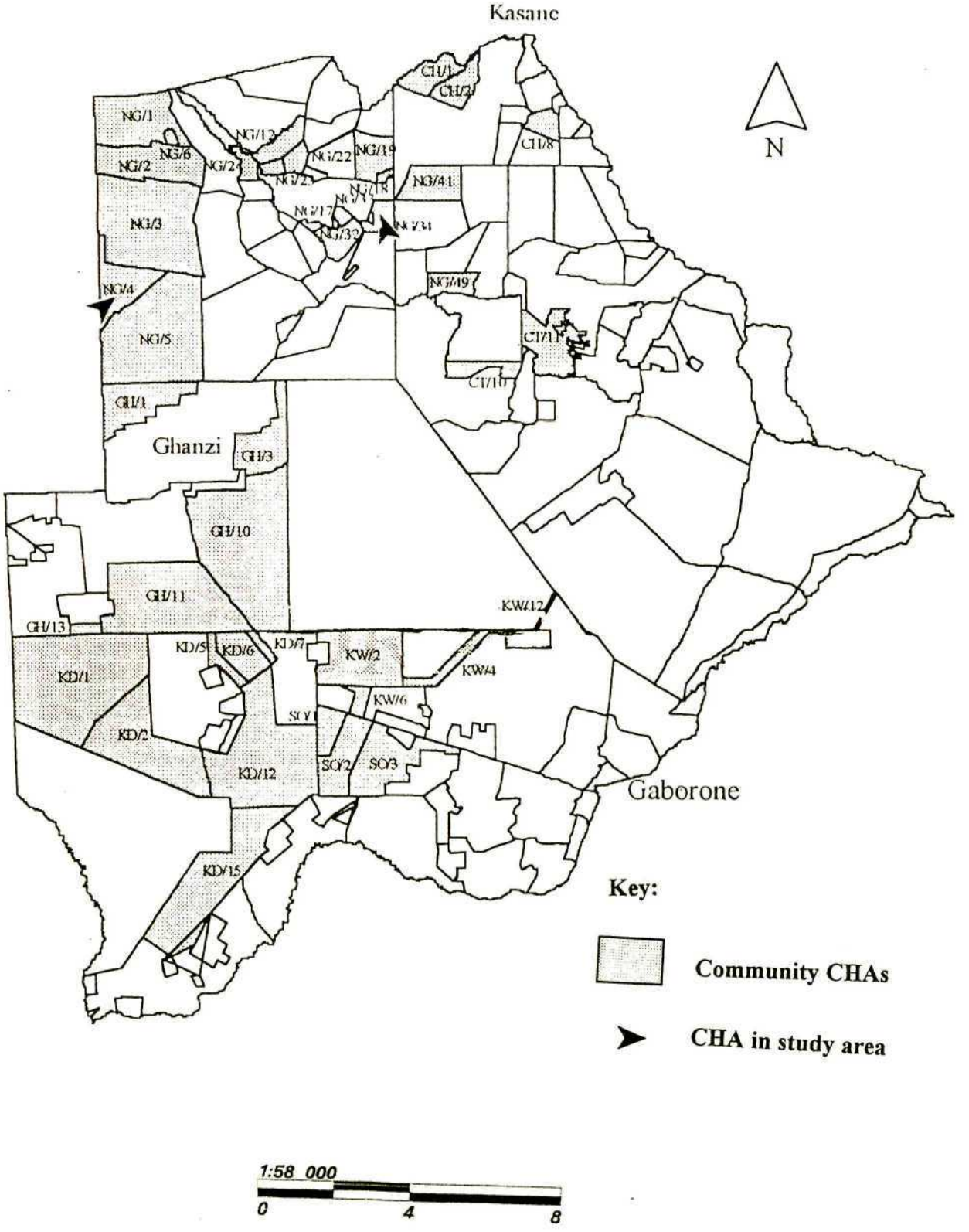
White, R. (1995). Licencing, Utilisation and Public Attitudes to Wildlife. *In: The Present Status of Wildlife and its Future in Botswana; Proceedings of a Symposium/Workshop*. Legget, K. pp. 79-87. Kalahari Conservation Society. Gaborone.

Wilmsen, E. N. (1989). *Land Filled with Flies: A Political Economy of the Kalahari*. 1. pp. 10-29. University of Chicago Press. Chicago.

Winer, N. (1993). Community Management of Wildlife Resources. *In: Resource Mobilisation for Sustainable Rural Development; Seventh National District Development Conference.* Ministry of Local Government, Lands and Housing. Government Printer. pp. 137-141. Gaborone.

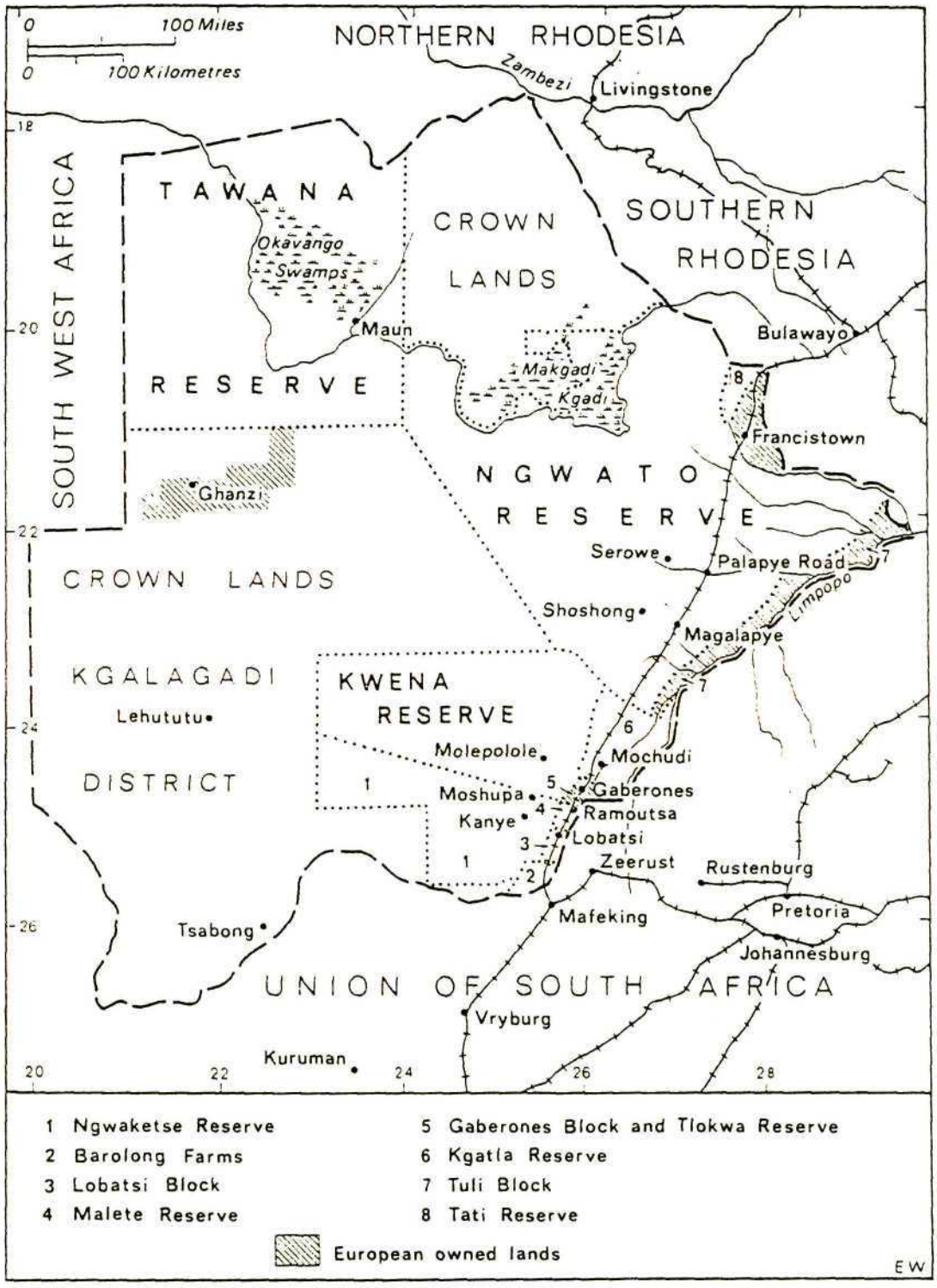
Winer, N. (1995). Community Natural Resources Management Projects: Good or Bad? *In: The Present Status of Wildlife and its Future in Botswana; Proceedings of a Symposium/Workshop.* Legget, K. pp. 95-103. Kalahari Conservation Society. Gaborone.

Appendix I: Commnunity Controlled Hunting Areas (CHAs)



Appendix II District Map of Botswana

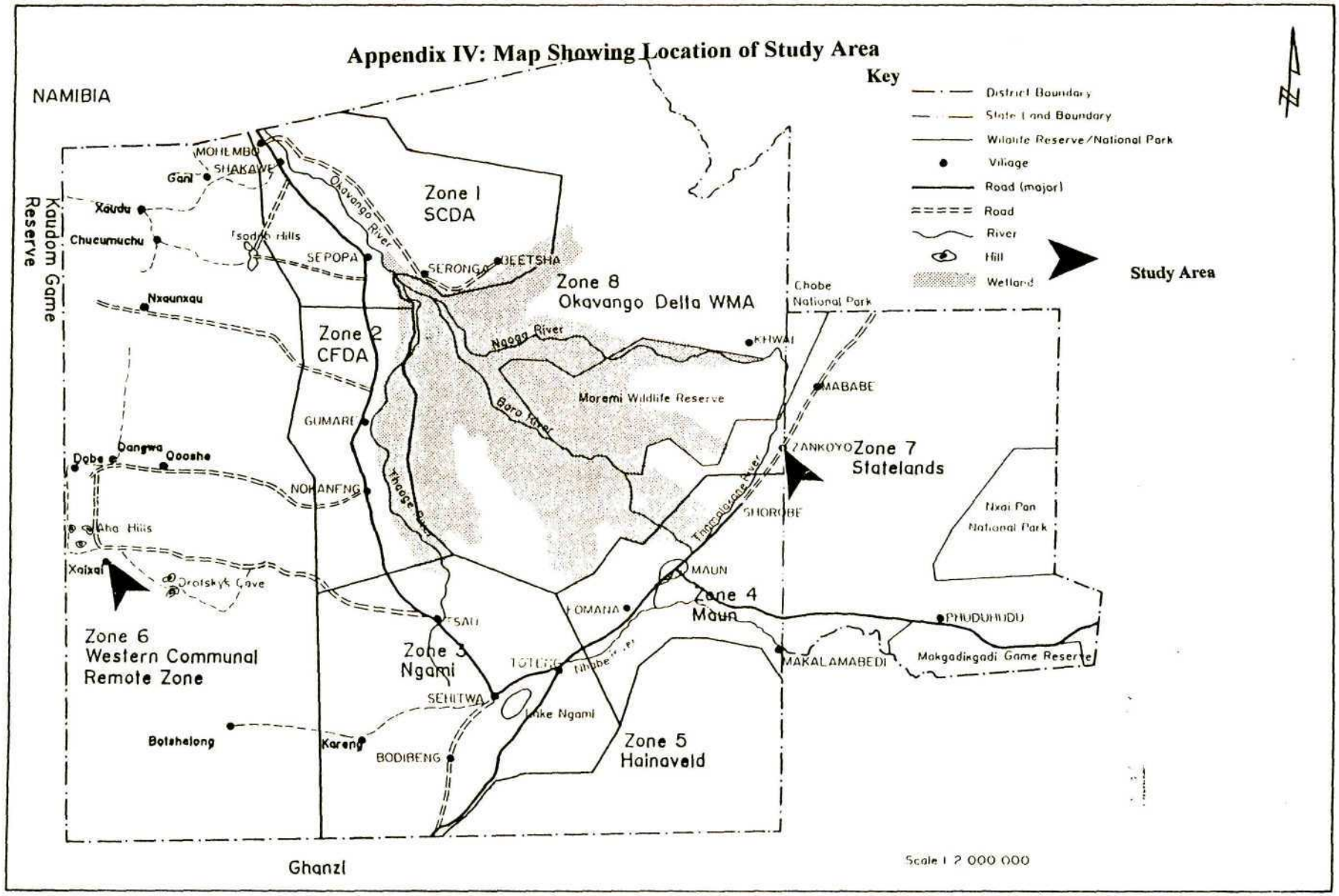
Appendix III: Tribal Reserves



Sketch map of Bechuanaland Protectorate 1940

Source: Schapera (1970)

Appendix IV: Map Showing Location of Study Area



Appendix V: Questionnaire Used in Unstructured Interviews

General Questions

- What are your views towards the Department of Wildlife & National Parks?
- Is wildlife important to you? Your country? Why? How?
- How often do you hunt?
- Which animals do you eat and those you don't eat and why?
- Who owns wildlife in Botswana?
- What was and/or is the importance of wildlife in traditional economies?
- How was wildlife regulated or managed in the past?
- How did people hunt in the past?
- If there are any differences, what are their causes?
- Were there any institutions which controlled hunting?

Similarities and Differences

- May you compare and contrast hunting in the past and now?
- Is there any conflict between current conservation institutions and previous traditional institutions?
- What are the similarities and differences between traditional conservation strategies and modern attempts in your own understanding?
- To what extend are the indigenous wildlife conservation and management practices already discussed practised today?
- To what extent do you think the current conservation attempts have impeded or helped traditional conservation attempts?
- How can compromises be reached between the two knowledge systems to make them complementary?

Wildlife Utilisation

- What were peoples' views on the relationship between wildlife, people and the

environment in the past?

- How did you consider the balance between the population of people and wildlife?
- How did (do) you consider conservation of wildlife in terms of population growth among the people?

Appendix VI:Structured Interviews and Focus Groups Questionnaire

Questionnaire

Wildlife Utilisation

- What was and/or is the importance of wildlife in traditional economies?
- What were peoples' views on the relationship between wildlife, people and the environment?
- How did you consider the balance between the population of people and wildlife?
- How did (do) you consider conservation of wildlife in terms of population growth among the people?

Hunting

- Did the people hunt in the past?
- Why did they hunt?
- How often was hunting done?
- Was there any specialised knowledge regarding hunting?
- Who could hunt and participate in hunting and how often?
- What is your understanding of letsholo (traditional game hunt) and how was it conducted?

Regulations

Systems

- Was there any system that governed resource use in the past?
- How was hunting regulated and enforced?

- How often were systems that governed resource use developed in the past and why?
- How was the resource use governing systems made known to the wider community?
- Were people responsive to the systems in place by then or respected them?
- Are the people responsive to the chief or wildlife conservation agencies in terms of following rules to protect wildlife?
- Are these practices still in use today?
- What lead to the disappearance of the systems and what are the implications of loosing them?
- Are the past systems still relevant today?
- How can the systems be revived?
- Were certain animals reserved or protected for certain people or groups or occasions? If so, why and what criteria was used to do that?
- Were some species given exceptionally high protection status and why?

Customary practices

- Was there any role played by beliefs, totems, superstitions, myths, customs and taboos in terms of wildlife conservation in the past?
- Are these beliefs, totems and taboos still practised?
- Did beliefs, taboos and totems that were important in restraining over-utilisation in the past still relevant today?
- Were there any 'code of ethics?' *e.g. you take only what you need and leave the rest?* And how often was that adhered to? How were the defaulters treated? Any sanctions imposed?
- Is it possible to re-instill and reawaken indigenous conservation ethics?

Seasonality

- Were there specific times set aside for hunting?
- Were different species hunted at different times or not?
- Were there any specific hunting times set for particular species and which ones?
- Were birds hunted all year round?
- Was there any consideration in relation to the breeding patterns when hunting season was set?
- Who determined the hunting seasons and on what basis or criteria?
- Are there any similarities and differences between the indigenous hunting season and the current ones?

Off-takes

- Were the numbers of animals to be hunted pre-determined (quota) and why?
- How were the numbers determined and who was responsible for this?
- Was there any consideration of sex when setting the quota?
- Were environmental constraints considered when the quota was set?
- How were the numbers of animals estimated from the wild?
- What is your understanding of carrying capacity?
- Did the off-takes consider and compensated for droughts?

Administration

- How was hunting administered traditionally?
- Who was entitled to hunt?
- Were there specific people in the community designated as hunters?
- How was a hunting expedition organised?

- Did people hunt in groups or as individuals?
- Were there any hunting territories, that is, designated hunting areas?
- Were there specific territories for certain groups or clans or tribes?
- What was the chiefs' role in hunting?

Feedback Mechanism and Research

- How was hunting success recorded or was there any report-back system that was in place, e. g, hunting returns?
- How were animal populations estimated?
- What was the significance of hunting success and species abundance in traditional methods and how was it viewed?

General Questions

- To what extend are the indigenous wildlife conservation and management practices already discussed practised today?
- Is there any conflict between current conservation institutions and previous traditional institutions?
- What are the similarities and differences between traditional conservation strategies and modern attempts in your own understanding?
- To what extent do you think the current conservation attempts have impeded or helped traditional conservation attempts?
- How can compromises be reached between the two knowledge systems to make them complementary?

Appendix VII: Sankuyo Tshwaragano Management Trust Notarial Deed of Trust

DEEDS REGISTRY
29-11-1995
BOTSWANA

REGISTERED IN THE DEEDS OFFICE
OF BOTSWANA
Under No. 123/95
This 29TH Day Of November 1995
REGISTRAR

NOTARIAL DEED OF TRUST

FOR

SANKUYO TSHWARAGANO MANAGEMENT TRUST

MONTHE, MARUMO & CO.
ATTORNEYS, NOTARIES & CONVEYANCERS

P.O. BOX 1991
PLOT 210
TSHEKO TSHEKO CLOSE
GABORONE
TELEPHONE: 351984/5
FAX NO: 312114

Prepared by me

NOTARY PUBLIC

Protocol No. 9/95

DEEDS REGISTRY
23-11-1995
BOTSWANA

REGISTERED IN THE DEEDS OFFICE
OF BOTSWANA
Under No. 123/95
This 29TH Day Of November 1995
REGISTRAR

NOTARIAL DEED OF TRUST

SANKUYO TSHWARAGANO MANAGEMENT TRUST

KNOW ALL WHOM IT MAY CONCERN

THAT on this the 24th day of November in the year of Our Lord One Thousand One Hundred and Ninety-five (1995), before me,

KGALALELO NNEISENG MONTHE

Notary Public by lawful authority duly admitted and practising in Botswana and residing in Gaborone, in the presence of the subscribing witnesses, came and appeared

BOINGOTLO GABRIEL TOTENG

with the power of substitution to my true and lawful Attorney and Agent for and in my name and stead to appear before Notary Public

MENDLE NKAPE

acting in his capacity as CHAIRPERSON, duly authorised by resolution of the Executive

...../Interim Committee

Interim Committee constituted for the establishment of **SANKUYO TSHWARAGANO MANAGEMENT TRUST** passed at Sankuyo Village on the 25th day of October, 1995 which Power of Attorney was exhibited to me and now lies filed in my Protocol.

AND THE APPEARER DECLARED THAT

WHEREAS an interim committee has been elected for the establishment of the **SANKUYO TSHWARAGANO MANAGEMENT TRUST**;

AND WHEREAS it is desirous that the people of the village of Sankuyo shall be empowered to husband and benefit, in common, from sustainable management of natural resources of the area in which they live;

AND WHEREAS it is desirous that the **SANKUYO TSHWARAGANO MANAGEMENT TRUST** be established and administered as a Trust and that its aims and objects be defined;

AND WHEREAS it is desirous that the Trust be created and that its objects be set forth and the powers and responsibilities of the Trustees be defined

NOW THEREFORE THESE PRESENTS WITNESS:

1 **ESTABLISHMENT**

There is hereby established a Trust known as the **SANKUYO TSHWARAGANO MANAGEMENT TRUST**

...../2. **DEFINITIONS**

2 **DEFINITIONS**

In this deed, unless otherwise specified or inconsistent with the context, words and expressions shall have the following meanings:

2.1 "Trust" shall mean the **SANKUYO TSHWARAGANO MANAGEMENT TRUST.**

2.2 "the Trustees" or "members of the Board" shall mean the Trustees holding office as such in the terms of this Deed.

2.3 "Board" shall mean the Board of Trustees for the time being, created in terms of this Deed of Trust.

2.4 "the community" shall mean the village residents of Sankuyo and associated homesteads administered by the Sankuyo kgotla.

2.5 "the area" shall mean Controlled Hunting Area NG 34 being that administrative area defined in Schedule 4 of the Wildlife Conservation and National Parks Act, Act No. 28 of 1992 as may be amended from time to time.

2.6 "village residents" shall mean any person 18 years and older, resident in Sankuyo Village or in associated homesteads administered by the Sankuyo kgotla.

2.7 "General members" shall mean those citizens of Botswana, 18 years of age and older, who are residents of at least five continuous years standing in Sankuyo Village or an associated homestead administered by the Sankuyo kgotla.

...../2.8. "Financial Year"

2.8 "Financial Year" shall mean the period of twelve months from 1st January to 31st December.

2.9 "Board Surplus" shall mean with regard to the Financial Statement referred to in Clause 7.9 hereof the amount of money available to the Trust after payment of all liabilities, operating and management expenses incurred in that financial year.

2.10 "Operating Fund" shall mean with regard to Clause 14.1 hereof, that amount of money set apart as administrative and operational overhead to be used by the Board to support activities necessary to the running of the Trust.

2.11 "Resources Management Income" shall mean, with regard to Clause 14.3 hereof, the balance of the Board Surplus remaining after deduction of the operating fund amount as set out in Clause 14.2. hereof.

2.12 "Bye-laws" or "Resource Governance Bye-laws" shall mean bye-laws established to govern management and use of the area's natural resources approved by a majority of General Members in any duly convened and minuted General Meeting or Special General Meeting as set out in Clauses 11.3 and 13.3 hereof.

2.13 "Sanction" shall mean any financial or voting rights penalty as defined in Clauses 4.12.1 and Article 15 hereof, which may be applied to a General Member by vote of a majority of General Members at a duly convened and minuted General or Special General Meeting as set out in Clauses 11.3 through 11.12 hereof, for demonstrated non-compliance with one or more of the Trust's resource governance bye-laws. .

...../2.14 Words importing

2.14 Words importing:

2.14.1 The singular shall include the plural and vice versa.

2.14.2 The masculine shall include the feminine and vice versa.

2.14.3 Natural persons shall include bodies corporate and vice versa.

3 **MEMBERSHIP**

The members of the Trust shall be:

3.0.1 The General Members.

3.0.2 All members of the Board constituted in terms of this Deed.

3.1 Every member shall be entitled to vote at any General Meeting, Annual General Meeting, and/or Special General Meeting

3.2 Any member who owes money to the Trust, the payment of which is in arrears, may by virtue of a majority decision of the Board, have his vote suspended whilst in arrears.

3.3 Members may be expelled by a two-thirds vote of the members present at an Annual General Meeting at which a quorum is present and for which a motion for expulsion has been duly included on the agenda.

..../4. **OBJECTS**

4 **OBJECTS**

The Objects of the Trust shall be:

4.1 To sustainably use the natural resources of the area for the benefit and development of the community of Sankuyo.

4.2 To conserve and protect the natural resources of the area against extinction, misuse or any other damage.

4.3 To link conservation-based natural resources management within the area to the improvement of livelihoods and development for members of the Trust and residents of Sankuyo generally.

4.4 To monitor the condition of the natural resources of the area in order to protect and sustainably use them.

4.5 To equitably share the benefits of the sustainable use of the natural resources of the area without discrimination, on any tribal, racial, political, religious, or ethnic grounds.

4.6 To educate all users of the area, including village residents, as to the importance to present and future generations, of wise management of natural resources.

4.7 To collect and receive all monies and other assets, articles, objects or buildings becoming available to it as a result of any appeal for funds or otherwise donated, granted, bequeathed, inherited or in any other manner made or becoming available and which the Board may in its discretion decide to accept.

...../4.8 To take

4.8 To take any necessary steps to raise financial aid for the Trust.

4.9 Generally, to utilise from time to time so much of the income as the General Members may determine, in furtherance of its Objects.

4.10 To carry out its Objects without, and without supporting, any tribal, racial, political, religious or ethnic affiliation.

4.11 To encourage and support equal rights in the Trust and full participation by women as General Members and as Trustees, in the business of the Trust.

4.12 For the purposes of achieving, carrying out or furthering its Objects the Trust is endowed with authority:

4.12.1 to make a body of Resource Governance Bye-laws and institute sanctions governing management and utilisation of natural resources within the area by the Trust, and by General Members as individuals, in terms of Clause 6.7 hereof, and to establish a monitoring committee with powers to monitor utilisation activities, investigate instances of non-compliance and to make recommendations to the general membership for resolution, as set out in Article 15 hereof.

4.12.2 to purchase, hire, exchange, accept donations of and otherwise acquire, sell, let, lease and sub-lease, exchange, mortgage, pledge, donate, or otherwise dispose of, improve, maintain, develop, turn to accounts, or otherwise deal with moveable and

...../immovable

immovable property of all kinds or any rights or interests therein or thereon or any other assets of any kind.

4.12.3 borrow with the approval of the Board of Trustees and General Membership from recognised financial institutions and if deemed desirable, secure the repayment of money in such manner as the Board may think fit and guarantee or secure the acts of and payments due by others.

4.12.4 to co-operate with or associate with or to assist any other body or person, whether associated with the area or not, in relation to any matter calculated or intended to advance any of its Objects.

4.12.5 to do all things desirable for the attainment and furtherance of its objects and for the benefit of the area and those associated with it and generally to do all such other things as may be incidental, ancillary or conducive to the attainment of any of the above Objects provided always that this clause shall not permit the lending of money.

5 THE BOARD

5.1 The Board shall be constituted by ten Trustees being for the period commencing 23rd June 1995, the date of election of members of the Trust Interim Executive Committee. Members of the Trust Interim Executive Committee shall become Trustees upon the date of registration of this Deed at the Deeds Registry of Botswana, until the date of nomination and election in terms of Clause 5.4 hereof.

...../5.2 Only General

5.2 Only General Members shall be eligible to hold the office of Trustee.

5.3 The Board shall have the power to continue functioning notwithstanding any vacancy, provided that the total number of Board members shall not fall below six in number.

5.4 Trustees shall hold office for a period of two years from date of election.

5.5 The General Members shall nominate candidates for election to the Board from among the members of the Trust during the proceedings of the last duly convened and minuted General Meeting prior to the date of election in terms of Clause 5.4 hereof.

5.6 Within two weeks of the election of the Trustees the Board shall meet to elect officers in terms hereof.

5.7 The Board shall elect from among its members a Chairperson and a Vice Chairperson from among its members;

5.8 The Chairperson and Vice-Chairperson shall hold office for a period of two years from date of election;

5.9 The retiring Chairperson and Vice Chairperson shall be eligible for re-election.

5.10 The Vice Chairperson shall act as the Chairperson when the Chairperson is away or is for any reason temporarily unable to perform his/her duties as Chairperson, and shall when acting as a Chairperson have all the powers and discharge all the duties of Chairperson.

...../5.11 Should

5.11 Should any vacancy occur in the office of Chairperson or Vice Chairperson, the Board shall forthwith, from among its members elect a person to fill such office for the remainder of the period for which the vacating incumbent would have held office.

5.12 The Board shall elect a Secretary and Vice-secretary to the Board from among its members and for such a period as it may from time to time determine, though not to exceed two years from date of election.

5.13 The Secretary, or in his absence, the Vice Secretary, and in his absence, such other person as the Board shall appoint shall be responsible in accordance with such instructions as may be given to him by the Board for arranging the agenda, recording the names of every person present at each meeting, recording and keeping Minutes of the proceedings, and all the decisions taken at meetings of the Board, or its committees, and all General Meetings, including Special and Annual General Meetings, and shall undertake such other functions as the Board may direct. One copy of the minutes shall be forwarded to every member of the Board and to such other persons as the Board or Committee may direct, within seven days of the date of the meeting.

5.14 The Board shall elect a Treasurer to the Board from among its members and for such a period as it may from time to time determine, though not to exceed two years from date of election.

5.15 The Treasurer shall be responsible in accordance with such instructions as may be given him by the Board for drawing up budgets and keeping accounts according to the approved budget and to the elaboration of statements, balances and accounts according to clauses 6.4, 6.5 and 6.8 hereof.

...../6. **POWERS OF**

6 POWERS OF THE BOARD OF TRUSTEES

Management and policy decision-making powers are vested in the General Membership of the Trust, and are decided by the General Members in bi-monthly General Meetings.

The general administration and implementation of decisions by the General Members are vested in the Board and shall include:

6.1 Generally, to implement decisions of the Trust regarding use of property and funds of the Trust for the objects and purposes of the Trust and to enter into all such contracts and to do all such other acts which may be necessary or expedient from time to time.

6.2 To enter contracts, sign leases, acquire permits or insurance as required.

6.3 To open and close banking accounts in the name of the Trust with commercial banks and to operate on such accounts by way of deposit and withdrawal as may be necessary for the proper conduct of the financial affairs of the Trust: all cheques, promissory notes, bills of exchange and other instruments or documents which may be required in the conduct and administration of the financial affairs of the Trust shall be signed by the Chairperson, Secretary and Treasurer of the Board

6.4 To appoint, hire, dismiss, and insure agents, and to set their conditions of service and remuneration.

...../6.5 To fix and

6.5 To fix and pay allowances and any costs and charges to any person or body in furtherance of the objects of the Trust.

6.6 To form standing or ad hoc committees in the interest of the Trust, either from amongst their own members or from the General Members, or both, and to determine the membership, duties, rights and obligations of such committees and to dissolve such standing or ad hoc committees with the approval of the General Members.

6.7 To delegate powers to such agents or committees of the Trust as directed by the General Members.

6.8 To institute, conduct, defend, compound or abandon any legal proceedings by or against the Trust or any of its agents, or otherwise concerning the affairs of the Trust and also to compound and allow time for payment or satisfaction of any debts due to the Trust and of any claims or demands by or against the Trust.

6.9 To use the funds of the Trust to implement plans, activities or proposals of the Trust, except where they are in contravention of the Objects hereof.

6.10 To employ agents and professional advisors and experts in any sphere where deemed necessary or advisable in the interests of the Trust.

6.11 To collect rentals, dividends, subscriptions, interest and other income from time to time accruing to the Trust and to grant and issue valid receipts and acquaintances.

...../6.12 To open, maintain,

6.12 To open, maintain, relinquish and cede any policies of insurance in furtherance of the Objects of the Trust.

7 RESPONSIBILITIES OF THE BOARD OF TRUSTEES

It shall be the duty of the Board:

7.1 To identify and put before the General Members for decision, issues which the Board deems pertinent to the furtherance of the Objects of the Trust.

7.2 To monitor all occurrences having bearing upon the condition of the area, and on the Objects of the Trust, and to ensure that the General Members are kept well-informed of the same.

7.3 To implement management decisions made or approved by the General Members.

7.4 To facilitate the establishment and development of bye-laws governing management and utilisation of natural resources by the Trust, and by General Members as individuals, within the area as set out in Article 15 hereof.

7.5 To educate and inform all residents of the area on the importance of the conservation and wise management of their natural resources and on ways in which they may so participate.

...../7.6 To cause

7.6 To cause proper books of account to be kept of the Trust and to ensure that these are audited at least once in each financial year.

7.7 To keep a register showing the names of donors to the Trust and their addresses as supplied by them, including all such changes of address as they may from time to time advise, and the amount of money or details of the other assets donated by them.

7.8 To substantiate any award of a tender contract made at a duly convened and minuted General Meeting with a written justification. After such award, copies of all tenders will be kept at the Trust Office in a special file together with the written justification by the Board, and such special file will be open to inspection by any Trust member for a thirty day period following the date of the decision.

7.9 To keep minutes of all decisions to enter contracts and to keep copies of all contracts on file in the Trust Office to be open for inspection by any member of the Trust.

7.10 To prepare at the end of each financial year a report and financial statement of the assets of the Trust and of the manner in which the capital and the income thereof have been dealt with during the financial year in question. The financial statement shall state the amount of Board surplus for the year, and the 15% portion that shall be payable to the Board's operational overhead. This report and statement are to be signed by the Chairperson and Treasurer. In the absence of the Chairperson, the report and statement are to be signed by the Vice-Chairperson and the Treasurer. The report and statement are to be posted in the

...../Trust office

Trust office, announced, and open to inspection by any Trust member and other designated bodies, at least ten days prior to the Annual General Meeting.

7.11 To prepare at the end of each financial year a balance sheet and income and expenditure account to be certified by a chartered accountant.

7.12 To review the financial and operational activities of the Trust and to report every two months to the General Membership on those activities.

7.13 To declare any conflicts of interest in relation to activities or issues to be discussed, voted upon in meetings or managed by the Trust. No Trustee shall be entitled to vote on any decision concerning any such matter where a conflict of interest exists.

7.14 To apply for all necessary permits, licenses, and/or leases as may be required for the purposes of the Trust.

7 15 To open at least one banking account in the name of the Sankuyo Tshwaragano Management Trust with commercial banks and to operate on such accounts by way of deposit and withdrawal as may be necessary for the proper conduct of the financial affairs of the Trust; all cheques promissory notes, bills of exchange and other instruments or documents which may be required in the conduct and administration of such financial affairs shall be signed by The Chairperson, Secretary and Treasurer of the Board of Trustees.

...../8 **EXPULSION FROM**

8 **EXPULSION FROM THE BOARD**

Should any Trustee absent him/her self from three successive Board Meetings without satisfactory explanation he or she shall automatically cease to be a member of the Board.

9 **RESIGNATION, DISQUALIFICATION AND VACANCIES**

9.1 On the Board:

9.1.1 any Trustee may resign by giving to the Chairman and Secretary thirty (30) days written notice of his intention to do so;

9.1.2 a Trustee shall be disqualified and his position as Trustee automatically terminated by:

9.1.2.1 the death of the Trustee; or

9.1.2.2 becoming an employee of the Trust or any body corporate, partnership, business, undertaking or other organisation with whom the Trust enters I into any contract, joint venture or other agreement.

9.1.2.3 the issue of a reception order as against the Trustee as pursuant to The Mental Disorders Act, Cap. 63.02;

9.1.2.4 the Trustee being convicted of any offence in Botswana or elsewhere and being sentenced therefor to any term of imprisonment without the option of a fine; or

...../9.1.2.5. a finding

9.1.2.5 a finding approved by a simple majority at a duly convened General Meeting that there is a serious impropriety in the conduct of the Trustee, which conduct would include but not be limited to, failure of disclosure of interest, mismanagement of Trust assets or conduct to the interests or purposes of the Trust or the engagement of Trustee in any trade or pursuit, which in the opinion of the General Membership, is of such a nature as to bring the name of the Trust into disrepute.

9.1.3 within thirty days of the creation of a vacancy, the Trust, at a duly convened General Meeting or Special General Meeting, shall select from amongst its members a person to serve out the remainder of the term.

9.2 On the Committees:

.2.1 The same provisions will apply as in Clause 9.1 hereof.

10 **PROCEEDINGS OF THE BOARD**

10.1 The Board shall meet as often as it may deem necessary, but at least once in every two months.

10.2 Meetings of the Board shall be convened at the direction of the Chairperson, or on a written request from at least three members of the Board, or on a written request signed by at least ten (10) General Members.

...../10.3 Six Trustees

10.3 Six Trustees present shall constitute a quorum.

10.4 Written notice of the holding of a Board Meeting shall be served on all Trustees and shall be published on the notice board of the Kgotla at least seven clear days before the proposed date of the meeting. The notice shall be accompanied by an agenda containing details of all matters proposed to be discussed at the meeting and shall provide for the consideration of any other business that may arise thereat.

10.5 If the Chairperson and Secretary or Treasurer of the Board agree that a matter is urgent a Special Meeting of the Board may be called on three days written notice. Only matters of which notice has been given may be dealt with at a Special Meeting of the Board.

10.6 A Chairperson, or if absent, the Vice Chairperson shall preside at every meeting of the Board or in the absence of both, the members present shall choose one of their number to preside at the meeting.

10.7 The following persons shall have the right to attend all Board Meetings, namely, the Chief of Sankuyo Village, Tawana Land Board Chairperson or Secretary, the Paramount Chief, the Councillor, and one representative from each of the Office of the District Commissioner, Department of Wildlife and National Parks, Agricultural Resources Board and Department of Forestry. All such persons and any other persons, whose attendance the Board may at its sole discretion invite, shall have an advisory and consultative role only, and shall have no voting rights.

...../10.8 The first

10.8 The first item of business of every meeting shall be to read and confirm the minutes of the previous meeting. The second item of business shall be matters arising from those minutes and thereafter the meeting shall deal in turn with each of the matters set out in the agenda.

10.9 All motions except those specified elsewhere in this Deed proposed for a decision by the Board at a meeting at which a quorum is present shall be determined by a majority of votes of the members thereof present and voting.

10.10 Each member present including the Chairperson shall have one vote and in the event of a tie the Chairperson or person presiding shall have in addition to an original vote a casting vote.

10.11 Board Meetings shall be held in the Trust office when available unless otherwise specified in the written notice convening same.

11 GENERAL MEETINGS

The Board shall convene General Meetings once every two months for consultation and transaction of Trust business by the general membership.

11.1 General Meetings shall be convened at the direction of the Chairperson for the purpose of discussion, consideration of, and deciding resources conservation and management issues.

...../11.2 Written notice

11.2 Written notice of the holding of a General Meeting shall be served on all Trustees and shall be published on the notice board of the Kgotla at least seven (7) clear days before the proposed date of the meeting. The notice shall specify the date, time and venue, and shall be accompanied by an agenda containing details of all issues proposed to be discussed at the meeting and shall provide for the consideration of any other business that may arise thereat.

11.3 A Chairperson, or if absent, the Vice Chairperson shall preside at every General Meeting, or in the absence of both, the Trustees present shall choose one of their number to preside at the meeting.

1.4 Five Trustees and any other forty ((40) General Members of the Trust shall constitute a quorum. If a quorum is not reached or if neither the Chairperson nor Vice Chairperson are present, the meeting shall be adjourned to a date fixed by the Trustees present, which date shall be in any event between fourteen (14) and twenty-eight (28) days after the date of the postponed meeting, which date shall be published on the Kgotla notice board of Sankuyo Village at least seven (7) clear days before the date of the rescheduled General Meeting. At the second meeting, the members present, regardless of number, shall constitute a quorum, and if neither the Chairperson nor the Vice Chairperson are present the Board Members present shall select one of their number to preside at the meeting.

11.5 The following persons shall have the right to attend all General Meetings, namely, the Chief of Sankuyo Village, Tawana Land Board Chairperson or Secretary, the Paramount Chief, the Councillor, and one representative from

...../each of the

each of the Office of the District Commissioner, Department of Wildlife and National Parks, Agricultural Resources Board and Department of Forestry. All such persons and any other persons, whose attendance the Board may at its sole discretion invite, shall have an advisory and consultative role only, and shall have no voting rights.

11.6 The Board's Secretary shall record the Minutes of each General Meeting including a list of all persons in attendance. One copy thereof shall be forwarded to each Trustee, and one copy placed in a special file in the Trust office open to inspection by any Trust member, within seven days of the General Meeting.

11.7 The first item of business of every General Meeting shall be to read and confirm the minutes of the previous meeting. The second item of business shall be matters arising from those minutes and thereafter the meeting shall deal in turn with each of the matters set out in the agenda.

11.8 Each matter for consideration shall proceed first by introduction including a full explanation of the matter, discussion of the matter by General Members, Trustees and invited attendees, followed by a motion to be decided by simple majority vote.

11.9 All motions except those specified elsewhere in this Deed proposed for a decision by the General Members at a meeting at which a quorum is present shall be determined by a majority of votes of the members thereof present and voting.

...../11.10 Each member

11.10 Each member present including the Chairperson shall have one vote and in the event of a tie the Chairperson or person presiding shall have in addition to an original vote a casting vote.

11.11 All General Meetings shall be held in Sankuyo's Kgotla shelter when available unless otherwise specified in the written notice convening same in accordance with Clause 11.3 hereof.

11.12 If a matter is urgent a Special General Meeting may be called on five days written notice as set out in Article 13 hereof. Only matters of which notice has been given may be dealt with at a Special General Meeting.

ANNUAL GENERAL MEETING

12.1 The Board shall within three months of the end of the financial year, convene an Annual General Meeting; except that the Board may authorise the postponement of the Annual General Meeting for a further two months to allow adequate time for preparation of the annual report and annual accounts audit financial statement.

12.2 Written notice specifying the date, place and time of the proposed Annual General Meeting shall be served on every Trustee, and shall be published on the Kgotla notice board of Sankuyo Village at least twenty-one (21) clear days before the date of the proposed Annual General Meeting. Motions for expulsion of a member or for the amendment of the Deed of Trust or for allowances must be written in full as part of the agenda.

...../12.3 The Chairperson

12.3 The Chairperson, or if absent the Vice Chairperson of the Board shall preside at every Annual General Meeting.

12.4 Five Trustees and any other forty (40) General Members of the Trust shall constitute a quorum. If a quorum is not reached or if neither the Chairperson nor Vice Chairperson are present, the meeting shall be adjourned to a date fixed by the Trustees present, which date shall be in any event between fourteen (14) and twenty-eight (28) days after the date of the postponed meeting, which date shall be published in accordance with clause 12.2 hereof, except that ten (10) clear days notice shall be sufficient. At the second meeting, the members present, regardless of number, shall constitute a quorum, and if neither the Chairperson nor the Vice Chairperson are present the Board Members present shall select one of their number to preside at the meeting.

12.5 All persons not being members of the Trust but being entitled to attend General Meetings in terms of Clause 11.6 hereof are entitled to attend the Annual General Meetings, but shall not have voting rights.

12.6 All motions, except those specified elsewhere in this Deed of Trust, shall be carried by a majority of votes of Members present at a meeting at which a quorum is present.

12.7 Each member present shall have one vote, and in the event of a tie, the person presiding shall have in addition to an original vote, a casting vote.

12.8 The agenda for the Annual General Meeting shall include, but not be limited to:

...../12.8.1 The reading

12.8.1 The reading and adoption of the Minutes of the previous Annual General Meeting.

12.8.2 Matters arising from those Minutes.

12.8.3 The presentation of the Annual Report of the Chairperson of the Board on the activities and operations of the Trust during the previous year.

12.8.4 The presentation of the Financial Report of the Chairperson and the Treasurer of the Board which will include: audited financial accounts, an audited balance sheet, and a statement of the Board of Trustees surpluses and retained and distributable incomes for the previous year.

12.8.5 The setting of dates for any necessary elections to the Board.

12.8.6 The consideration of and voting on any motion regarding allowances and the limit of meetings for which such allowances may be paid and for which due notice has been given.

12.9 The Board's Secretary shall record the Minutes of the Annual General Meeting including a list of all persons in attendance. One copy thereof shall be forwarded to each Trustee, and one copy placed in a special file in the Trust office open to inspection by any Trust member, within twenty-one days of the Annual General Meeting.

...../13 **SPECIAL GENERAL**

13 SPECIAL GENERAL MEETINGS

13.1 A Special General Meeting may be convened by the Chairperson of the Board or on the written request of two members of the Board, or on a written request signed by at least ten (10) General Members for the purpose of considering specific questions, including consideration of resources management issues, or a motion/s for amendment of this Deed of Trust or of the Resources Governance Bye-laws, or the expulsion of a member of the Trust or for the dissolution of the Trust.

13.2 A Special General Meeting may be convened by the Board or on the written request of 10 or more General Members must be convened within seven days of receipt of the written request.

13.3 Written notice specifying the date, place, time, and details of the agenda of the proposed Special General Meeting shall be served on every Trustee and shall be published on the notice Board of the Kgotla in Sankuyo Village at least five (5) clear days before the date of the proposed Special General Meeting.

13.4 Five Trustees and any other 40 General Members shall constitute a quorum.

13.5 Special General Meetings shall be competent to deal with specific natural resources management matters as set out in Clause 11.1 hereof, and/or specific motions for the amendment of the Deed of Trust or for the dissolution of the Trust as set out in Clause 13.1 above and Article 20, below.

13.6 The provisions of Clauses 11.5 to 11.12, inclusive, hereof shall be applicable to the conduct of Special General Meetings.

...../14 **REVENUES**

14 REVENUES

14.1 The Board shall retain from the Board Surplus an amount, hereinafter referred to as "operating fund" derived from:

14.1.1 fifteen per cent (15%) of income earned from activities managed by the Board; and

14.1.2 fifteen per cent (15%) of donor contributions;

provided always that the operating fund shall not, at the end of the second and each successive financial year, exceed one and a half times the amount of the liabilities, operating and management expenses for the preceding financial year, and any such excess shall be distributed in terms of Clauses 14.2 and 14.3 hereof.

14.2 The balance of the Board Surplus remaining after deduction of the operating fund amount (herein after referred to as the resources management income) shall be held by the Trust for use in support of its Objects as determined by the Board and General Membership at a General Meeting convened for that purpose.

14.3 All financial assets of the Trust shall be invested in an interest-bearing account at a commercial bank.

14.4 Within thirty (30) days following the Annual General Meeting, the Board shall convene a General Meeting to discuss Trust utilisation of the Resources Management Income, and shall solicit proposals for the utilisation thereof.

...../14.5 Within

14.5 Within fourteen (14) days of the General Meeting referred to in Clause 14.4, the Board shall convene a Special General Meeting to decide on proposals for utilisation of the Resources Management income.

15 RESOURCE GOVERNANCE BYE-LAWS AND SANCTIONS

15.1 The Board may, with the approval of a majority of General Members, facilitate the establishment and development of bye-laws and sanctions governing management and utilisation of natural resources by the Trust, and by General Members as individuals, within the area.

15.1.1 The Board of Trustees shall establish and develop Resource Governance Bye-laws as determined by the general membership for any resources over which it has been granted rights of utilisation by virtue of the contents of lease agreements with Tawana Land Board or by virtue of quota allocation or agreements with the Department of Wildlife and National Parks.

15.1.2 Any member of the Trust may make a proposal for governing use of the area's natural resources, for consideration by the Trust, by submitting the proposal to the Secretary of the Board of Trustees at least ten (10) days prior to the meeting at which it is to be discussed. To become a bye-law a motion for adoption must be made and be approved.

15.1.3 Any motion on a proposed bye-law which is approved by a

...../simple

simple majority in duly convened and minuted General Meetings or Special General Meetings shall be incorporated in the Resource Governance Bye-laws.

15.1.4 After approval, new bye-laws shall be posted upon the notice board of the Kgotla within seven days of the meeting incorporating such a bye-law. New bye-laws shall thereafter be announced at the next three consecutive General meetings.

15.1.5 A copy of the bye-laws shall be kept in a special file within the Trust office. An additional copy of the bye-laws shall be posted in the Trust office for inspection by any Trust member or other designated bodies during normal office hours.

15.1.6 Any bye-law of the Trust may be amended or revoked by a two-thirds vote of General Members and Trustees present in any duly scheduled and minuted General or Special General Meeting for which such deliberations have been placed on the agenda as set out in Clauses 12.3 and 14.3 hereof.

15.1.7 A copy of the Natural Resources Governance Bye-laws shall be appended to any contract entered into with respect to the use of natural resources within the area.

15.2 The Board may also establish a Monitoring Committee with powers to monitor and investigate resource utilisation activities and in any General or Special

...../General Meeting

General Meeting, advise on activities which do not comply with Resource Governance Bye-laws. The Monitoring Committee may also mediate and make recommendations to the Trust, between members of the Trust individually, and counsel or warn those found not to be in compliance with the Resource Governance Bye-laws..

15.2.1 The monitoring committee, shall be a standing committee under the Board, and be organised as a monitoring and advisory committee only. It may investigate and, in an advisory capacity, attempt to resolve cases of non-compliance with Trust resource governance bye-laws through mediation and counselling as appropriate.

15.2.2 In an advisory capacity, the monitoring committee may issue reminders and warnings, where warranted, to General Members regarding the bye-laws and need for compliance.

15.2.3 Cases of non-compliance with the bye-laws which involve significant loss of resources or instances of repeated non-compliance despite warnings shall be brought before the Trust at a duly convened and minuted General or Special General Meeting for discussion and resolution by the General Membership. The Monitoring Committee may, at such meetings, make recommendations to the Trust, but may not recommend sanctions.

15.2.4 A motion on any case of resource management conflict may only

...../be formally

be formally considered in a duly scheduled and minuted General or Special General Meeting for which such deliberations have been placed on the agenda as set out in Clauses 11.2 and 13.1 hereof.

15.3 When, following deliberations, General Members present at a General or Special General Meeting decide, on the basis of a majority vote that a sanction is appropriate, the Trust may dispense the following types of sanctions:

15.3.1 Financial sanctions: The Trust General Membership may decide that the Trust shall withhold from an individual, all, or a portion of financial benefits otherwise due that individual as dividends from the Trust. The amount of money to be withheld is to be determined by the General Membership at the time of approval of the motion for sanctioning.

15.3.2 Voting rights sanctions: The Trust General Membership may decide that the Trust shall suspend voting rights from an individual for a specified period of time, which period is to be determined by the General Membership at the time of approval of the motion for sanctioning.

15.3.3 Both: The Trust General Membership may decide that the Trust shall dispense both financial and voting rights sanctions as penalty in a single instance.

...../15.3.4. The Trust

15.3.4 The Trust is not constrained by any minimum or maximum conditionally on sanctions dispensed in cases of non-compliance to bye-laws so dealt with.

15.3.5 Any individual thus sanctioned shall thereafter have the right to appeal to the General Members for a reduction of, or annulment of the sanction. Any appeal shall be scheduled in accordance with procedures laid out in Clause 11.2 hereof. Any reduction or annulment, if granted, shall not make the Trust liable for any benefits lost to the individual during the interim period.

16 REMUNERATION

16.1 Where necessary the Trust shall have the right to pay the Trustees the reasonable expenses incurred by them in attending official meetings of the Trust out of the operating fund of the Trust.

16.2 The Trustees may receive sitting allowances for official meeting of the Trust as prescribed by a motion at the Annual General Meeting as specified in Clause 12.2. Travel allowance shall not exceed the mileage rate prescribed by the Government of Botswana which for the time being is in operation.

16.3 The motion proposing allowance rates and an annual limit to the number of such paid official meetings, if proposed, shall be discussed at an Annual General Meeting.

...../16.4 The motion

16.4 The motion must then be approved at the Annual General Meeting by a simple majority and is valid only for the new financial year. A motion on such allowances must be received and approved for each year at the Annual General Meeting in order for the allowances to be paid for that financial year.

17 AMENDMENT

17.1 The provisions of this deed may be amended provided that all members have been duly notified as specified in Clauses 12.2 and 13.3 of such motion/s for amendment and that such motion/s be approved by a two-thirds majority vote at a Special or Annual General Meeting.

17.2 No such amendment shall have any force or effect until duly registered at the Deeds Registry of Botswana.

18 EXEMPTION FROM FURNISHING SECURITY

Neither the Board nor any individual Trustee shall be required to furnish security for the due and proper administration of the Trust.

19 INDEMNITY

No Trustee shall be in any way liable for any loss or damage that may be suffered by the Trust as the result of any investments of any of the funds or assets of the Trust, or through any act of omission of himself or any other

...../Trustee in the

BGT

22 PATRONS AND HONORARY MEMBERS

The Trustees may appoint from time to time a Patron or Patrons of the Trust and may elect as honorary member persons who have, in the opinion of the Board, rendered distinguished service to the people of Botswana.

23 EFFECTIVE DATE

The Trust shall come into being upon the date of registration of this Deed at the Deeds Registry of Botswana.

THUS DONE AND EXECUTED on the day, month and year first aforewritten in the presence of the subscribing witnesses, and of me, the said Notary.

AS WITNESSES:

1. .....

2. .....

.....
APPEARER

.....
NOTARY PUBLIC