

# The Okavango Delta and the 'end of progress': global transformation and community based wildlife management

Richard Hasler<sup>1</sup>

## Abstract

This paper argues that community based wildlife management in the Okavango Delta needs to be analysed and understood within the broader political, ecological and economic trends affecting Botswana as a whole. A range of issues, including global economics, competing land use strategies, tenure regimes, global climate change, village economics and settlement patterns, the role of donor agencies and the economic and political transformation of Botswana society in the last thirty years, all impact on the prospects for Community Based Wildlife Management. Some key assumptions (such as the current geographical basis for defining communities) upon which Community Based Wildlife Management has been based need further discussion and debate.

## Introduction

Each year the annual flood of the Okavango River progresses steadily and determinedly into the Delta in Northern Botswana. In the last twenty years there has been evidence that the annual flood<sup>2</sup> has decreased and reduced the annual regular seasonal flooding area (McCarthy, T *et al* 1986/1994). As the relation between inflow and outflow is not stable it is difficult to make predictive models about these dynamic hydrological processes (Scudder *et al* 1993, pp47-49). Despite this, both scientific articles and local recollections have indicated that as much as three quarters of the flood plains of the Delta have dried out in recent years.

The annual flood attracts abundant wildlife, including the semi-aquatic lechwe and sitatunga<sup>3</sup>. The flood feeds an ecosystem that is dependent on this seasonal water supply before it mainly 'evapo-transpirates' into the dry Kalahari air (Scudder *et al* 1993,290). The long-term future of wildlife resources and of community based programs dependent on their utilisation is directly dependent on the availability of this seasonal water supply. This paper argues that the annual flood and the related utilisation of wildlife resources is a function of a global system facing challenging management crises. These crises extend beyond ecological management issues to the fabric of the world economic and political system.

## The Okavango Delta: an indicator of the health of socio-ecological systems in southern Africa

In more ways than one the Okavango Delta is like the canary in the environmental mine shaft<sup>4</sup> for Southern and Central Africa. The ecological health of the Delta is an indicator of global climate change and global environmental stress because of its regional significance as a sensitive drainage area. The case-study of the Okavango Delta is also a valuable indicator of the stresses created when socio-political and environmental systems collide. The interface between social systems and ecological systems is critical to analyses. In the Okavango Delta, this interface is an important case study for the future of Africa as we reach the end of the twentieth century. This paper

<sup>1</sup> Harry Oppenheimer Okavango Research Centre

<sup>2</sup> The flood reaches the extremities of the delta six months after the rainy season.

<sup>3</sup> These are specifically adapted to the flood conditions.

<sup>4</sup> A method historically used by European miners to indicate if noxious gases would pose a hazard for them. A canary in a cage was lowered into the mineshaft before the miners themselves went down. If the canary was still alive after a certain period of time the miners would proceed with their work.

argues that community based solutions to wildlife management are hedged between the juxtaposed forces of national progress and global environmental and social transformation.

### **National progress and the Botswana economic miracle**

In the last thirty years the Botswana economy has undergone a striking transformation from poverty to relative affluence. There is no doubt that this transformation, based primarily on the exploitation of its mineral wealth and cattle industry is the kind of 'progress' that every African country desires (Bock 1998).

Unlike most debt ridden African countries, Botswana contributes to the IMF and regularly has a budget surplus. Its low population (1.4 million) and large land area, rich mineral and natural resources place it in an excellent position to continue to flourish economically<sup>5</sup>. The network of roads, including the Trans Kalahari Highway and the excellent telecommunication system are all fruits of the progress that has been made. An entrenched democratic system of governance and a history of political stability have also contributed to this economic success.

### **'The End of Progress': an international debate**

Richard Norgaarde (1994) argues that contemporary models of development are based on the assumption that large growth economies are possible into the foreseeable future. He argues that a revisioning of the future is necessary, and that previous models of development are betrayals because growth oriented development does not take into account the environmental and social costs of nurturing a growth economy. Norgaarde argues that the major economies of the world have betrayed development by pursuing growth at the expense of environmental and social factors which may prove to undermine the progress achieved in Botswana and elsewhere. The global scale on which the environmental and social costs of growth in this century can now be assessed is staggering. Consider, for example, that alleged global climate change is thought by the United Nations to be a result of increased pollution by industrialized countries (United Nations Environment Programme Statement on Global Climate Change 1994). The variability in sustained flow into the Okavango Delta and the concomitant drying out of large areas of the flood plains in recent years should rightfully be analysed in the context of economic activities at international, national and local levels. These factors might include at international level alleged global warming, proposed water off-take in Namibia, increased farming and clearing after the war in Angola. At national level these factors might include developments such as dredging to direct surface water for mining and drainage of ground water supply for township development. Most of these activities and proposed activities are designed to facilitate economic and social progress.

### **The environmental and social benefits and costs of progress around the Okavango Delta**

Despite the Botswana economic success, the Okavango Delta area is currently exhibiting stresses due to a rapidly changing environment (both globally and locally) and to a rapidly changing scale of socio-political and economic systems. These changes directly impact the outcome of Community Based Wildlife Management activities but are seldom considered in their design. In this paper, these changing environmental and social factors constitute what is referred to as 'global transformation'. The affects of global transformation can be measured locally in terms of demographic, infrastructural and environmental changes and increased mobility and communication networks, as well as through changes in individual economic opportunities. For example, in the early 1970s the town of Maun was a remote frontier town where the influence of state infrastructure was

---

<sup>5</sup> Provided Botswana avoids the calamities that have affected other extractive economies in Africa, particularly those that affected the Zambian Copper industry.

hardly visible. In the 1980s the town grew by 78% over the period from 14,925 to 26,569 (Okavango Community Consultants 1995) in response to a growing tourism industry and in line with national population trends for major villages in Botswana. Today the town is a well established administrative centre of approximately 40, 000 people and a well tarred road stretches from Francistown through the Kalahari to the pan handle area of the Delta around Shakawe. The road and the mining and tourism wealth that has built it have transformed the remote areas of Northern Botswana by articulating the remotest villages within the Delta with the central political and economic life of Botswana. For example, in the last thirty years remote subsistence and fishing villages of the Hambukushu, Dixeriku, Wayeyi, Bugakwe and Xanekwe in the Delta have become more economically and politically attached to the developing state infrastructure through strengthened trade and economic links and through administrative and political links. The benefits of this development are great. The cost of these changes is both environmental and social.

The Delta is circumscribed by development of roads, fences, towns, tourists, safari operations and administrators. Maun airport became one of the busiest airports in Africa in terms of number of take-offs and landings as the tourist industry expanded in the last decade (Okavango Community Consultants 1995) . The local socio-ecological system has had to cope with relatively rapid change and exposure to foreign values and increased stresses associated with increased population. The outbreak of Cattle Lung Disease and the subsequent slaughter of 250, 000 head of cattle by the state authorities in the area to protect Botswana's export oriented cattle industry highlights how local costs are attached to national development strategies. This also indicates how local production processes (agriculture, cattle industry, wildlife resource use) are ultimately extensions of the state of administration.

**Identification with the state aid process is as important as identification with community production processes**

Recent economic changes from village based subsistence economies to state supported drought and disaster relief has had an enormous impact on the life and identity of communities. Disaster relief for Cattle Lung Disease, and state economic support for local subsistence has made the state development process as important as any local community production processes. Many of these production processes in drought relief areas are or have been supported or subsidised by the state. For example, state supported fishing, state supported agriculture and more recently state and donor supported wildlife management. The final evaluation of the NRM USAID project indicates that 'dependency on the state is quite high and it has not encouraged communities to go through a process of setting priorities and mobilising local resources for resolving constraints. However the capacity for the state to provide essentials is reaching a limit and under NDP8, the Government of Botswana will be moving toward a partnership relationship which will favour communities which show initiative.' This incentive factor has a critical impact on the design of community based wildlife management programmes which assume that communities are:

- \* autonomous
- \* homogeneous and
- \* economically dependent on local natural resources alone.

Ironically the Botswana State's recently acquired affluence may result in reduced economic motivation for localized community based regimes. If the state will provide schools, clinics and other support there is no need for communities to provide for themselves.

**Identifying the community of resource users:  
an exercise in environmental and social analysis**

The Okavango Delta is fluid in both an environmental and a social sense and therefore the local social management units for wildlife and fisheries management are difficult to identify. Each year

the annual flood subtly changes its course. Even within a single year vast areas of land can be flooded and then dry out leaving seasonal opportunities for different resource use activities (the most obvious being tourism, wildlife resource use, fishing and agriculture and reed collection). Over time new flood plains are flooded and old ones dry out. This is evident in the general movement of the flood from the western to the eastern side of the Delta in this century. Likewise human use of the Okavango Delta changes as the flood determines many of the activities that can or can not take place. Thus cattle posts that are currently based in the dried out western portion of the delta near Tsau will have to withdraw or move on to higher ground if a flood reaches this area. Fishing activities start when the waters come, which introduce commercial and subsistence fishermen from other parts of the Delta and from the towns near by. Fishers use both makoros and motor boats provided through the government sponsored fisheries programme. The motor boats cruise both the deep water channels as well as cutting passages through the dense papyrus of the upper delta area, thereby opening up areas that have not had access to motorized water transport before. The fluidity and changeability of local production processes highlights the difficulties of identifying communities of resource users.

Water attracts wildlife, which in turn attracts hunters and tourists, who set up impermanent camps and around whom service villages develop or existing villages expand. Thus new economic opportunities are determined by changes in the ecological resource base as it interacts with the changing production processes. Equally, older resource opportunities are forgone through the changes taking place. Agriculture and the system of malopo (flood plain) farming illustrate this well as they directly respond to the changing flood. If the flood is too strong or too weak farmers have to abandon or create new fields. The changing resource use patterns (fishing, cattle, malopo farming, tourism, hunting, collecting of veld products and wage labour) are reflected in the changing settlement patterns (cattle posts, fishing villages, agricultural villages, tourist villages) which are in turn associated with particular tenure regimes (communal property, privatised property, open access and state property). These tenure regimes are in turn directly linked to particular administrative processes.

### **Complex tenure regimes and their impact on community based management**

Some resource use activities (e.g. wildlife management in protected areas) are owned and controlled by the state while others (grazing on flood plains outside of the buffalo fence) are communal property. Some resource activities have been privatised through leasehold agreements (e.g. community wildlife concession areas) while others are subject to a virtual open access regime (access to fishing and veld products). In many cases the different resource use options such as fishing, wildlife, agriculture and tourism have to contend with overlapping tenure regimes and the challenge for community based wildlife management initiatives is to clarify and differentiate the various claims on the same resource. Thus wildlife resource utilisation in the Okavango Delta can be simultaneously a state resource (national park), a privatised resource (a leasehold agreement over a community wildlife area) a communal property resource (decision making concerning the lease hold agreement and the distribution of the benefits from it) and an open access regime (poaching of wildlife in remote unpoliced areas). Frequently there are overlapping jurisdictions and competing rights concerning access. An example might be where a concession area has been leased to an operator through an agreement involving the Land Board, the District Council and the local community under the Natural Resource Management Programme. This illustrates how several claims on the resource have to co-exist through an agreed upon access regime.

The type of access regime can influence the nature, spatial distribution and degree of autonomy of the resource use community. For example the (USAID) NRM communities have generally adopted the geographical and spatial definition of 'community'. Preliminary research findings indicate that this definition may not apply to Delta people because of the considerable 'social fluidity' which exists, and this may be a major flaw in the design of the program. Communities might more accurately be defined in terms of the levels of management involved, rather than in

terms of the spatial or geographical distribution of households in villages (which are loosely referred to as 'community'). This is because the identification of local communities within the Delta assumes an autonomy of decision making at the local level which frankly does not exist and will probably never exist because communities are increasingly becoming extensions of the state apparatus to facilitate local production. Decisions concerning local production processes are also increasingly being determined at national and district levels.

A diagram summarising some of the local production processes, the tenure regimes and levels of management involved follows: Note that tenure regimes are usually complex and overlapping and that multiple levels of management are involved because of the complex legal and administrative jurisdictions involved. This is one of the biggest challenges for community based wildlife management to negotiate. Ignoring the competing tenure regimes and levels of management is a recipe for failure.

**Table 1: Diagram of local production processes, tenure regimes and levels of management**

ACTIVITY	TENURE REGIME(S)	LEVEL OF MANAGEMENT
Veld Product Collection	Communal, Private, State	Local, District, National, International
Cattle Posts	Communal, Private	Local, District, National, International
Wildlife Utilisation (CBNRM)	Communal	Local, District, National, International
Wildlife Utilisation (Concession)	Private	Local, District, National, International
Fisheries (subsistence)	Communal, Open Access	Local, District, National, International
Fisheries (commercial)	Communal, Open Access	Local, District, National, International
Tourism	Private	Local, District, National, International
Mining Prospecting	Private, State	National, International
Agriculture	Communal, Private, State	Local, District, National, International

### Social fluidity in the Delta and its impact on community based wildlife management programmes

A critical issue in defining community based wildlife management is the lack of long term permanence in the composition and structure of settlements within the delta. These settlements are often responsive to the dominant political economy manifested in the nearby towns and tourist camps (i.e. people are economically and politically attached as much to the towns as to their villages or cattle posts). Equally importantly, the resource opportunities and the exploitation of natural resources in the delta is dependent on the changing ecological resource base which is so dependent on the annual flood. Resource use patterns (malapo agriculture, collecting of veld products, fishing, cattle herding outside the fences, tourism, wildlife resource use) change in response to both ecological and political/economic changes. Associated ecological issues such as the presence of tsetse fly and the establishment of veterinary control fences for foot and mouth and other diseases have also determined settlement patterns leading to a history of 'transient settler patterns which make uncertain the future of any given settlement in the Delta' (Taylor, 1997). For example, an entire village (Marutsa) in the Southern part of the Delta near Maun is based on exploitation and exportation of reeds mainly for the safari business in other parts of the delta. It would be wrong to think of this village as a permanent settlement as it is really a result or response to market forces concerning tourism.

Likewise, because of the social fluidity and the strong links between the permanent towns and fluid villages in the Delta, it is inaccurate to make the assumption that communities within the Delta are spatially and geographically permanent units. The inhabitants of many villages in and around the delta have homes in two or more places. Local community committee members may therefore have homes in both Maun and the village they represent. This indicates that a spatial definition of community is not adequate in this context and assumptions in the NRM about neatly bounded discrete and homogeneous traditional communities could utterly mislead the program implementers.

The fluidity of movement of people within and around the Delta as they opportunistically pursue the different activities within this mixed economy co-exists with the establishment of permanent villages and towns by the state. This has resulted in a centralisation and accumulation of population in the Towns and villages surrounding the Delta. I.e. link between the towns (on the outskirts of the delta) and the villages (mainly closer to the delta if not within it) is often critically important in the definition of local community. The fluidity of social movement has to be incorporated into the design of any community based approach to wildlife or fisheries management.

### **State and community: the chicken and the egg of community based natural resource management**

Many planners and analysts of community wildlife and fisheries management programs make the somewhat naive assumption that 'communities' exist in an administrative and political vacuum. An extreme version of this is illustrated by tourist safari operators who have approached local chiefs or headmen to negotiate for access to local resources for their businesses without involving local authorities such as the District Council the Land Board or Department of National Parks.

The role of village and community structures and settlement patterns have adapted to the new infrastructural developments and the extension of state power which has caused both positive and negative impacts. For example cattle posts situated within the dry flood plains of the Delta around Tsau frequently are serviced and owned by relatives working and living in Maun. It is not unusual for residents of villages throughout the Delta to have one or more homes in towns along the main tar road stretching from Maun to Shakawe. Thus the various locally based communities which historically relied on sorghum and millet agriculture, fishing, hunting and collection of veld products within the Okavango Delta area have been catapulted into the main stream of the economic and political life through the extension of state infrastructure and administration, schooling and all the other accoutrements of progress. Likewise the roads and expanding towns have brought increased population from elsewhere who utilise the resource opportunities provided by the expanding state infrastructure.

### **Community based wildlife management: global transformation and the stake-holders**

In my earlier work on the CAMPFIRE programme it was emphasised that the institutional set up for community based wildlife management was not simply about dealing with the social differentiation that existed within 'communities' but involved differentiation at international, national, district, local and household levels (Hasler 1995).

It was suggested that 'political ecologies of scale' were being established through the project experiments. I.e. that benefits from the programme, primarily the goal of sustainable natural resources, benefited the entire society and not just one section of it. The levels involved indicated the complexities involved in evaluating such programs. Contrary to the way in which the programme was often described and analysed as though a local community was a homogenous, discrete and bounded entity. This analysis emphasised that communities existed within a political and economic context i.e. that Land Boards, Councils, the United States Agency for International Development, the Government of Botswana and wildlife lobby groups in America could determine outcomes at local village level as much as local people did themselves.

A similar hierarchy can therefore be identified for Botswana in the Okavango Delta:

- \* at international and national level, the United States Agency for International Development (USAID) and the Government of Botswana (GOB) have been the primary initiators of the Natural Resource Management Project since 1989.
- \* District level land boards, councils and Wildlife Management Departments, supported by USAID and GOB have formed the vital technical committees which have initiated the program at village level.
- \* Local village and/ or concession area trust committees, supported by the district level technical committees and liaising through the local democratic institution of the *kgotla* with village development committees and households, formed the last links in the chain.

This hierarchy of different institutional interests interacts between and within the levels with other stake holders. For example at international level, the United States Agency for International Development has to respond to public opinion in the United States concerning the issue of animal rights activists and their objections to the alleged use of US tax money for hunting activities under the NRM programs in southern Africa. This issue could well be the single most important threat to the success of community based wildlife management in Botswana and elsewhere (Murphree 1997). The global dimension of the project has direct impact on outcomes in local villages and districts attempting to nurture the program. According to the final report of the NRM program, if funding evaporates 'There are no resource utilisation activities or trusts that would run on their own'.

This global dimension of the project and its link to the CITES debaters concerning wildlife management is not fully acknowledged by implementers and their evaluators. For example, the final evaluation of the NRM project indicates that relations need to change within communities (pp3-20) among communities (pp3-20) between operators and the trusts (pp3-21) and between trusts and the Government of Botswana as well as among operators. While these factors are undoubtedly true, the evaluation ignores the critical global dimension of the project and the stake holders in the donor countries, which support such programs.

### Conclusion

The goal of the USAID(NRM) project was to increase incomes and enhance capability to meet basic human needs through sustainable utilisation and conservation of natural resources, particularly wildlife. An additional goal was to promote sustainable development of communities on lands that are marginally suitable for agriculture (Tropical Research and Development 1997) An illustration from the Chobe enclave community trust highlights a central point raised in this paper. The trust established a joint venture with a safari firm which generated \$95,000 in 1996. According to recent reports (personal communication Wynter) one economic activity that has been recently generated in the Chobe enclave is the proposed construction of a petrol station from funds generated under the program. This highlights the point made earlier about global change and communities. Communities in remote areas are a part of larger political economies and do not exist in a historical time-warp which freezes them forever as traditional subsistence producers. Communities are rapidly being articulated within the global economy through tourism and through the development offered by the Botswana State and such agencies as USAID.

Three misconceptions about communities in the Okavango Delta need to be ironed out in light of the global changes that have taken place in the last thirty to fifty years:

- \* Communities are not autonomous, homogenous entities.
- \* Communities form a part of the state and have a considerable amount of their identity determined by state administrative processes.
- \* Communities are strongly affected by international or global decision making processes especially those concerning the management and trade in global wildlife resources and the availability of funding from an external aid agency.

In a rapidly changing world, the future development of community wildlife management in the Okavango Delta will depend to a large extent on how these three factors are incorporated into planning and management. For example, increasingly the geographical definition of communities as spatial entities, bounded in concession areas, is likely to be challenged by the real politics of resource competition between interest groups. Such competition over water, wildlife and the Okavango Delta itself will be determined by a process involving global, national, district and local interests. Local communities will increasingly have to address these interests.

### **Bibliography**

- Bock, J (1998) Economic Development and Cultural Change amongst the Okavango Delta People's of Botswana, *Botswana Notes and Records* Volume 30, p35-47.
- Hasler, Richard (1995) Political Ecologies of Scale: The Multi-tiered Co-Management of Zimbabwean Wildlife Resources, Wildlife and Development Series No 7, International Institute for Environment and Development, London 16pp.
- Hasler, Richard (1996) Agriculture, Foraging and Wildlife Resource Use In Africa: Cultural and Political Dynamics in the Zambezi Valley, London, UK, Kegan Paul International 207pp.
- Maotonyane, L B (1996) The findings of socio-economic baseline study in Sankuyo Village Ngamiland District, The Department of Wildlife and National Parks, Gaborone, Botswana 40pp.
- Okavango Research Group Papers (1986-1994) University of Witwatersrand, Johannesburg, South Africa
- Okavango Community Consultants (1995) Management Plans for Controlled Hunting Areas Allocated to Communities in Ngamiland WMA's, Okavango Community Consultants, Maun, Botswana 200pp.
- Okavango Peoples Wildlife Trust (1997) Proceedings of a conference on wildlife and the environment organised by the Okavango People Wildlife Trust, 12-15th May 1997 Maun, Botswana 75pp.
- Scudder, T, Manley, R E, Coley, R W, Davis, R K, Green, J, Howard, G W, Lawry, S W, Martz D, Rogers, P P, Taylor, A R D, Turner, S D, White, G F & Wright, E P, The IUCN Review of the Southern Okavango Integrated Water Development Project, Gland, Switzerland 5543pp.
- Tropical Research and Development (1997) Final Evaluation of the Botswana Natural Resource Management Project, United States Agency for International Development, Gaborone, Botswana 115pp.
- Taylor, K (1997) Where Seeing is Believing: Exploring and Reflecting upon the Implications for Community Based Natural Resource Management, Unpublished MSc University of Edinburgh, Edinburgh, UK 150pp.