Sustainable Development and Natural Resource Competition and Conflicts in the Okavango Delta, Botswana¹

By J.E. Mbaiwa² and M.B.K. Darkoh³

Abstract
This paper uses the concepts of sustainable development and the sustainable use of environmental resources in addressing issues of resource competition and conflicts in the Okavango Delta. A stakeholder approach/analysis is used to identify interest groups or stakeholders involved in resource competition and conflicts in the area. Findings show that stakeholders can conveniently be categorised into two main groups, the traditional and emerging stakeholders. Traditional stakeholders include agro-pastoralist, hunting and gathering communities that have lived in and around the Okavango Delta for centuries. Emerging stakeholders are modern land users such as the tourism, modern livestock and wildlife management sectors that were recently introduced in the area. Resource competition and conflicts were found to be minimal amongst traditional stakeholders, but more pronounced between traditional stakeholders and emerging stakeholders and between the various emerging stakeholders. This paper points out that resource competition and conflicts pose a threat to the sustainable use of the Okavango Delta. As a result, the sustainable use of the Okavango Delta requires the participation of all the stakeholders in policy formulation, implementation and monitoring. Particular attention is paid to the traditional groups because they live in the Okavango Basin, and could be economically motivated to manage and monitor the wetland effectively on a daily basis.

Introduction
Conflicts over natural resources such as land, water, wildlife, and forests seem to be occurring everywhere, especially in Africa. Buckles & Rusnak (1999) state that people everywhere have competed for the natural resources they need to sustain their livelihoods. However, the dimension, level, and intensity of these conflicts vary greatly. The intensity of conflict may vary from confusion and frustration among members of a community over poorly communicated development policies (Kant & Cooke, 1999), to violent clashes between groups over resource ownership rights and responsibilities (Chenier et al, 1999; Suliman, 1999).

There is a strong link between natural resource utilisation, sustainable development and natural resource competition and conflicts (Wood, 1993). Conflicts over resource use arise when several interest groups use resources differently in the same natural system or geographical location (Mbaiwa, 1999). Shortages of natural resources also lead to competition that may result in conflict amongst the various resource user groups. State actions and policies affect natural resource use and may sometimes give rise to conflicts. Furthermore, security and control over natural resources, or the lack of these, may prevent appropriate management of natural

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resources, exacerbate dissatisfaction and competition, and worsen conflict and the unsustainable use of resource utilisation (Darkoh & Mbaiwa, 2001).

The global concern over the degradation of the world's natural resource base prompted the United Nations to set up the World Commission on Environment and Development (WCED); and the WCED first proposed the concept of sustainable development. The main thrust of the concept of sustainable development is the utilisation and management of renewable resources for the benefit of today's generations whilst at the same time making those resources available for future generations (WCED, 1987). Sustainable development is defined by the WCED (1987:43) as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". Sustainable development implies development or management based on the exploitation or utilisation of natural resources to meet the needs of all its stakeholders, while not jeopardising the needs for both present and future generations. Sustainable development recognises that economic development must meet the needs of all its stakeholders. Therefore, economic activities must not irreparably degrade or destroy those natural resources. Although sustainable development is assumed to be the cornerstone of any economic development, there are those who feel that sustainable development involves contrary goals (e.g. Redclift, 1987; Arnold, 1989; Lele, 1991; Warren, 1996); but in spite of this, it has come to be generally accepted that "real" development cannot be achieved unless the development strategies are sustainable and consistent with social values and institutions.

The nature, extent and possible solutions to natural resource conflicts can be understood and studied through an approach that recognises the importance of all stakeholders and actors in the conflict situation. Wood (1993) notes that a holistic view of the circumstances in which people live and use natural resources is needed. These circumstances are affected by a range of socio-economic and political considerations which affect the supply of, and demand for, natural resources, and also the alternative ways in which human needs can be met. Opschoor (2001:27) proposes two ways that can be adopted as a solution in situations of conflicts over natural resources and environmental insecurity. These are "technological developments that try to raise productivity levels and/or otherwise push environmental space outward" and "economic diversification". Opschoor notes that a response to economic diversification very often is "not possible due to the marginal aspect of economic development of the communities concerned."

Wetlands such as the Okavango Delta in northwestern Botswana are noted by Matiza-Chiuta (1995) as a major source of livelihoods for the rural communities that are endowed with such resources. In modern times, wetlands have become a source of income derived from the utilisation of flora and fauna for tourism purposes. They are also converted into other land uses such as for irrigated crop production and for industrial development. Wetlands are also among the most threatened of all environmental resources (Brouwer et al, 2001). This is mainly because of the increased demand for economic development, resource competition, and conflicts between land users and interest groups over the use of the same resource.

Botswana's Okavango Delta attracts different land users and stakeholders wanting to use resources found in the wetland. These stakeholders happen to have different land use interests, and this results in competition and conflict among them (Mbaiwa, 1999). Roling & Wage-makers (1998:8) state that in the context of natural resource management, "stakeholders are...natural resource users and managers". The competition for and conflicts over the use of the Okavango Delta involve several interest groups. These include the wildlife and tourism sectors which want to keep the wetland a wilderness area for wildlife management and tourism purposes and pastoralists and the livestock industry, who desire to expand livestock farming
into the permanent water resources of the Okavango Delta. The cattle industry is also associated with the erection of veterinary fences which block wildlife migratory routes and have led to the death of many animals. The fences are assumed to be contributing to the decline in wildlife numbers in the Okavango Delta, and do not go well with the wildlife and tourism industries. Wildlife resources are one of the key tourist attraction products of the Okavango Delta.

Local and traditional groups desire to hunt wildlife and collect veld products in the wetland. However, the control over resources such as wildlife has been centralised by government, and some parts of the wetland which have an abundance of veld products and wildlife have been declared protected areas, where access is denied to individuals unless they visit as tourists. At an international level, the use of the Okavango waters for socio-economic purposes is a source of conflict between Namibia and Botswana. Both Namibia and Botswana have economic development plans to construct large-scale water extraction projects to meet water demands in the respective countries. Although competition between stakeholders over the use of the Okavango cause conflicts between groups, and in the process threatens the sustainable use of the wetland, there has not been much of research carried out to identify key stakeholders and their specific interests, the nature of competition and conflict, and how such competition and conflicts can be minimised in order to promote the sustainable use of the Okavango Delta.

This paper uses the concepts of sustainable development and the sustainable use of environmental resources in addressing issues of resource competition and conflicts in the Okavango Delta. The term conflict is used in this paper to refer to confusion, frustrations, disagreements or contradictions (e.g. in policy implementation) and verbal disputes rather than armed conflict between the different resource groups over the use of the Okavango Delta. Through the stakeholder approach/analysis, the paper identifies resource stakeholders and interest groups in the use of resources found in the Okavango Delta, areas of actual and potential resource competition and conflicts. The paper finally identifies strategies that can be adopted to minimise competition and conflicts in an effort to promote the sustainable use of the Okavango Delta and the environmental resources found in it.

**Brief Description of Study Area**

This study was carried out in the Okavango Delta which is located in the northwestern Botswana (Figure 1). The Okavango Delta is one of the few remaining and relatively pristine natural environments in southern Africa. The Botswana Government declared it a wetland of international importance and Ramsar site in 1997.

Like the Nile in Egypt, the Okavango River and its Delta sustain life in an otherwise inhospitable environment (Tlou, 1985). The Delta is characterised by large amounts of open water together with grasslands which sustain human life, plant life, wildlife, birds, insects and various living organisms, including 5,000 insects, 3,000 plants, 540 birds, 164 mammals, 157 reptiles, 80 fish and countless micro-organisms (Rothert, 1997). It is also home to over 100,000 people who live within and around it. Over 95% of these people depend directly or indirectly on the natural resources found in the wetland to sustain their livelihoods (Mbaiwa, 2002). As a result of its rich wildlife diversity, wilderness nature, permanent water resources, rich grasslands and forests, the Okavango Delta attracts several interest groups which compete and conflict with each other for resource use.
Figure 1. Map of the Okavango Delta, Botswana.

**Methodology: The Stakeholder Approach/Analysis**

The stakeholder approach, which is largely a qualitative research method, was used for data collection in this study. Grimble et al. (1995:3-4) state that a "stakeholder analysis can be defined as an approach for understanding a system by identifying the key actors or stakeholders in the system, and assessing their respective interest in that system". In the Okavango Delta, the approach was adopted to identify the various groups and their activities as well as areas of actual and potential conflicts among them. The stakeholder approach was first developed and applied to business (IISD, 1992) in promoting corporate accountability for sustainable development performance, but has been found to be applicable and useful to natural resource utilisation studies. Apart from the fact that the stakeholder analysis is primarily used to identify the stakeholders (or interest groups) and the areas of actual or potential conflict, it has also been found to be a useful method of clarifying conflicting sets of expectations and understanding conflicts among stakeholders that will allow business activities to manage themselves appropriately.

In business studies, the methodology starts with the identification of the different stakeholders or interest groups. These are conveniently categorised into two groups: traditional and emerging. Each group shares common characteristics, although individual stakeholders have specific objectives as well. These stakeholders not only include the various groups that are affected by the enterprises' business activities such as shareholders, creditors, regulators, employees, customers, suppliers and communities in which the enterprise operates, but also people or groups of people and their activities that are affected by - or which are considered
affected by - the enterprise's impact on the biosphere or on the social capital. In identifying stakeholder groups, management is expected to consider each business activity and operating location (including the social environment and community). Finally, the stakeholder analysis contemplates the effects of business activities on the environment, the public at large and the needs of future generations. Understanding conflicts among stakeholders and the impact of stakeholder activities on the environment enables business to develop management plans to mitigate conflicts and ensure among other things environmental sustainability.

Using a modified and simplified form of this methodology, the authors were able to identify the major land users and interest groups, the land use activities and land use conflicts in the Okavango Delta. Specific unstructured questions were posited to the different land users and stakeholders in the Okavango region. A free discussion was also allowed to find extra information that affects the land users and how they believe such problems could be solved. In some instances, respondents were chosen using the snowball method where the preceding respondent recommended others for interviewing.

Respondents in this respect included government officials from the Departments of Wildlife and National Parks, Tourism, Animal Health and Production, and tourism operators. Community leaders and their representatives at the three villages of Khwai, Mababe and Sankuyo located on the eastern periphery of the Okavango Delta were also interviewed. Structured and unstructured questionnaires were also administered to the sampled households in the three villages. Ninety-five households were sampled out of a total of 113 households in the three villages. Selection of these villages was based on several factors, for example, ethnicity: Khwai and Mababe are composed of different groups of Basarwa while Sankuyo is composed of Bayei and Basubiya, who are Bantu-speaking groups. The Basarwa are traditionally a hunting and gathering society (other economic activities such as crop and arable farming were recently introduced to them) while the Bayei and Basubiya are traditionally agriculturalists.

In addition to the primary data collected, secondary data sources were also used in the study. These included both published and unpublished reports on natural resource management in the Okavango Delta. Specific materials that were used included archival materials; government policy documents on wildlife conservation, tourism development and agricultural development; and any other documented information on natural resource use in the Okavango Delta. Data collection for this study was carried out between July 1998 and March 1999. It was updated between January and May 2001.

Research Findings

Identification of Natural Resource Stakeholders

The major resource stakeholders and interest groups in the Okavango Delta were identified and conveniently categorised into two groups: traditional and emerging stakeholders (Figure 2).

The traditional stakeholders include agro-pastoralists, and hunting and gathering communities. Evidence based on Early and Middle Stone Age implements found at sites on or near the Delta margins seem to indicate that the Basarwa inhabited the southern periphery of the Delta for about 10,000 years or more (Tlou, 1985). The other groups, mainly the Bantu speaking people (e.g. Bayei, Basubiya and Batawana), arrived in the Okavango Delta at a later period, that is, not more than 500 years ago (Mbaiwa, 2001).

The emerging stakeholders are relative new-comers to the Okavango Delta. They include groups such as the livestock, wildlife, and tourism sectors. Most of these groups
Traditional Stakeholders
1. Local communities (e.g. hunter-gatherers, subsistence crop and livestock farmers e.g. Basarwa, Bayei, Basubiya and Batawana)

Emerging Stakeholders
1. Private sector (e.g. safari hunters, tour operators and lodge and hotel owners)
2. Government (e.g. Land Boards, Departments of Wildlife and National Parks, Tourism and Animal Health and Production)

Natural Resources e.g. Land, Water, Wildlife etc.

Surrogate Stakeholders for
1. Future Generations
2. Ecological Base e.g. wildlife species

Source: Mbaiwa (1999)

Figure 2: Resource Use Groups or Stakeholders in the Okavango Delta.

established themselves in the Okavango Delta after Botswana's independence in 1966, while a few such as safari hunters and wildlife managers became involved in the last years of British colonial rule (1885–1966) (Mbaiwa, 1999). The issue of emerging stakeholders in the Okavango Delta indicates that there has been an increase of the human population with different land use interests in the region. It also suggests that the significance of the natural resources in the Okavango River Basin has increased for these diverse interest groups.

The Nature and Extent of Land use Conflicts Among Stakeholders
Results show that land use interests and activities of stakeholders in the Okavango Delta are different. The different stakeholders desire or have implemented programmes and projects which conflict with the interests of other stakeholders in the area and hence cause conflict on the use of the wetland (Table 1). The nature, extent and land use conflicts in the Okavango Delta is discussed based on the conflicts among particular stakeholders, and are divided into three main sections: conflict among traditional stakeholders, conflict between traditional and emerging stakeholders, and conflict among emerging stakeholders.

Resource Conflicts Among Traditional Stakeholders
Natural resource competition and conflicts between the different ethnic groups found in the Okavango Delta have for centuries been minimal and almost insignificant. This is mainly because of the limited pressure on the use of those resources resulting from relatively small human populations that autonomously lived in the Okavango and respected each other's land use rights (Mbaiwa, 1999). However, this status quo changed slightly with the arrival of the Batawana ethnic group in the later half of the nineteenth century. The Batawana (coming from the Central District of Botswana) militarily conquered all the small states that lived in the Okavango area in the late nineteenth century. Then the Batawana state superimposed itself on
Table 1. Main Stakeholders, Land Use Activities and Conflicts in the Okavango Delta.

<table>
<thead>
<tr>
<th>Main Stakeholders</th>
<th>Land Use Activities</th>
<th>Land Use Conflicts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Communities * Basarwa in Khwai and Mababe and Bantu-Speaking groups e.g. Bayei and Basubiya.</td>
<td>- collection of natural resources e.g. veld products, firewood, fishing, etc.</td>
<td>- conflict with Department of Wildlife and National Park (DWNP)’s wildlife conservation policies especially in protected areas;</td>
</tr>
<tr>
<td></td>
<td>- subsistence hunting activities by local communities.</td>
<td>- hunting without a license or hunting outside the hunting season is not allowed by DWNP.</td>
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<tr>
<td></td>
<td>- crop and livestock farming in wildlife areas</td>
<td>- competition for land between crop and livestock farming and wildlife tourist sector (e.g. with DWNP, tour operators, lodge owners, tourists e.t.c).</td>
</tr>
<tr>
<td>Batawana of Maun</td>
<td>- consider Okavango historically theirs thus want to control wildlife and tourism</td>
<td>- conflict with government (e.g.DWNP) as wildlife resources have been centralised and tourism in the Okavango is privatised with no direct benefits to Batawana.</td>
</tr>
<tr>
<td>Government ** Department of Animal Health and Production (DAHP)</td>
<td>- livestock farming hence erection of the veterinary fences e.g. the Buffalo Fence to control livestock diseases.</td>
<td>- conflict with tourism and wildlife managers. Competition over land between wildlife and livestock sector; fences block wildlife migration routes and cause death of wildlife species which are also an important tourism attraction product.</td>
</tr>
<tr>
<td></td>
<td>- implementation of government wildlife conservation policies</td>
<td>- conflict with livestock &amp; crop farmers over crop damage and livestock predation by wild animals. Conflict with DAHP policies of erection of veterinary fences.</td>
</tr>
<tr>
<td>Department of Wildlife and National Parks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Tourist Sector ** consumptive tourism e.g. by safari or commercial hunters. non-consumptive tourism e.g. photographic tourism.</td>
<td>- promotion of consumptive tourism (e.g. safari hunting activities) in the Okavango.</td>
<td>- safari hunting perceived detrimental to wildlife species by local people and conservation groups e.g. Okavango People Wildlife Trust.</td>
</tr>
<tr>
<td></td>
<td>- promotion of photographic tourism hence establishment of hotel and accommodation facilities.</td>
<td>- construction of large scale tourist infrastructure down play community initiatives of small scale enterprises e.g. traditional tourist villages; settlement in wildlife areas conflict with tourist interest of keeping the area a wholly wilderness zone.</td>
</tr>
<tr>
<td>Botswana and Namibia**</td>
<td>- use of the Okavango River waters.</td>
<td>- conflict between governments of Botswana and Namibia over the use of the rivers waters, i.e. Botswana fears that if Namibia extract water without Environmental Impact Assessment might affect the ecology and tourism in the Okavango Delta.</td>
</tr>
</tbody>
</table>


the hitherto stateless societies of the area (Mbaiwa, 1999). Tlou (1985) states that the most important characteristics of the period before the arrival of the Batawana in the Okavango was the absence of a unitary state and the prevalence of small-scale communities with diversified
social and political structures. None of these entities was powerful enough to impose its rule on others. They co-existed in a fairly peaceful and balanced manner and were relatively autonomous until their incorporation into the Batawana state.

The authority of the Batawana over small states in the Okavango meant that land and its natural resources came under Batawana control. All the small states, though they were allowed to retain relative autonomy, were required by the Batawana to use natural resources in the area according to the rules and regulations of the Batawana leadership (Mbaiwa, 1999). At times, small ethnic groups such as the Basarwa did not accept the rules and regulations of the Batawana leadership even though they formally obliged. For example, the Basarwa of Khwai noted during informal interviews that the Batawana relocated them from Chief’s Island (located in the heart of the Delta) and designated that area as a hunting grounds for their kings. The Basarwa of Khwai further noted that, in 1965, the Batawana, now with the help of the British colonial administrators, again forced them to relocate from the Xakanaxa area to give way for the establishment of the Moremi Wildlife Reserve. The relocation of small ethnic groups such as the Basarwa, and the introduction of alien laws on them by the Batawana, indicates that the arrival of various ethnic groups meant an increased pressure on the use of natural resources found in the Okavango Delta. Only militarily strong groups could decide how other small groups should use land and the natural resources in the Okavango Delta.

Despite the displacement of small groups by the Batawana, and their forced leadership on them, findings indicate that the respect of traditional law has over the years kept competition and conflicts over natural resources in the Okavango Delta minimal. Even after land and its natural resources in the Okavango Delta became controlled centrally by the modern government after Botswana’s independence, competition and conflicts over the use of natural resources among traditional stakeholders remained relatively insignificant. This is because none of the traditional groups - including the Batawana - retain neither control nor ownership of land and its natural resources. They are all required by government to use natural resources in the areas in accordance with government laws regarding natural resource management.

Resource Conflicts Between Traditional and Emerging Stakeholders

The Land Board System Versus the Traditional Land Management System

Prior to the 1968 Tribal Land Act which established Land Boards in 1970, the various ethnic groups retained some control over land and its resources, such as wildlife, in their respective territories in the Okavango Delta although formally land and its natural resources were under the overall authority of the Batawana. The establishment of Land Boards resulted in the loss of this control and ownership, and management was transferred to the central government. Initially the traditional leaders or their representatives were ex-officio members of the Land Boards, however they ceased to perform this function in 1989 when the central government imposed full control of land allocation matters and natural resources utilization in the country (Mbaiwa, 1999). The current land tenure system in Botswana is divided into three main categories: tribal land (71%) under the jurisdiction of the Land Boards, stateland (23%) under the Department of Lands, and freehold land (6%) which is private land and controlled by various private individuals and companies (Government of Botswana, 1991). Conflict between traditional groups and the central government in the Okavango Delta is caused by rights of use for the land and natural resources there. For example, the Batawana leaders want the central government to hand over the responsibility for and management of Moremi Game Reserve to them as they claim it is historically theirs (Mbaiwa, 1999).
Kgathi et al (2002) state that the attenuation of the land management rights of traditional leaders has eroded the traditional knowledge associated with the management of natural resources, as the customary laws and practices of resource management are no longer practiced. According to Gupta et al (1995:124) the “erosion of knowledge is much more serious than the erosion of natural resources”, as the latter can be reversed whereas the former cannot. Such an erosion of knowledge may lead to the dis-empowerment of the rural poor, an important element and recipe for unsustainable development. The loss of control and management over natural resources by traditional leaders and their people in the Okavango Basin indicates a lack of adherence to the ideals of sustainable development by Botswana’s natural resource management institutional and policy framework. Sustainable development emphasises the involvement of all stakeholders - especially the rural poor - in the decision-making processes that affect their lives. This confirms claims by Chambers (1986), who notes that sustainable development appears to be the terminology of managers, and is not as yet the terminology of the managed. Sustainable development - particularly social equity - implies that local groups be a part of the decision-making process that affect their livelihoods.

Protected Area Management Versus Hunting-Gathering Communities

Resource conflicts between modern wildlife management systems and the socio-economic activities of communities living in wildlife areas are relatively common in Africa. Marekia (1991) discusses conflicts between the Masai and the central government in Kenya, while Mbanefo & de Boerr (1994) discuss such conflicts in Zimbabwe. In the Okavango Delta, there is conflict between the Department of Wildlife and National Parks (DWNP) and hunting and gathering communities over the use of wildlife and other natural resources found in protected areas such as Moremi Game Reserve and Chobe National Park.

Interviews with households in the three villages of Khwai, Mababe and Sankuyo, which are located on the southeastern side of Moremi Game Reserve, indicated that 93.7% of the respondents stated that government never involve them in making wildlife management policies and laws. They are, however, informed of such policies and laws when they are either already implemented or just about to be implemented. Failure to involve local communities in wildlife management has led to a lack of control over natural resources by the local communities. Barnes (1998) notes that much of the wildlife resources in Botswana are public property and control is vested with the central government. The centralisation of wildlife resources in Botswana is one of the causes of negative attitudes towards wildlife conservation by communities living in wildlife areas (Mordi, 1991; Mogananne & Walker, 1994; Mbaia, 1999).

Informal interviews with community leaders in Khwai, Mababe and Sankuyo indicate that people in these villages want to have access to, and control and benefits from natural resources found in protected areas. These include hunting and the gathering of veld products such as firewood, thatching grass, wild fruits, berries and roots (edible tubers). However, DWNP does not allow hunting or gathering of resources in protected areas. Access to protected areas is allowed to individuals when it is done for tourists purposes for which gate entry fees are required. Rural communities in most cases are unable to pay park entry fees; besides, they do not see the need to pay the required fees since they regard the area as historically theirs. These communities believe that the DWNP has usurped resources which previously belonged to them. This conflict situation has resulted in a lack of co-operation between the two groups in the management of natural resources such as wildlife in the Okavango. Communities in wildlife areas view DWNP with suspicion and mistrust. The prohibitive procedures of DWNP are resented by people living in the Okavango Basin.
The conflict between local communities and DWNP demonstrates the unwillingness of the government to involve local communities in wildlife management in protected areas. This conflict should be understood on the basis that government approaches the utilisation and management of natural resources in protected areas based on western concepts and ideas of protected area management. Emerging from western history and experience, a protected area is "an untouched and untouchable wilderness". This view of nature is based on ignorance of the historical relationships between local people and their habitats, and of the role that local people play in maintaining biodiversity (Adams & McShane, 1992; McNeely, 1993). Thus negative attitudes have resulted in antagonism between people living in wildlife areas and conventional methods of wildlife conservation in the Okavango Basin.

Attempts have been made to introduce local community participation into natural resource management through the implementation of Community-Based Natural Resource Management (CBNRM) programmes in the Okavango region. These attempts, which are limited to natural resources found outside protected areas, were meant among other issues to reduce conflict between communities living in wildlife areas and wildlife managers (Mbaiwa, 1999). Through CBNRM, communities are allowed a wildlife quota and a wildlife area for community-based tourism purposes to generate income. It is assumed that as local groups derive direct economic benefits from wildlife resources, they will be inclined to develop positive attitudes towards wildlife conservation and use wildlife sustainabley (Thakadu, 1997; Mbaiwa, 1999). However, it has never been the intention of CBNRM to give communities ownership over land or resources but to provide them with an incentive to manage the land or resources. Economic benefits are, therefore, perceived as a means of reducing wildlife conflicts with communities and of achieving conservation, as well as being an end in themselves. One of the weaknesses of CBNRM is that it does not address issues relating to social empowerment or economic development. As a result, it fails to address the current conflicts that exist between local groups and wildlife management in the Okavango.

In addition, recent studies (e.g. Mbaiwa, 1999, 2002) have shown that CBNRM in the Okavango is currently performing poorly due to a lack of empowerment especially as a result of the lack of entrepreneurship skills development in the tourism business by local communities. Local groups, therefore, sell their wildlife quota and rent their wildlife areas to foreign tourism operators who have the skills to manage tourism businesses. Natural resources - especially land and wildlife - remain either centralised or in private hands. Local communities have become a source of cheap labour for tourism businesses owned by safari operators or landlords who wait to receive land rentals instead of being the actors and main beneficiaries of the tourism industry in the Okavango (Boggs, 2000; Mbaiwa, 2002). In addition, not all the communities in the Okavango Delta are part of the CBNRM process, and as a result conflict with wildlife management continues unabated.

The Agro-Pastoralists Versus Wildlife Management

Although most of the wildlife in the Okavango Delta are mainly concentrated in Moremi Game Reserve and Chobe National Park, much of it still roams in communal areas around the reserve (the reserve is not fenced). The wildlife that roam in communal areas cause crop and livestock damage for subsistence farmers, which generates tension between subsistence farmers and the DWNP in the Okavango Delta. Table 2 shows that in Khwai, Mababe and Sankuyo, 81.1% of the households that ploughed between 1996-98 experienced crop damage by wild animals. Further, 14.7% of the households noted that they have since stopped ploughing due to crop damage by wildlife animals.
Since wildlife resources are centralised and are government property, farmers are supposed to be compensated whenever wild animals destroy crops or predate on domestic animals. In Khwai, Mababe and Sankuyo, household respondents described government compensation rates as very low and not satisfactory. Until April 2001, government paid P100 (US $17) per hectare in compensation for crop damage by wild animals. Most crop fields belonging to subsistence farmers in Khwai, Mababe and Sankuyo are smaller than a hectare, hence it has been problematic for government officials to process their compensations claims.

Livestock damage for subsistence farmers in the Okavango Basin is mainly caused by predators such as lions, hyenas, leopards and jackals. Livestock predator losses include cattle, goats and sheep. Household interviews in Khwai, Mababe and Sankuyo indicate that 24.2% of the pastoralists were not paid compensation for livestock predation, 6.3% were paid but were dissatisfied with the compensation, which they described as very low, and 69.5% either did not report livestock damage to the DWNP or did not own livestock. Table 3 shows government compensation rates for livestock killed by predators at the time of this study.

Table 3. Rates of compensation for property damaged by wildlife in Botswana Pula.

<table>
<thead>
<tr>
<th>Type of Property</th>
<th>1996/97 Rates</th>
<th>2001 Rates (Pula)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Livestock</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Bull, Ox, Tolly</td>
<td>520</td>
<td>900</td>
</tr>
<tr>
<td>- Cow, heifer or mule</td>
<td>400</td>
<td>700</td>
</tr>
<tr>
<td>- Calf or foal</td>
<td>200</td>
<td>350</td>
</tr>
<tr>
<td>- Horse</td>
<td>800</td>
<td>1,400</td>
</tr>
<tr>
<td>- Donkey, sheep or goat</td>
<td>70</td>
<td>120</td>
</tr>
<tr>
<td><strong>Crops (up to a maximum of per hectare)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Arable commercial</td>
<td></td>
<td>1,000</td>
</tr>
<tr>
<td>- Subsistence</td>
<td></td>
<td>250</td>
</tr>
<tr>
<td>- Horticultural</td>
<td></td>
<td>9,000</td>
</tr>
<tr>
<td>- Non-commercial</td>
<td></td>
<td>4,500</td>
</tr>
<tr>
<td><strong>Fruit trees</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Young tree</td>
<td></td>
<td>45/tree</td>
</tr>
<tr>
<td>- Producing fruit tree</td>
<td></td>
<td>120/tree</td>
</tr>
<tr>
<td><strong>Pedigree breeding animal</strong></td>
<td></td>
<td>80% of purchase price</td>
</tr>
<tr>
<td><strong>Other property</strong></td>
<td></td>
<td>50% of replacement cost</td>
</tr>
</tbody>
</table>

The lack of compensation to subsistence farmers by government is also noted in the DWNP Annual Report of 1996/97, which states that from 1995-97, about P1.8 million in compensation claims were left unpaid because of the limited government budget (P816,000 for 1995/96 and P936,000 for 1996/97). Compensation is also only paid for damage caused by dangerous animals as defined in the Wildlife Conservation and National Act of 1992 - Schedule 9, namely lion, leopard, elephant, buffalo, rhino, hippopotamus and crocodile. Failure to pay compensation to subsistence farmers further strains the relationship between the farmers and the DWNP.

Conflicts between DWNP and agro-pastoralists over crop and livestock damage indicate the lack of integration of wildlife conservation strategies and other economic sectors in the Okavango region. Attempts have been made by government to address the integration of environmental issues with economic development issues through the establishment of the National Conservation Strategy (NCS) in 1990. The NCS process stresses the need for multi-sectorial analysis of natural resource issues in Botswana, and recognises the interaction of resource management with socio-economic, administrative, technical and policy factors. However, wildlife management and agricultural development are not integrated. Besides, the NCS has been described as ineffective and lacks political support to effectively integrate economic development and environmental issues in the country (Perkins, 1996). Perkins (1996:513) notes that “it remains pervasive, yet wholly incorrect” to state that the NCS has the power to act in a meaningful way and influence government policy. This scenario is peculiar to most developing countries, where governments are known for supporting economic development programmes with little regard to environmental considerations (WECD, 1987).

**The Tourism Industry Versus the Local Communities in Wildlife Areas**

The growth of the tourism industry and tourism activities in the Okavango Delta, and the idea that the Okavango should be kept a complete wilderness area for tourism and wildlife management, have become the source of conflict between tour operators and local communities. This point is illustrated by differences in wildlife use between the people of Khwai and the management of Tsaro Game Lodge, Khwai River Game Lodge and Machaba Lodge located along the Khwai River. Tour operators in these lodges consider Khwai village to be situated within a wildlife and tourist area, a sentiment that was also expressed by officials from the Departments of Tourism in Maun and Wildlife and National Parks at North Gate in Moremi Game Reserve. They stated that the Khwai settlement destroys the wilderness picture that their tourist clients pay to see. The presence of domestic animals, such as donkeys and dogs, and the litter at Khwai are also perceived as destructive to the tourist industry.

Both the government and the tourist industry have as a result proposed that the settlement should relocate elsewhere away from the Moremi Game Reserve and give way to tourism development and wildlife management. However, as shown in Table 4, the majority (85.7%) of the people of Khwai are opposed to suggestions of re-location.

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not happy with re-location</td>
<td>30</td>
<td>85.7</td>
</tr>
<tr>
<td>Happy with re-location</td>
<td>1</td>
<td>2.9</td>
</tr>
<tr>
<td>No idea</td>
<td>4</td>
<td>11.4</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>100.0</td>
</tr>
</tbody>
</table>

They are opposed to re-location mainly because they regard the wildlife and tourist sectors as having intruded into their territory. They claim that they have been living with wildlife and using it sustainably for centuries, hence the suggestion of re-location by tour operators and government is perceived as a way of trying to deny them the use of resources upon which their livelihoods depend. In response, the government has thus far implemented draconian measures seemingly designed to indirectly force or intimidate the people of Khwai to consider re-location. These measures include the government suspension of the provision of all social services, such as water supply, clinics, shops, government-funded schools, and communications. These measures by government increase the hostility and conflict that exist between the local communities and the tourist industry.

The suggestion to re-locate Khwai village is based on the assumption that wildlife and people cannot co-exist and utilise the same area. Yet this contradicts government's strategy of CBNRM which is designed to have local community involvement in the management of natural resources, thereby ensuring them direct resource benefits from these resources. These contradictions show the lack of harmonisation and co-ordination of government policies and activities in resource areas and lead to conflicts amongst different resource users.

Resource Use Conflicts Among Emerging Stakeholders
The Departments of Animal Health and Production Versus the Department of Wildlife and National Parks

The production of beef and its export, especially to European markets, is important to Botswana's economy. Taylor & Martin (1987), Perkins & Ringrose (1996), and Albertson (1998) point out that any Third World state that aspires to export beef to international markets is required to meet high standards of veterinary hygiene and disease management. In Botswana, this is achieved in part through the construction of a network of veterinary cordon fences and quarantine camps which divide the country into disease control areas between which livestock movements are restricted. This strategy has resulted in Botswana being criss-crossed by a network of veterinary cordon fences. Veterinary cordon fences make it easy to isolate livestock in case of a disease outbreak in any of the areas in Botswana. In the Okavango, the erection of veterinary fences has resulted in conflicts between the Department of Animal Health and Production in the Ministry of Agriculture on the one hand and the Department of Wildlife and National Parks (DWNP) in the Ministry of Wildlife, Tourism and Environment on the other.

Although veterinary fences have been noted for their contribution to the decline of wildlife species in Botswana, other factors also contribute to this decline. These include drought, the expansion of cattle rangelands via deep borehole drilling in wildlife areas, hunting, and the breakdown of the remoteness of areas such as the Kalahari and Okavango due to improvements in the communication system (Perkins & Ringrose, 1996). The visible manifestation of the fence impact is the presence of wildlife carcasses along the cordon fences. Child (1972) ties the wildebeest and zebra die-offs at Lake Xau in 1964, 1970 and in the 1980s to both droughts and the erection of the Kuke fence. This fence creates a blockage to wildlife movements from the dry Schwelle region in the south of the country to the wet areas of the Okavango and Makgadikgadi/Boteti in the north. There are, however, conflicting figures on the estimates of mortalities of wildebeest at Lake Xau especially during the drought of the 1980s. Owens & Owens (1980) estimated the number to be 800,000 animals, while Williamson & Mbano (1988) and Mordi (1989) put the figure at 50,000. This means the limiting effects of wildlife movements by fences, especially in drought periods where wildlife need to migrate to
wet areas such as the Okavango, negatively impacts on wildlife populations in Botswana.

Critical fences in the Okavango Basin include the Buffalo Fence which runs south of the Okavango Delta. Though destructive to wildlife species, the Buffalo Fence has also been applauded for its effectiveness in controlling the spread of foot-and-mouth disease transmitted from buffaloes to cattle. As a result of the fences, the buffalo population is not expected to mix with cattle, but remain in the Delta area, while cattle are supposed to stay away from the Delta in the livestock land use zone.

The erection of veterinary fences in the Okavango Basin was never approved by the Department of Wildlife and National Parks (DWNP) and the tourism industry because of the detrimental effects they have on migratory wildlife species. The tourism industry in the Okavango Delta largely depends upon the availability of wildlife species and the scenic beauty of the Delta. Hence wildlife depletion negatively impacts on the industry's sustainability. Local and international conservation groups have also opposed the erection of these fences since they were hurriedly erected without any Environmental Impact Assessments (EIA) being conducted. The conflicts over veterinary fences by various sectors illustrate the problems of natural resource management agencies, institutions and policies that are fragmented into the different government ministries and departments in Botswana. This arrangement results in a lack of coordination and harmonisation of government policies and activities, results in conflicts between government ministries and departments when these polices and programmes are implemented.

**Botswana Versus Namibia on the Use of Water Resources from the Okavango River**

At an international level, there is conflict between the countries of Botswana and Namibia over the use of water from the Okavango River. Water from the Okavango River is important to Botswana because of a variety of wildlife species and the growing tourism industry it supports. It is also important to thousands of people who directly or indirectly depend on its natural resources for their socio-economic livelihoods. For Namibia, a series of droughts in 1994/95 and 1995/96 resulted in shortages of water in the central parts of the country, which led to the proposal to abstract water from the Okavango River (Government of Namibia, 1997). These different socio-economic needs over water in the Okavango have resulted in conflict between the two countries. Botswana assumes that Namibian's proposals (made without an Environmental Impact Assessment) if implemented are likely to change the present environment and destroy the balance between man and nature when they come into operation.

Although the members of the Southern African Development Community (SADC) have responded to the issue of water resources in the region with a protocol on shared river basins (SADC, 1995; Pallet, 1997), the Okavango is likely to continue to be a source of strategic local and regional conflict in southern Africa. The SADC Protocol on Shared Watercourses of 1995 (SADC, 1995) addresses issues relating to the utilisation of water resources of international character. Mbaiwa (1999) states, that it is one thing to sign an agreement, yet it is another to implement it. The Protocol is rendered ineffective in that national water acts in SADC member states are silent on environmental considerations and interactions with other riparian states. The national water acts also do not define the criteria that ensure the equitable use of water resources by all user groups. Moreover, the region lacks the institutional management structure as well as local experts who have a better appreciation of the socio-economic aspects peculiar to the region. Foreign experts are usually contracted on water management issues in the region. Under these circumstances, it can, therefore, be said that if practical measures (especially capacity building within the region,) are not taken to address the issues raised, the Protocol will remain nothing more than a political statement. The conflict between Botswana and Namibia on the use
of the Okavango waters is likely to continue. This, therefore, indicates that there is a need for a long-term development plan of the Okavango Basin that meets the needs of all stakeholders.

**Analysis of Findings**

Natural resource conflicts have a range of causes which must be understood before identifying their possible solutions. A major stage in resolving natural resource conflicts has to be the identification and analysis of the root causes of the conflicts, and this will require considering the total circumstances which impinge upon the various users of natural resources (Wood, 1993). In the Okavango Delta, causes of the conflicts appear to be different with different situations and different groups. For example, to the traditional stakeholders, there appears to have been an encroachment on their territorial rights and deprivation of their traditional sources of livelihood and means of sustenance. State policies have affected natural resource use with insecurity of access to land, wildlife and veld products. Households or communities are being forced to compete for the same resources in territorial land that has decreased because of government imposed interventions and restrictions. Competition for the same resources in a shrinking territorial land means that the present generation is misusing land at the expense of future generations. Such situations have come about because people are no longer able by what they see as appropriate effort to meet their daily requirements from the sustainable use of the resource base to which they have access. Hence they want to gain more resources or overexploit the resources currently used in order to survive, rather than change their management practices. Their focus has to be upon immediate production rather than long-term sustainability, and poverty means that they have neither the time nor the resources to invest in better land management. Their plight is made worse by other sources of conflict, for example the conflict between wildlife conservation and crop-livestock damage, and the fact that compensation from government is either not paid or is not satisfactory to the people affected.

One significant source of conflict in the Okavango Basin is the fact that the Okavango Delta is the only permanent water body in northern Botswana. As a result, it is attractive to various types of interest groups. The Okavango contains numerous biotic and abiotic elements, all of which have the potential to be valued as natural resources by one or more groups. For example, most traditional stakeholders like the Basarwa, Basubiya and Bayei see the area as their patrimony, and their livelihoods are mostly dependent on the utilisation of wildlife resources and veld products. Pastoralists and agro-pastoralist (traditional) communities like the Batawana of the Maun area want control of the wildlife resources as well as the Moremi Game Reserve, as they also consider these to be an integral part of their territorial land. They see the potential value of the area for settlement, grazing and arable agriculture. This is the feeling held by groups such as the Bayei, Basubiya, and the Batawana who live in the Okavango Basin. Arable farmers prefer the Delta because the soils are better and water supplies are sufficient for molapo cropping (floodplain crop cultivation). The Government of Botswana and the private sector interest groups (which include the Batswana economic and political elites) see the area's wildlife resources as a potential source of wealth through hunting and tourism. Conservationists, both expatriate and Batswana, regard the game reserve highly on account of its biodiversity and aesthetics. Each of these social groups thus constructs a different image of the Okavango Delta, and a different set of natural resources, depending on how they perceive and value the different elements of the natural system.

The problem of resource use conflicts in the Okavango Delta suggests that there are problems with past and existing management plans for the area. Indications are that past and
existing management plans are sectorial in nature and were specifically developed to meet the needs of the particular ministry, department or sector. For example, protected areas such as Moremi Game Reserve have separate management plans drawn up by the Department of Wildlife and National Parks at the exclusion of other stakeholders such as local communities. Existing plans have also been described as static and do not follow a holistic ecosystem planning approach. They also do not include a constant monitoring component, nor are they regularly adjusted to the dynamics of the Delta ecosystem (HOORC et al., 2001). Socio-economic activities change with time, hence management plans in the Delta should be evaluated and updated to conform to current socio-economic realities.

The Land Use Development Plan: Kwando and the Okavango Wildlife Management Areas was the first attempt to address issues of land use planning in the Okavango Delta in a comprehensive way. This initiative resulted in the zoning of the entire Okavango Basin into Wildlife Management Areas (WMAs) and Controlled Hunting Areas (CHAs). While this appeared to have been appropriate in integrating land use activities in the region, the plan was developed without stakeholder participation. As a result, it lacks the support and commitment of local institutions which are supposed to implement it (HOORC et al., 2001). Informal interviews with government land use planners at Tawana Land Board and Department of Lands in Maun indicated that there was also no community consultation when zoning the area. They noted that expatriates who had little understanding of the ecological and social dynamics of the Okavango system did the planning. As a result, the plan also lacks support from the local communities whom it was designed to serve.

The nature and the background of land use plans for the Okavango Basin create the basis upon which the various natural resource conflicts in the area can be understood. The fact that the plans are sectorial in nature and were drawn without the participation of the various stakeholders explains to a large extent the current conflicts amongst various stakeholders. The principles of sustainable development, where all stakeholders are expected to participate in decision-making that concerns their lives, were not adhered to. Thus the plans lack "ownership" and support from the people for whom they were designed to serve, which results in conflicts between various stakeholders. Conflicts often arise as a result of the non-participation of all stakeholders in decision-making (Marongwe, 1997).

Conclusion

The resource competition and conflicts between various stakeholders in the Okavango Delta suggest that measures should be taken to ensure that socio-economic activities do not degrade the Okavango Delta and the natural resources found in it. Such measures could include the following:

Firstly, there is a need for the sustainable utilisation and management of natural resources found in the Okavango Basin. This can be achieved through the adoption and implementation of an integrated management plan. This integrated management plan should be drafted on the basis of the principles of sustainable development. It should ensure the involvement of all stakeholders in its formulation, implementation and monitoring in order for it to be appropriate and acceptable to all resource users in the area. For example, the wildlife, tourism and livestock sectors could jointly discuss issues relating to veterinary fences (e.g. areas where they can be erected without having serious effects on wildlife species) or agree on areas that should be zoned and kept separately for livestock and wildlife species. This means that the involvement
of all stakeholders in the various stages of the development of the integrated management plan increases its chances for success. It is assumed that stakeholders come to appreciate a plan as “theirs” when they are involved in making decisions that influence the plan. This, therefore, makes them work hard to make it succeed unlike when it is imposed on them by government or any other organisation. The implementation of CBNRM in Botswana should provide a framework within which an integrated management plan for the Okavango Delta can be modelled. For example, CBNRM has a national forum, which is composed of representatives from the districts or regional forums, where issues affecting CBNRM are discussed. Non-governmental organisations have mobilised the powerless communities (e.g. illiterate and poor) to be represented in this forum, hence their views are taken into consideration in the CBNRM decision-making process. Similarly, a representative forum composed of all resource stakeholders in the Okavango Basin should be established to determine the direction of the integrated management plan for the area.

Secondly, the different stakeholders (e.g. local communities, and the wildlife and tourist sectors) should consider the adoption of an eco-tourism approach in the Okavango Delta. Eco-tourism refers to tourism in a relatively undisturbed natural area that benefits local groups, and which is carried out in a way that does not negatively impact on the ecology of the area (Ceballos-Lascurain, 1996). The adoption of eco-tourism in the Okavango suggests that, instead of re-locating communities such as those of Khwai from the Okavango Delta, it would be appropriate to empower and make communities stakeholders in the wildlife-based tourism industry. Eco-tourism is one of the strategies that is capable of harmonising land use activities amongst different land users and ensuring the sustainable use of natural resources. Eco-tourism should provide an economic diversification to local groups. Tourism is traditionally not a local community economic activity, however, although recent studies (Mbaiwa, 1999, 2002) have shown that local groups can benefit significantly from tourism in the Okavango Delta, provided they are empowered with the necessary entrepreneurship and managerial skills needed in the tourism business. Communities can also benefit from tourism if access to land and its natural resources, which are the main tourism products in the area, are guaranteed.

Thirdly, there is a need to review current livestock and crop production policies in the Okavango Delta. The review process should take into account the social and environmental implications of agricultural policies on natural resources found in the Okavango Delta. It should be government’s priority that Social Impact Assessments (SIAs) and Environmental Impact Assessments (EIAs) should proceed all veterinary fences, not only in the Okavango but in all wildlife and tourist areas in the country, including the Schwelle region where wildlife usually migrate to and from the Okavango in dry and wet seasons. The review process should take into consideration the recent EIA recommendations made by Scout Wilson Consultants (2000) to either remove or realign some of the fences in the Okavango. This should help make livestock and arable agriculture practices be carried out in a broader and more holistic way that takes into consideration the wildlife and tourism sectors. This, therefore, is hoped will minimise land use conflicts between the Department of Animal Health and Production on the one hand, and wildlife and tourist sectors on the other.

Fourthly, at an international level, measures such as the SADC Protocol on Shared Water Courses (1990) and the establishment of the Permanent Commission on the Okavango River Basin (OKACOM) (1994) offer great hope for the sustainable use of the Okavango Basin.
OKACOM is a commission established by the countries of Botswana, Namibia and Angola to assess ways in which the entire Okavango Basin can be used sustainably. The OKACOM process should, therefore, address technical, ecological, economic and social questions in order to gain a thorough understanding of the basin’s systems. These measures, however, do not guarantee that the resources in the area will not be degraded, nor do they offer a solution to the conflicts between Botswana and Namibia over the use of water resources from the Okavango River. It is possible for the Delta to experience degradation - especially losses in bio-diversity and essential ecosystem functions - as tourism and human welfare needs continue to play a pivotal role in the area. What is needed, therefore, is an effective decision-making and dispute resolution process that prevents riparian states from taking unilateral actions that may be detrimental to the sustainability of the Okavango Delta. Care should be taken that the riparian states remain committed to the sustainable use of the Okavango River and Delta.

Finally, the nature of resource conflicts and their resolution can affect the extent to which the sustainable use of the resource base in the Okavango Basin can be achieved. As a result, sustainable resource use will require concerted efforts and commitment by all the stakeholders involved in the utilisation of resources in the Delta to ensure that socio-economic programmes are carried out sustainably and that resource conflicts are minimised and resolved. This includes both the traditional and emerging stakeholders.

References


