

# The Okavango: Whose Delta is it?

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## A B S T R A C T

The Okavango Delta is amongst the largest Ramsar sites (<http://www.ramsar.org/sitelist.pdf>) in the world and an important wetland for community livelihoods, conservation and tourism in Botswana. Over the years, the utilization of the delta has shifted from communal use to state control, with an increased use for conservation and tourism. This increased use for conservation and tourism has manifested in the physical expansion of the conservation area – Moremi Game Reserve and the formation of Wildlife Management Areas (WMAs) around the reserve, whose primary land use is wildlife utilization. The expansion of the conservation area has translated into several practical matters, including expansion of the area for non-hunting activities or photographic areas. The livelihoods of local communities of the Okavango delta who depended on fishing, hunter-gathering, livestock rearing, rain-fed agriculture and flood recession farming have been negatively affected by the expansion of conservation and tourism in the delta. The livelihoods alternatives in the form of Community Based Natural Resource Management (CBNRM) and tourism have not provided substitutes for the people as the communities are still reliant on the same old livelihood sources as in the past, albeit within smaller and restricted areas. This paper explores the ownership of the natural resources within the Okavango Delta. It asks and attempts to answer the following questions: Who owns and controls the use of the land? Who has access to other resources there in? Who makes the decisions on how the delta resources should be managed and used? Who benefits from the delta resources? We argue firstly that ownership of the delta as defined by legal parameters and demonstrated in natural resource management practice is vested on government. Secondly, government, after assuming ownership of the delta continues to sell its stake to the international community, at the expense of local ownership and access to resources. We conclude that in the process the ability of local communities to source a livelihood out of the delta as they previously used to, is compromised. This we argue works against the goal of sustainable development for improved livelihoods as proclaimed in government policy documents.

## 1. Introduction

Wetlands are sometimes described as the “kidneys of the landscape” because they function as the downstream receivers of water and waste from both natural and human sources. They stabilize water supplies, thus ameliorating both floods and drought (Matiza and Chabwela, 1992). They have been found to cleanse polluted waters, protect shorelines and recharge ground water aquifers. Wetlands also have been called “biological supermarkets” because of the extensive food chain and rich biodiversity that they support (Nicholas, 1998). They play the major roles in the landscape by providing unique habitats for a wide variety of fauna and flora (Mitsch and Gosselink, 2000). People have been able to transform wetlands resources into great economic goods in most cases to the detriment of the wetland (Barbier, 1997). Since early civilisation, many cultures have learned to live in harmony with wetlands

and have benefited economically from surrounding wetlands (Nicholas, 1998), whereas other cultures quickly drained the landscape. Many major cities of the world (Chicago, Washington, DC, Paris, Mexico City, etc.) have been built in former wetlands.

The Okavango River Basin transcends three countries (Angola, Namibia and Botswana), and has large perennial rivers and a delta in Botswana (Turton et al., 2003). The Okavango Delta covers an area of 22,000 km<sup>2</sup> in North West Botswana and receives on average 15 billion cubic meters of water every year. About 95% of this water is lost through evaporation (Wolski et al., 2005). Within Botswana the Okavango Delta is located in Nagmiland District. The District covers an area of 109, 130 km<sup>2</sup>. It is bordered by Namibia in the northwest, Chobe District in the northeast, Central District in the southeast and Ghanzi District in the South. The district lies on the deep kalahari sands and receives an average rainfall ranging from 450 mm to 660 mm. The vegetation in the district is mainly savanna and dense savanna (Ministry of Local Government, 2003). A population of more than 120,000 people, consisting largely of Bayei, Hambukushu, Herero, Batawana, Basarwa and

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Bakgalagadi ethnic groups are found in villages that lie on the fringes of the delta (DEA, 2008). The Okavango Delta like other wetlands is a resource rich hub in terms of water, fisheries, wildlife, minerals and other resources. It is estimated that 100,000 tourists pass through the delta every year and tourism is the main economic activity in the area contributing about 7% of the country's GDP. The main land use in the delta is tourism and wildlife management in the form of Moremi Game Reserve and the wildlife management areas surrounding the reserve.

Ownership of world's natural resources remains a contested issue (White et al., 2008). Historically, kingdoms and nations have gone to war over ownership and the right to use certain natural resources (Sunderlin et al., 2008). Land, water, oil, diamonds, timber and other minerals have been fiercely fought for and conflicts over these resources remain to date. Conflicts over ownership and control of natural resources transcend across local, regional and international boundaries as well as across races, religions and creed. The actual or perceived value of a resource in social, economic, spiritual and cultural terms usually determines the magnitude of contestation over its ownership and control, i.e. the more valuable (perceived or otherwise) a resource is, the more likely it is going to attract contestations over its ownership and control (Barbier, 1997).

Whilst the contestations over many resources have not resulted in actual blood bath wars, nonetheless they have had fierce contestations (see Table 1). The Okavango Delta is such a resource. As stated earlier, the delta is part of a transboundary river basin, home to many ethnic groups and a Ramsar site, hence its ownership or right to its resources is characterized by multiple stakeholders and multiple interests. As a result resource contestations and conflicts are inevitable. These however (the contestations and resulting conflicts) should be viewed as opportunities for cooperation among stakeholders. Relationships are likely to be strengthened as stakeholders enter into dialogue to solve conflicts and to negotiate stake. There are indeed examples of cases where 'water deals' have prevented 'water wars' (Turton, 2002).

## 2. Background to the paper: contesting natural resources in Botswana

The concept of ownership has existed for thousands of years and in all cultures. Over the millennia, however, and across cultures what is considered eligible to be a possession and how that possession is regarded culturally is very different (Shine and de Klemm, 1999). In our contemporary society, legal ownership is the key building block in the development of the capitalist socio-economic system founded in western democracies. This system has come to replace many traditional systems in non-western societies where resources were owned and managed as common property resources (CPRs). Bromley (1992) argues that this came about because resources owned and managed as common property have been confused with open-access resources, where there is a free for all system and no control of access and exploitation. He however contends that 'com-

mon property regimes exist and function very much like private property regimes and state property regimes' (Bromley, 1992, p. 4). Within these arrangements, according to Blaikie and Brookfield (1987, p. 186), 'users constitute a collectivity and together have the right to exclude others who are not members of that collectivity'.

The key legal instrument defining the ownership and access to natural resources in Botswana's rural areas is the Tribal Land Act. Legal ownership is the state or fact of possessing exclusive rights and control over the thing possessed, which may be an object, land/real estate, intellectual property (arguably) or some other kind of property (Shine and de Klemm, 1999). The Tribal Land Act defines land ownership or title exclusively to individuals or groups. The singular and exclusivity dimension of this type of ownership is in conflict with traditional forms of ownership (Hitchcock, 1985; Magole, 2003). The 'conflict' is provided for within the legal frameworks, policies and management practices adopted in the country in general and in the delta area in particular.

The questions of who owns the Okavango Delta, who claims it, who has access to it, who benefits from it, and further, who should own it, are hotly contested. The International Union for Conservation of Nature (IUCN) has defined resource ownership or stakeholderhood in terms of the level of dependence on the resource (Masundire et al., 1995). Those that depend on the resource for their survival are classified as primary stakeholders. As the level of dependence decreases, IUCN classifies these as secondary, tertiary and finally ancillary stakeholders. Whilst this classification is plausible, it however has very little bearing on what ultimately happens on the ground. This relates to the question being probed in this paper; whose views and ideas are implemented and who ultimately benefits from the resource?

The contestations within the Okavango Delta include the clash between wildlife-based tourism and tradition livelihoods of livestock and arable farming. During an issue finding mission for the Okavango Delta Management Plan (ODMP), communities raised several issues which illustrated this contestation. What also came out clearly during the consultations was that wildlife is perceived by local communities to be the property of the state. They also argued that wildlife mainly benefits the tourism industry of which they are a peripheral part. Their main contestation was that wildlife predated on their livestock and damages crops (Bendsen, 2005) and that this damage impoverishes them as the compensation paid by government is inadequate. Communities also complained that government has not done much to assist them to venture into and benefit from the tourism industry, that it is foreign dominated and so are the benefits. They also contest their access to the delta resources in general, arguing that laws and policies limit their access whilst rich foreign tourists have unlimited access.

## 3. Methodology

This paper utilises both primary and secondary data. The primary data was obtained from interviews with key stakeholders

**Table 1**  
Globally renowned wetlands and their record of conflict.

Wetland	Associated resources	Record of conflicts
Inner Niger Delta, Niger River, Chad	Water, fisheries	Salient localised conflicts
Danube River Delta, Eastern Europe	Water, fisheries	Salient localised conflicts
The Sudd, Nile River, East Africa	Water, fisheries	Sudanese civil conflict
Mekong River Delta, Vietnam	Water, fisheries	Salient localised conflicts
Zaire Swamps, Congo River, DRC	Water, fisheries	Congolese civil conflict
Okavango Delta, Okavango River, Botswana	Water, fisheries, wildlife	Salient localised conflicts
Parana-Pantanal, Brazil	Water, fisheries, wildlife	Salient localised conflicts
Amazon River Flood Plain, Brazil	Water, fisheries, wildlife	Salient localised conflicts
Mississippi River Delta, USA	Water, fisheries	Salient localised conflicts

Source: Mitsch and Gosselink (2000).

in the Okavango Delta and observations made during the Okavango Delta Management Plan (ODMP) planning process (see DEA (2008) and Magole (2008) for details on the ODMP). Discursive interviews were held with community leaders (village chiefs, village development committee chairpersons, and village trusts chairpersons) from 43 villages around the delta. These particular leaders were chosen for the interviews because they had participated in the ODMP planning process. Interviews wished to established among other things whether the leaders felt 'ownership' of the plan and hence the resource. Government officials from all the departments that participated in the ODMP were also interviewed.

Primary data was also obtained during the debate organised by the BIOKAVANGO Project (another resource management project in the Okavango Delta; [www.orc.ub.bw/biokavango/](http://www.orc.ub.bw/biokavango/)) at the launch of the Okavango Delta Management Plan launch in Maun on 4th February 2008. The debate was in the form of a dialogue entitled 'Whose delta is it'. The debate was open to the general public and had speakers and respondents from a wide array of stakeholders. All speakers were expected to provide the answer to 'this question'. For the purpose of this paper the authors recorded and analysed the answers given. Secondary data was obtained from the analysis of the Okavango Management Plan and related documents. Secondary data was also obtained from other published and unpublished materials on laws governing land ownership and access in Botswana and the Okavango Delta area or Ngamiland District.

#### **4. Factors affecting access and ownership of natural resources in Botswana: the case of the Okavango Delta**

The question of ownership is analysed from the perspective of legal ownership, access to resources, power of decision making and perceptions of ownership (White and Martin, 2002). To this end this section of the paper will discuss and analyse the legal framework that facilitates land resources ownership and access in Botswana, with reference to the situation in Ngamiland. The section will also focus specifically on policy planning in Ngamiland in a bid to analyse the process and find out who it gives the power of decision making and hence ownership of resources. Lastly the section focuses on the title of the paper as adopted from a forum which sort to understand the perception of the delta stakeholders on its ownership, or rather ownership, access and benefit from the resources of the delta.

##### *4.1. Ownership and access to land resources in Botswana*

Rights to access and or own most natural resources is vested in rights to access and own land. Botswana in general has a three land tenure system defined by communal or tribal land, state and freehold land. Currently customary land is held or controlled by Land Boards who are responsible for its distribution and management. Land Boards are District level land authorities created by the Government in 1968 to take over land resources management responsibilities from the traditional leaders. Prior to their establishment *Dikgosi* (chiefs) were responsible for land resources management. The land may be allocated to individuals and groups as customary grants and under leasehold (Mathuba, 1992). It may also be allocated to the state to use for public purposes such as building schools and resource conservation as was done in the case of Moremi Game Reserve in Ngamiland District. 71% of land in the country is classified as communal land. In Ngamiland 84% of the land is held under communal tenure. This indicates a high ownership of land and seemingly access to resources by communities in the area.

Citizens may own and gain access to customary land free of charge for residential and arable production purposes. It is also

leased out to local and foreign investors. Communal land cannot be sold as a market commodity. However landowners may sell the developments they have made on the land and hence their rights to use that land. Customary land rights may also be inherited. Despite the no ownership no sale land policy, an informal land market has emerged in the country, especially around cities and towns, which are suffering acute shortage of land for housing (Government of Botswana, 1992; Kalabamu, 2000). Since the late 1980's communal land in the outskirts of Gaborone City has changed hands through cash transactions. The author has observed the same beginning to happen in Maun, a village with a population of about 42,000 inhabitants at the southern periphery of the Okavango Delta (Fig. 1). As Kalabamu (2000) has argued this loop hole in the law has nurtured the emergence of an uncontrolled land market and also contributed to skewed access to land resources.

State land on the other hand is land owned by the state, and is found in both rural and urban areas. Urban areas are located on state land. This land may be allocated to individuals for residential, commercial, and industrial purposes. Normally government charges a fee for this land in order to recover the costs of development. Otherwise urban land is allocated either as a Fixed Period State Grant (FPSG) and Certificate of Rights (COR) (Kalabamu, 2000). COR are granted in low income areas, are inheritable and perpetual. Elsewhere the FPSG is granted, implying at least theoretically that the land remains the property of the state and unless extended, the rights lapse within the stipulated time. State land in rural areas is used for various uses such as national parks, game reserves, wildlife management areas and state ranches. Only 16% of land in Ngamiland falls under state land. While ownership of state land rests with the government, access depends on the use and management of resources there in. For example land and other resources within national parks such as the Chobe National Park adjacent to the Okavango Delta are totally out of bounds for the public.

Freehold land is held by individuals or companies. Most of it was acquired during the colonial era. Freehold title may be registered with the deeds registrar; it is freely mortgageable, freely transferable and inheritable. This land includes some of the country's most valuable agricultural land along the eastern and southern boundaries of the country. There is no freehold land in Ngamiland District (Fig. 1, hence resource contestation in this district is between communal and state owned and or managed land as well as grazing enclosures which were created through a 1975 grazing land policy. The policy acted against communal traditional rights of access to rangeland and offered exclusive use to individuals.

During the British colonial administration, the Okavango Delta was recognized as Batawana Reserve and it was all tribal land (Bolaane, 2004). That translated into ownership by the people and management through the *Kgosi* (chief). After independence, the delta was annexed by the government and part of it was rented to the state whilst the other part remained tribal land and was managed by the Land Board. It should be noted that the Land Board is a local authority which is accountable to central government. As provided for by the Tribal Land Act, land board business is defined and controlled by the Minister of Lands and Housing. In terms of management practice all decisions with regard to the management of the delta have been taken by the government. These includes the management takeover of Moremi Game Reserve within which most of the delta falls, from a then Maun based local NGO, Fauna Conservation Society, to the Department of Wildlife and National Parks in 1978. Local communities were pushed further away from the delta and denied access to the delta resources by the expansion of the reserve in 1978 and again in 1992. Okavango WMAs (also gazetted in 1992) were established to improve community control and access to wildlife resources within the delta. However

problems experienced with the Community Based Natural Resource Management (CBNRM) projects has caused communities to be disillusioned about the potential benefits of wildlife management.

The government also fenced in the delta with the southern and northern buffalo fences to keep cattle out as the delta was declared a cattle free zone. Further land cuts came with the grazing land policy implemented first in the late 1970s and also in the early 1990s which parcelled out communal land into ranches which were allocated for exclusive use by alleged rich cattle owners at the exclusion of nearby resource user communities. This resulted in a land use situation shown in Fig. 1 above, where communal land in and around the delta has been legislated away from use by the communities residing around the delta. Table 2 below shows the decline in land available for communal use despite the increase in the district population.

For management purposes, the Tawana Land Board has divided all Ngamiland into administrative blocks known as Controlled Hunting Areas (CHAs). For each CHA, the lessee enters into a 15 year lease agreement with the Tawana Land Board (TLB) for the use of the area. Similarly, another agreement is entered into between the lessee and the Department of Wildlife and National Parks (DWNP) for the use of the wildlife (hunting quota) in the area. The third agreement that the lessee enters into is with the Department of Tourism for the tourism licence. Table 3 below shows the distribution of CHAs in and around the delta core.

The area under community concessions is 34% of the total area with the remaining 66% being under private and government concessions (Table 3). The skewed control and hence access to the delta resources becomes worse when we look at who actually

manages these CHAs. The private sector transcends in all categories of leaseholders. In the private concessions, it is the private sector that holds the title and manages the tourism businesses. In the community concession areas, it is usually a joint venture, whereby the community partners with a private company to undertake tourism activities in the area. Similarly in the Moremi Game Reserve, different private tourism companies undertake tourism activities in the reserve. So whilst the land may be held by government (DWNP) or community, the private sector is the one that interact with the resources, markets them, determine their value and become the primary beneficiary in the utilization of the resources. However it needs to be noted that the leasing and regulating authority is Government of Botswana.

#### 4.2. The Okavango Delta management initiatives

Since the colonial era several policies and management initiatives have been developed for management of the Okavango Delta resources (see Table 4). As shown in Table 4 below communities were not in the forefront of any of the policy or decision making processes. Clearly government dominates the decision making arena. Even in the recent Okavango Delta Management Plan (ODMP) planning process where communities were consulted extensively, they were neither given any decision making power or authority over any of the resource sectors being planned for. Responsibility for resource management largely remains with central government departments (see Table 5).

Hopes for improved access to resources were pinned on the ODMP because the policy process was issues driven and in line with the Dublin Principle which requires participation of resources

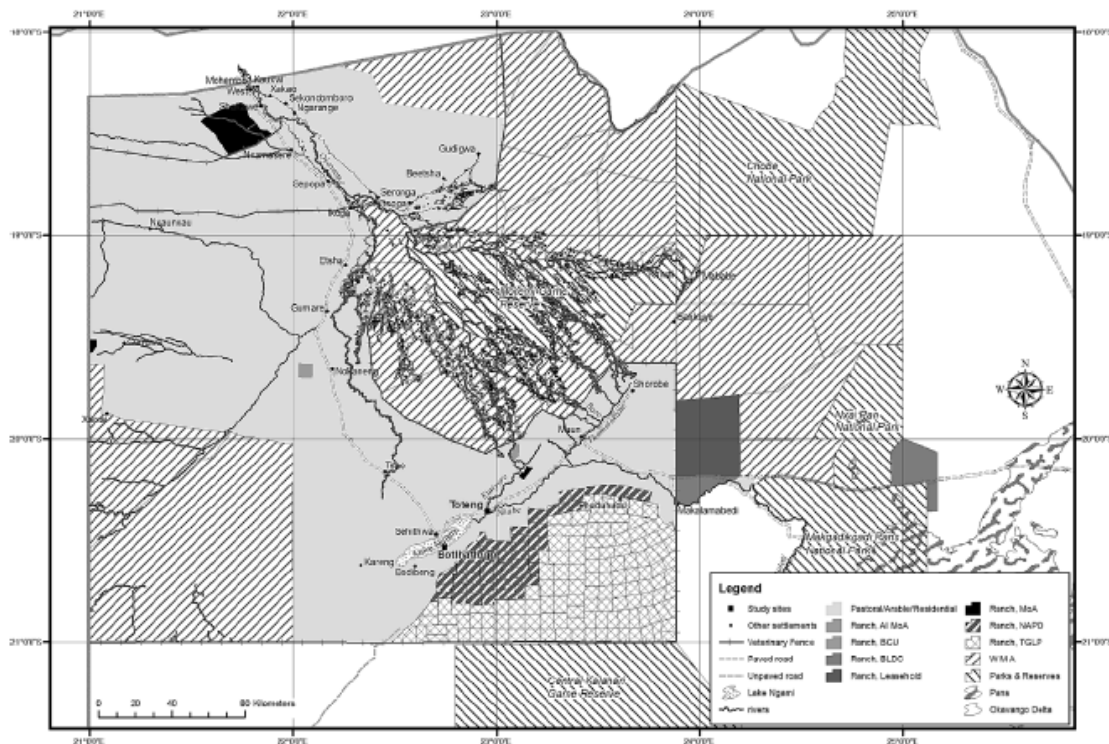


Fig. 1. Ngamiland district land use map.

**Table 2**

Amount of land available for communal use 1964–2008.

Year	Ngamiland district population	Land available for communal use	% of total district land	Actions responsible for reducing communal land
1964	42,500	111,650	100	All land communal
1981	68,000	102,423	92	Establishment of protected areas, parks and game reserves
1991	94,500	58,508	52	Establishment of commercial ranches and WMAs
2001	124,700	58,508	52	–
2008	149,000 (projected)	45,870	41	Expansion of protected areas, WMAs and commercial farms

Source: Vanderpost (2006) and Tawana Land Board (2008).

users, planners and policy makers at all levels. During the development of this plan a strategy for stakeholder participation was developed and implemented with the aim of creating and strengthening ownership of the planning process by all the stakeholders, and integrating concerns and management proposals from resource users, managers and policy makers. A stakeholder analysis was performed using the ecosystem approach. The riparian communities who directly depend on resources within the delta were given the prestigious status of primary stakeholders, while those who indirectly depend on resources within the delta such as the

private sector and government agencies were considered to be secondary stakeholders. Tertiary stakeholders were considered to be those who do not depend directly or indirectly on the delta but have interests on its management, e.g. international partners, non-governmental organizations.

In the end the question remains as to whether the ODMP process improved access and livelihood situation of the primary stakeholders. Table 4 shows agencies which are responsible for managing different resources within the delta. Although a platform was created for communities and other stakeholders to participate in the ODMP planning process and hence in the planning for the management and use of the delta resources, these government agencies were responsible for the final decision on how the resources would be managed and accessed and by whom. Therefore even after the plausible participatory process Government remains the sole decision maker when it comes to resource management and access. It would appear sadly that the two observations made by Dube and Swatuk (2002, p. 874) that 'stakeholders are actively seeking self preservation' and that 'equitable stakeholder

**Table 3**

Total number and area of land for CHAs under different lease holders.

	No. of CHAs	Total area (km <sup>2</sup> )	Proportions (%)
Community CHA	8	7650	34
Private CHA	8	9600	43
DWNP CHA	1	5000	23
Total	17	22,250	100

**Table 4**

Summary of the major decisions taken on the Okavango over time.

Action	Decision taken by	Consequences	When
Creation of Moremi Game Reserve	Conservation NGO dominated by European expatriates and settlers	Eviction of Local communities from reserve area	1964–1965
Construction of veterinary fences demarcation and allocation of commercial ranches	Botswana government in response to the requirements of the European beef consumer market and the needs of rich farmers	Restriction of livestock movements within the Okavango	1982–1990s
Creation of WMAs and CHAs	Government of Botswana in response to the needs of the foreign dominated tourism industry	Promotion of tourism as the primary land use in the Okavango	1990s
Culling of 320,000 herd of cattle to eradicate cattle lung disease	Government of Botswana	Shift from livestock farming as a source of livelihood	1996
Aerial spraying of Tsetse fly	Government of Botswana	Eradication of Tsetse from the Okavango	2002–2004
Listing of the delta as a Ramsar site	Government of Botswana supported by international environmental organisations	ODMP	1996

**Table 5**

Responsibilities of various government agencies for managing resources and activities within the Okavango Delta.

Government Ministry and Department	Functions
<b>Ministry of Environment, Wildlife and Tourism</b>	
Department of Environmental Affairs	Coordination of the planning process, environmental education, environmental impact assessments
Department of Wildlife and National Parks	Wildlife conservation and utilization including fish
Department of Forestry and Range Resources	Management of use of vegetation resources
Department of Tourism	Tourism development and promotion
<b>Ministry of Lands and Housing</b>	
Tawana Land Board	Administration, allocation and management of tribal lands.
<b>Ministry of Agriculture</b>	
Department of Animal Health and Production	Animal health, tsetse control, development and maintenance of veterinary fences
Department of Crop Production	Crop production
<b>Ministry of Minerals, Energy, and Water Resources</b>	
Department of Water Affairs	Monitoring, planning, and management of water resources. Control of aquatic invasive weeds
<b>Ministry of Local Government</b>	
District administration	Coordinating implementation of government policies and plans by departments of central government
North West District Council	Service provision to communities

Source: Magole et al. (2008).

participation remains more theoretical dream than a practical reality' are true in this case. Sadly also the author has observed that the situation outlined above in terms of resource allocation and the communities' grievances with regards to management, ownership and access to the delta resources have not changed.

#### 4.3. *The dialogue: 'The Okavango: Whose delta is it'*

As indicated earlier the topic of this paper was borne out of the title of a dialogue organised as part of the activities that marked the end of the ODMP planning process and the onset of implementation of the provisions of the plan. It was a rare moment where ordinary folks mingled with Members of Parliament, Ministers, Councillors, *Dikgosi* (Chiefs), academics and top civil servants and debated on a topic of mutual interest. Text Box 1 below presents some of the exact comments by individuals who attempted to answer the question. The loudest and seemingly convincing echoes argued that the question "Whose delta is it" was not particularly useful, but should rather ask "Who is benefiting from the delta". Speakers expressed the view that the question "whose delta is it?" was divisive and had potential to cause conflict between different stakeholders in the delta and along the whole basin. It is important also to note that the Chief quoted below believes in the philosophy of the ecosystems approach; that those most dependent on the resource 'own' the resource.

**Text Box 1: Summary of comments at the debate 'The Okavango: Whose delta is it'.**  
Who's delta is it?

- The delta belongs to those who will fall and rise with the delta' Chief of Sankoyo village.
- 'Sorry I have no comment about the delta, I do not know it' An old tribesman
- 'The delta belongs to us (Botswana) there is no question about that' Top government official, Botswana.
- 'That's a dangerous question to ask and even attempt to answer' International water expert.
- 'At every sovereign point the Okavango river basin belongs to the country that holds the sovereignty' Namibian water expert.
- 'The delta belongs to all of its stakeholders, local, regional and international' ODMP secretariat.

At the 9th Waternet symposium where this paper was presented one delegate said 'this is never a useful question, it is best to leave the delta within the basin'. It is the view of the author that whilst this view enjoyed support from the symposium audience, it was nonetheless not addressing the question at hand and instead opted for a less confrontational form of the question. The issue of natural resource ownership, access and benefits needs to be discussed and addressed along side other human rights issues. For the sake of the rural poor, scholars and other interested parties need to be bold enough to ask this question and seek answers to it in order to begin the process of addressing the plight of the rural poor.

#### 5. Conclusions

If we gauge ownership of the Okavango Delta by the rights exercised on its management and control, then the Botswana government tops all claimants. The government has also increased the

'ownership' base of the delta to the international arena by transferring some rights user to tourism companies many of which are foreign owned or run and by default to international tourists who now lay a big claim on the delta by virtue of the large monetary investments (and returns) they have made in it. The government has gone further to register the delta with the Ramsar Convention, subjecting it to even more international claimants. Mowforth and Munt (2003) argue that internationalization of resources in Third World countries is a subtle control gimmick by the global community dominated by First World countries. Whilst the internationalization of the Okavango Delta through the Ramsar listing availed an otherwise plausible process of developing a consultative management planning process, the planned implementation left local communities in the lurch without a role to play. In the whole process, the strength of claim made by the local communities of the Okavango has waned. This position was epitomized at the debate when the chair of the debate called on an old tribesman and "a son of the delta" to comment on the debate and he calmly said "I have no comment; I know nothing about the delta". Wily (1999) argues that the outstanding challenge facing community property management is to find institutional frameworks which both secure community tenure of those resources into the next century, and provide a workable, forward looking operational basis for management. Without this success, individualizing of communal property and centralizing strategies for management of natural resources which have over the last century undermined communal property and sustained rural livelihoods will gain more ground.

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