A case for gender equity in governance of the Okavango Delta fisheries in Botswana

Barbara Ntombi Ngwenya, Ketlhatlogile Keta Mosepele and Lapologang Magole

Abstract

Fish is a major source of livelihood for the majority of people living around the Okavango Delta in northwestern Botswana. Gender dynamics and governance regimes determine differential access to, and control of, resources between women and men in the area. The purpose of this case study is to critically assess the embeddedness of gendered inequities in the governance of Okavango Delta fishery. Primary data was collected through focus group discussions and face-to-face interviews of 96 basket fishers from five villages along the Panhandle area of the Okavango River. The study found that past and present Okavango Delta fishery policy and programme interventions tended to entrench rather than minimize gendered disparities between women and men fishers’ access to and control over fish resources, asset accumulation and employment opportunities. Basket fishers have intimate knowledge of flood variability, fish migration and habitat and use this knowledge to make decisions about when and where to harvest what fish species. Women fishers’ ecological knowledge, interests and concerns however, have been excluded from current zoning and closed season regulations and co-management structures. The paper concludes that past and current development interventions as well as the regulatory framework continue to entrench pre-existing gender relations in the fishery sector which excludes, disempowers and marginalizes women fishers. We recommend innovative co-management and local based structures which recognize the diversity of interests and interest groups.

Keywords: Gender equity; natural resources management; Okavango Delta; small scale fisheries.

1. Introduction

Since the 1992 United Nations Conference on Environment and Development (UNCED) and the setting up of the Women’s Action Agenda 21, as a variable, gender is recognized as embedded in access to and control over natural resources and continues to shape the viability of livelihoods and prospects for sustainable development (Meinzen-Dick and Zwartveen, 1997; 1998; Elmhirst and Resurreccion, 2008). Governance structures affect specific social groups differently. Equity is an important principle of good governance since it implies recognition of the rights holder as primary decision-makers. Any social and economic disparities caused by lack of access and representation in decision-making are likely to adversely affect not only gender equity, but also the viability and growth of the rural economy per se. According to the World Economic Forum (2008), countries with improved gender equity have higher levels of economic growth and social wellbeing. In order to achieve Millennium Development Goal 3, which calls for the achievement of gender equality and empowerment of women, gender equity is key. Gender equity is also a key component of the good governance of natural resources in general and that of the Okavango Delta fisheries in particular.

FAO (2005:4) defines small scale fisheries (SSF) as a dynamic sector employing labour intensive harvesting, processing and distribution technologies to exploit fisheries resources. Small scale fishers in the Delta either fish part-time or full-time, year round or seasonally (Mosepele, 2001; Mosepele, 2003), either for subsistence (Ngwenya and Mosepele 2008), or commercial purposes (Mosepele and Ngwenya, 2010). Mosepele (2001) revealed that 44% of the fishers in the entire fishery are women, which makes them an important constituency in fisheries governance.

1.1. Gender equity and governance dynamics in fisheries

Gender is a relational concept that includes analysis of roles and relationships between women and men socially,
economically, culturally and institutionally. Gender issues focus on the relationship(s) between men and women, their roles, rights and responsibilities, while acknowledging that these vary within and across cultures and localities. The gender concept in this paper is used as an analytical tool for understanding issues of power relationships and equity between women and men (Holvoet, 2008) in the context of the Okavango Delta fishery.

There is diversity of knowledge among the fishers. Fishers’ ecological knowledge has been defined as the sum of data and ideas by a human group on its environment as a result of the group’s use and occupation of the area over many generations (Berkes, 1993; Garcia-Allut et al., 2003). Integrating women fishers’ ecological knowledge in fisheries governance through their inclusion in institutions that make decisions over resources creates an opportunity for empowerment. Governance is about who decides and how (Swiderska et al., 2008), and how citizens or other stakeholders have their say (Bene and Neiland, 2006; Graham et al. 2003 cited in Swiderska et al. 2008). Governance is about ways in which power is distributed and exercised between different actors within society on issues of public concern. This is particularly important in the Okavango Delta fishery where there are intervention initiatives aimed at shifting governance from a top-down natural resources management system with skewed power relations and decision-making, to a management system based on the people who depend on the natural resources for their livelihoods (BIOKAVANGO Report, 2008). This shift is in line with FAO’s (2005) Code of Conduct for Responsible Fisheries which supports principles of co-management. These principles include an enabling policy and legal framework, continued Government support; effective institutions and linkages, and real participation by resource users and other stakeholders. However, Njock and Allison (2008) caution that co-management programmes in other countries tended to pay more attention to improving fish stock management and less to the gendered and integrated context of rural livelihoods. A critical appraisal of proposed co-management structures in the Okavango Delta, therefore, will help us assess the extent to which the process is, or has been, empowering — that is, is inclusive of all rights holders as key decision makers. The case study will give us insights about governance and the ways in which power is differentially distributed and exercised between women and men fishers in the Okavango Delta on issues of public concern.

The overall objective of this paper is to critically investigate gendered relations and governance through a case study of women basket fishers in five villages in the Okavango Delta in northwestern Botswana. The specific objectives are: (1) to highlight the significance of the small fisheries industry as a component of the household livelihood portfolio generally and in the Okavango Delta; (2) to analyse the embeddedness of gender relations in fishery related aid and development interventions; and (3) to highlight policy implications for gender equity and sustainability in the fishing industry in Ngamiland District.

The paper presents results of a review of literature on SSF and rural livelihoods and natural resources governance. It presents the results of a policy perusal and the analysis of such policy documents as the Okavango Delta Management Plan, The BIOKAVANGO Project, and government aid programmes such as the Financial Assistance Policy, the Local Government Scheme (LG17), and the Agricultural Extension Small Projects (AE10) for their role in promoting gender (in)equity. The strength of the paper however is complemented by data from the socio-economic survey, focus group discussions and informal interviews with basket fishers. We present results that show where they place their fishing activity within their livelihoods portfolio and their perception of fisheries governance in the Okavango Delta. We conclude by arguing that small scale fisheries, particularly basket fishing, play a significant role in sustainable rural livelihoods and development. We further argue that if this role is to be sustainable, there needs to be a deliberate effort to achieve gender equity in natural resources management in general and fisheries governance in particular.

1.2. The study site and methodology

1.2.1. The study site

The research for this study was conducted in five fishing villages: Shakawe; Samochima; Mohembo East and Mohembo West; Kauxhwi; and Ngarange villages in the Okavango Panhandle (Figure 1).

Water inflow to the Delta starts in Angola, passes through Namibia, and arrives in Botswana as a distinct flood pulse covering approximately 15,000 km² (Gieske, 1996). Generally, the Okavango Delta can be divided into four main ecological regions: the upper river channel (otherwise known as the Panhandle); the permanent swamps in the upper regions; the seasonal swamps in the lower regions; and a number of land masses which occur as large islands, and are referred to as sand-veldt tongues (Ellery and Ellery, 1997). The extent and duration of flooding is determined by climatic and environmental variability and creates a dynamic, interlinked aquatic-terrestrial system with high biological productivity and diversity. Subsequently, local populations around the Okavango Delta have adopted livelihood strategies to optimize their utilization of resources from this dynamic system (Bernard and Moetapele, 2005). The Okavango Delta is the main source of fishing activity in Botswana (Mosepele, 2001) and supports a small scale fishery (SSF) that is the source of food (Mosepele, et al., 2006; Ngwenya and Mosepele, 2008; Mnopelwa et al., 2009; Mosepele and Ngwenya, 2010) and nutrition (Nnyepi et al., 2007) security for riparian communities.
Table 1 gives the inter-census population growth and household size in the study sites. While the whole Ngamiland region has a high average household size of 7+, these sites of predominantly fishing communities have a lower average size of 4-5+. They however have a high population growth which almost doubled every 10 years between 1991 and 2001. This may be due to in migration.

1.2.2. Data collection methods: Review of policies, programmes, plans and projects

First, the authors conducted a secondary data appraisal through a literature review of the Government of Botswana’s past and present poverty alleviation policy and programme interventions, resource management instruments and rural development policy documents. Among other things the appraisal was part of a critical assessment of the potential gendered impacts of rural development policies. Particular attention was given to the Financial Assistance Policy (FAP), the Agricultural Extension Small Projects (also known as AE10), and the LG17 infrastructural development programme for their role in the fisheries sector. Second, primary data was obtained from a compiled record of the Okavango Delta Management Plan (ODMP)1 kgotla2 meetings. Participants in the kgotla meeting consisted of villagers, traditional leaders, and representatives from nine government

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**Table 1. Population and household size in study sites**

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Samochima</td>
<td>847</td>
<td>553</td>
<td>242</td>
<td>192</td>
<td>—</td>
</tr>
<tr>
<td>Shakawe</td>
<td>4,389</td>
<td>2,198</td>
<td>1,755</td>
<td>861</td>
<td>5.10</td>
</tr>
<tr>
<td>Mohembo West</td>
<td>1,299</td>
<td>578</td>
<td>502</td>
<td>230</td>
<td>5.65</td>
</tr>
<tr>
<td>Mohembo East</td>
<td>580</td>
<td>127</td>
<td></td>
<td></td>
<td>4.57</td>
</tr>
<tr>
<td>Ngarange</td>
<td>948</td>
<td>533</td>
<td>151</td>
<td>187</td>
<td>5.07</td>
</tr>
</tbody>
</table>


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1 Between 1999 and 2001, the Government of Botswana designed the ODMP as a result of the listing of the Okavango Delta in Ngamiland district in the northwestern part of Botswana as a Ramsar site (wetland of international importance). The ODMP is an integrated natural resources project that was funded by the Ramsar Bureau. The ODMP planning process was launched in 2003.

2 The kgotla in Botswana is a formal public assembly associated with the institution of traditional leadership (chiefs or dikgosi). Kgotla meeting attendance ranged from 20 and 1,000, depending on the size of the village.
services and compiled a record of all people attended (ODMP, 2005). The Okavango Research Center (ORC) provided facilitation and documentation of stakeholder workshops, seminars and consultancy meetings records. Third, data was also obtained from fisheries related issues and themes from the 76 deliberations. We identified and extracted for analysis, information was obtained through a comprehensive review of published literature and unpublished sources (government reports, documents and grey literature).

1.2.4. Data collection methods: Focus group discussion, informal interviews and field observation

We organized five focus group discussions in the study villages in June 2006. In a focus group discussion, participants share certain characteristics (such as age, gender, ethnicity, social standing and occupation). These social traits complement each other and enable participants to discuss and check the accuracy of each other’s viewpoints. The purpose of focus group discussion is to capture generalized knowledge shared at community level, rather than specialized knowledge held by individuals (Morgan and Krueger, 1993).

Two research assistants were deployed; one took notes and the other was the discussion facilitator. The criterion used for selecting respondents was that they should be women who had fishing experience in the Delta in the previous fishing season. An interview guide was developed to facilitate focus group discussions. Questions asked women to describe where, when, for how long, with who, with what and for what do they fish. Information was also gathered on participation in and awareness of organized, community-based natural resource management structures.

1.2.3. Data collection methods: Socio-economic survey

We collected socio-economic data during the months of May through June 2006 and face-to-face administration of a questionnaire to 96 basket fisherwomen. Field assistants were trained in a one day workshop on how to administer the survey tool. The questionnaire was pre-tested in Xakao (see Figure 1 for location of this village) and the questions were revised for clarity and flow. The Fisheries office in Shakawe had an incomplete and outdated list of basket fishers in the Panhandle; therefore the non-probability sampling frame in the five Panhandle villages (Table 2). Because of the linear arrangement of the villages, and the relatively small to medium village size (spatially and number of households), all identified households where there was at least one non-school going adult woman (18 years and above) basket fisher in the last fishing season was eligible for interviews. The questionnaire had both closed and open-ended questions. Questions solicited data on the following: demographics and general socio-economic background; livelihood activities in rank order; basket fishing activities; household income; and food security. Open-ended questions were used to gain insight into internal power dynamics and local knowledge, preferred fishing sites, local knowledge, participation in organized activity and representation in natural resource management structures (formal, traditional and community based).

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Quantitative data from the survey was entered into SPSS V16 (IBM, Armonk, NY) and analysed descriptively for frequency distributions. Qualitative data from informal interviews, focus group discussions and open-ended questions from the questionnaires were reduced and summarized into themes, patterns and clusters. Codes for each of the categories generated were developed and data displayed in each category for verification. Finally, conclusions were drawn on the basis of emerging themes which formed patterns and knowledge clusters, and which then provided the basis for the write-up of the analysis. In the data display stage, an analysis matrix was developed to enable researchers to make an overall assessment of basket fishers (Miles and Huberman, 1994).

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Table 2. Study villages

<table>
<thead>
<tr>
<th>Village</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Samochima</td>
<td>10</td>
<td>10.7</td>
</tr>
<tr>
<td>Shakawe</td>
<td>16</td>
<td>17.2</td>
</tr>
<tr>
<td>Mohembo West</td>
<td>20</td>
<td>21.5</td>
</tr>
<tr>
<td>Kauxwi</td>
<td>25</td>
<td>26.8</td>
</tr>
<tr>
<td>Mohembo East</td>
<td>22</td>
<td>23.6</td>
</tr>
<tr>
<td>Total</td>
<td>93</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Authors’ elaboration.

3 Department of Wildlife and National Parks, Tawana Land Board, Department of Water Affairs, Department of Range and Forest Resources, Department of Animal Health and Production, Department of Lands, Department of Tourism, Northwest District Council and Department of Environmental Affairs.

4 The official title of the Project is Building Local Capacity in the Conservation and Sustainable Use of Biodiversity in the Okavango Delta (http://www.orc.ub.bw/BIOKAVANGO).
2. Linking small scale fisheries with poverty alleviation and sustainable livelihoods

The international Technical Advisory Body (TAB) (2006) for fisheries management recognizes four types of livelihood strategies employed by fisheries; (a) a fisher or fishing household that fishes as a subsistence activity; (b) a fisher or fishing household that fishes and gathers other natural resources (aquatic and non-timber resources). In the later scenario, fishing is aimed at subsistence diversification (food security, labour buffering, coping, cash and smoothing) and reciprocal exchange. Other types of livelihood strategies employed by fisheries are: (c) a fisher or fishing household that fishes for trade (specialist occupation) and accumulation and; (d) a fisher or fishing as one of a set of diverse water related activities or work outside the fishing sector. In the latter type of fishing, recreation is more important, and consumption is residual. The characteristics of “a” and “b” participants in the Delta fishery are mostly women and children, “c” category fishers are predominantly male and “d” fishers are mostly lodge owners and their guests in the tourism industry.

The link between SSFs, the maintenance of minimum living standards, prevention of chronic poverty and food insecurity in developing countries has been established (Allison and Ellis, 2001; FAO, 2005; 2008; Smith et al., 2005; TAP, 2006; Bene et al., 2009). This link is particularly relevant in the Okavango delta pertaining to gendered inequalities and rural poverty. Although SSFs are particularly significant to resource-poor households to sustain their livelihoods (Allison, 2004; Bene, 2003; 2005; FAO, 2005; Allison and Horemans, 2006), there are several factors which mediate access. These include (at the macro level) pre-existing non-fishery and fisheries related policies and legislation, prevailing property regimes, and institutional and social relations. These factors could either facilitate access to fisheries resources and promote thriving rural livelihood diversification strategies or stifle the sector’s growth and marginalize some fishers.

Although cash income is pivotal in poverty assessment, the literature has shown that poverty is a multidimensional process (see for example Sen, 1981; 1999; Smeeding et al., 1990; Nteta et al., 1997; Magole and Magole, 2008; Haughton and Khandker, 2009). Subsequently, Chant (2006) postulated that a gendered framework of poverty assessment should include research on issues relating to restrictions in access to public goods, asset ownership (land, livestock, other property and social capital which form part of a livelihood portfolio) as well as power and social exclusion (marginalization due to lack of political participation and social dialogue). This view is supported by Kerapeletse and Moremi (2001:222) who submit that among other things, poverty among rural people in Botswana “is influenced by poor access to and control of resources”. According to the CSO (2008), poverty issues are important in the Okavango where headcount poverty rate in the region is severe (between 40% and 60%). The depth and severity of poverty is apparent when data is disaggregated by gender and head of household. Furthermore, the average household size in Ngamiland west (the upper and middle Delta area) is 7.9 compared to the national average of 6.48 persons and approximately 54.1% of females are unemployed compared to 45.8% of males (CSO, 2006). The District also has low human capital development where the (at 66%) literacy rate of people 15 years and older is significantly lower than the national average (CSO, 2004).

2.1. Fishing dynamics and livelihoods for women fishers in Ngamiland

The socio-economic survey of 96 fisher women (N = 96) indicated that the majority of them are primarily arable farmers and predominantly belong to the Hambukushu ethnic group. Also, basket fishers are internally differentiated by marital status, household headship, age and their household assets profile and fishing experience — up to 30 years (approximately 38% have been fishing “since tender age”, meaning from about 6-10 years) (Figure 2). Basket fishing is an inter-generational occupation. Most fisherwomen are young women in their prime productive years, 72% are less than 38 years and about 2% were above. The majority, 66%, fish occasionally (2-3 days per week). Time taken for basket fishing varies from 1 to 8 hours per day. Most basket fishers fish for at least 3 hours a day (39%); 24% fish for 4 hours a day. About 85% of basket fishers undertake other income generating activities simultaneously; only 14.3% of respondents said that during the season of high basket fishing do they stop doing other income generating activities and focus on basket fishing. This shows that basket fishing is an important component of diversified livelihood strategy for fishing communities in Ngamiland.

In addition to fishing baskets, they use fish traps (15.8%) and mosquito nets (73.7%). Women construct the fishing

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Figure 2. Basket fishing experience.
Source: Authors’ elaboration.
baskets themselves (94%) and only a few said their mothers or other members of the household made them. Although the majority of fisher households owned at least one fishing basket, some owned two or three, others four or five baskets of various sizes. Follow-up discussion indicated that different age groups of women and girls fish both within and across fishing seasons and location. Because of the nature of the gear used, basket fishers exploit mainly small sized species. These include Banded Tilapia (Tilapia sparrmanni), Zambezi River Bream (Pharyngochromis acuticeps), Zambezi Parrotfish (Cyphomyrus discorhynchus), Dashtail barb (Barbus poechii), Dwarf Chitharine, Silver robber (Micralestes acutidens), Sickle fin barb (B. haasianus), and other smaller sized species (Mosepele, 2008). Women fishers use “eye estimates” to describe or measure their catch in terms of a “full bucket” or a “bowl” of varying capacities. About 7% of basket fishers sell or barter some surplus fish for grain in the village. About 68.2% of basket fishers ranked fishing as the second most important livelihood activity (Table 3).

Focus group discussions suggest that some women fishers have been in and out of fishing activities according to the drying and wetting of lagoons, side channels and floodplains within the proximity of their villages. The adaptation strategies of basket fishers are tied to their knowledge of fish migrations and understanding of the flood regime in the Delta. During high flood season (February-March), when fish availability is low, women take up arable farming. Basket fishers use not only fishing knowledge accumulated over time, but also other “hydrological gauges” such as flood variability (or rapid change in water discharge in the Panhandle) to decide when, where and what times to fish for certain species of fish. When asked what alternative livelihood activities they would engage in case the river dries up, the majority (43.7%) of fishers said they would resort to arable agriculture. Fishing behaviours are thus embedded in complementary livelihood systems (fishing and farming) as well as the Delta’s hydrological cycle.

Source: Basket fishers survey data.

Table 3. Importance of various livelihood activities for basket fishers in the study area (percentage of respondents)

<table>
<thead>
<tr>
<th>Livelihood activities</th>
<th>1st most important</th>
<th>2nd most important</th>
<th>3rd most important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry land farming</td>
<td>84.7</td>
<td>10.2</td>
<td>5.1</td>
</tr>
<tr>
<td>Cash employment</td>
<td>66.3</td>
<td>33.3</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>Fishing</strong></td>
<td>3.0</td>
<td><strong>68.2</strong></td>
<td>28.8</td>
</tr>
<tr>
<td>Collection of veldt products</td>
<td>75.5</td>
<td>25.0</td>
<td></td>
</tr>
<tr>
<td>Making and selling baskets</td>
<td>35.7</td>
<td>50.0</td>
<td>14.3</td>
</tr>
<tr>
<td>Vending/hawking</td>
<td>22.2</td>
<td>77.0</td>
<td>0.8</td>
</tr>
<tr>
<td>Sale of traditional beer</td>
<td>69.2</td>
<td>7.7</td>
<td>23.1</td>
</tr>
<tr>
<td>Remittances</td>
<td>76.9</td>
<td>15.4</td>
<td>7.7</td>
</tr>
</tbody>
</table>

3. Natural resources governance, gender and fisheries access in Botswana

3.1. Botswana rural development policy and fisheries regulation

Hitherto, Botswana has a comprehensive rural development policy and poverty alleviation strategy (the Revised National Policy for Rural Development; 2002) and the National Strategy for Poverty Reduction (2003) which provide a framework to address rural poverty. Within the poverty reduction framework, the Integrated Support Programme for Arable Agriculture Development (ISPAAD) under the Ministry of Agriculture for instance, provides eligible households draught power, fertilizers and seeds for arable farming. This is a pro-poor programme with substantial social benefit at household level especially in terms of improved cereal production (Morewagae, 2009). However, there is no equivalent support for the fisheries sub-sector. This gap in programming constitutes a serious oversight given the fact that at least 70% of Ngamiland District’s population lives on the Delta’s periphery, of which about 65% derives a significant part of their livelihood from fishing (Mosepele, 2001). The rural development policy and poverty alleviation intervention strategy is further compromised because Botswana has no national fisheries policy to guide fisheries management (Mosepele and Mosepele, 2005). Therefore, the management of the Delta’s fishery is somewhat divorced from the country’s overall poverty alleviation and rural development strategy. Subsequently, this has caused the observed symptomatic programme and policy disjuncture and fragmentation. This is a rather unfortunate scenario since, as observed by Béné et al. (2010) and Bene et al. (2010), and argued in this paper, small scale fishing can play a significant role in rural livelihoods and sustainable development if supported by pro-poor policies.

Prevailing property regimes also mediate access to fish resources by various social groups. Natural resources such as fish can be held under open access, common property, private property or state property (Baskaran and Anderson, 2005). Under an open access regime, no one has the legal right to exclude other persons from using the resource (Ostrom, 1999). A common property regime is one wherein resources are owned and controlled by a defined group of people for the benefit of that group (Pearce and Turner, 1990). The members of the group have an assemblage of rules, regulations, rights and responsibilities established for a particular resource and also have the ability to exclude non-members from using the resources (Ostrom, 1999).

In pre-colonial Delta communities, water resources were held under common property arrangements where different ethnic groups had special rules and regulations governing the use of these resources and associated activities (Tlou, 1985). However, resource managers and some users did and
continue to interpret a common property resource as open access. In practice this has translated to fish resources in the Delta being accessed by anyone, any time, from anywhere in the country (Mosepele and Mosepele, 2005). This has legal backing because under the Botswana’s Water Act (Chapter 34:01), Okavango Delta and other fisheries in the country are open access resources. Thus, all citizens have access rights. Proximity and traditional use do not evoke special authority and responsibility. In post-colonial Botswana, traditional common property management of land and water resources in general, and that of Okavango Delta fisheries in particular, was replaced by a top-down centralized management system that gave government departments power and authority over natural resources. Another prevailing institutional culture in Botswana is to have national non-targeted natural resource regulatory systems. Thus, regardless of local conditions land and water resources in the country are regulated by national instruments.

The local reality within the Delta fisheries is the existence of multiple users. Differences in property rights views and fishing interests (inclusive vs. exclusive), boundaries and power within and between fisher groups (consumption, sale or recreation) have arisen and are likely to escalate over time. Under these circumstances, the need to develop mechanisms to reduce conflict is apparent. Recently, the Government attempted to remedy the situation by coming up with the Fish Protection regulations (Fisheries Division, Ministry of Wildlife, Environment and Tourism, 2008). Among other things, these regulations introduced a closed fishing season (January-February), and fishing licenses and defined fishing gear restrictions. The regulations are silent on enforcement of community common property rights and institutional arrangement despite the fact that these have been shown to impede equitable access and distribution of benefits from fisheries (Mmopelwa and Ngwenya, 2008). There is also no attempt to integrate fisheries regulations and the industry into the wider rural development and poverty alleviation strategy. Thus post-colonial Botswana’s natural resources management reforms emphasize a top-down institutional system aimed at controlling a perceived “open” access situation and conservation of land and water resources as opposed to a community-based one which would cater to diverse user-interests.

Communities have multiple actors with political, economic and social differences within and between stakeholder groups. Issues regarding institutional relations and accountability, poor representation and integration intersect with gender and other social variables that determine access rights to the Okavango Delta fishery. Men, women and children fish in the Okavango Delta. About 56% of all subsistence fishers in the Okavango Delta are women, of these, approximately 42% are basket fishers (Mosepele, 2001; Bokhutlo et al., 2007). Basket fishers in the Okavango Delta fishery and women fishers in general are therefore significant and important stakeholders. The institutional arrangements mentioned above structure power, influence, interactions and rights claims by women, men and children fisher groups. Hence their form and function is important for resource access and poverty alleviation.

3.1.1. Women fishers’ perception on fisheries management and regulations

The 2008 Fish Protection regulations enforced a closed fishing season (January-February) and restricted fishing gear (including the use of mosquito nets). Fishing licenses were also introduced for gillnet and sport fishing, while subsistence and (traditional) hook and line fishers do not require a license. In the survey, the majority (75%) of basket fishers disagreed with the idea of fishing regulations, such as the imposition of a closed fishing season. In focus group discussions, several reasons were advanced against the introduction of fishing regulations. These included the facts that: basket fishing is part of the HamBukushu culture and its regulation will violate these cultural rights; households depend on fish for food, and regulations will impose catch restrictions; fish is a natural resource and local residents should be allowed to enjoy them without undue constraints; local communities have been fishing for years without depleting fish stocks; regulations may include paying for fishing licenses, whereupon some households could not afford to pay for them. On the other hand those respondents who supported fishing regulation reasoned that: it will prevent over-fishing; it will allow fish to breed; it will ensure that natural resources are regulated; everybody will enjoy fair rights; and fisheries will be protected.

Of those women who supported the introduction of fishing regulations, 52.8% said government should regulate fishing because it has power and resources, 31.8% said fishing communities should be empowered to manage fish resources, and 15.4% said the fishers should be given the mandate to manage the Delta fishery because they have the knowledge to do so. In focus group discussions, basket fishers also felt that they already have access to limited “productive” fishing grounds and the situation will be exacerbated by zoning. Furthermore, they argued that “zoning” might concentrate otherwise dispersed fisher groups in one area, which might increase rather than decrease conflicts. Basket fishers also did not advocate for a “closed fishing season”. They argued that “closing” the season in autumn would affect them negatively because they depend on other fishers groups, such as commercial fishers, for continued supply of fish protein.

During the development of the Okavango Delta Management Plan (ODMP) some kgotla participants were convinced that because the Fisheries Division was under the Department of Wildlife and National Parks, the introduction of “fishing seasons” was akin to wildlife “hunting seasons.” Basket fishers in focus groups also contended that a closed season between January and February would not be
detrimental to the fishery because this period (of low flood) is the tail end of the fishing period for both (semi) commercial and subsistence fishers and it overlaps with the ploughing season. Although the majority of villagers in the Panhandle embark on rain-fed arable agriculture during the closed fishing season, some commercial fishers used to continue fishing and thus supply non-fishing households with protein. Furthermore, most basket fishers fish intensively between August and December and less during the closed season. The socio-economic survey indicates that basket fisher households experience food shortages during the December-February period (see Figure 3).

Although basket fishers resort to farming during the rainy season (December-February), they also experience relative food shortage before on-farm fresh produce can be available for consumption (Figure 3) at the end of February. Perceptions are that basket fishing contributes significantly to household food security especially in summer. The majority of basket fishers, (48%) said fish contribute 50-70% to household food resources; and 25% said fish contribute 75-100% (Figure 4).

3.2. Government aid and grant schemes and gender exclusion in fisheries in the Okavango Delta

Government interventions in the fishing industry in the early 1980s through several loan and grant schemes (e.g. the FAP, LG17 and AE10 schemes effectively commercialized the fishery (Nengu, 1995). It is important to note that commercialization in itself is excluding to women as the enterprise is male dominated.

The major goal of FAP was to create rural employment opportunities and improve household income for men and women regardless of occupation. However, in the fisheries sector, the FAP implementers at the district and local level targeted commercial fishers, who are predominantly male. FAP funds were used by individual commercial fishers to capitalize on their fishing enterprises, where individuals contributed 30% of the total project investment. Several individual fishers’ projects were funded during this period (see Table 4). Small scale businesses received a grant of up to BWP 75,000 pula (approximately US$18,750 at the time) and recipients were able to purchase refrigerators, nets, boat engines and camping equipment. Furthermore, FAP recipients had access to National Development Bank loans, and were also trained by the Fisheries Division extension workers in gear technology and post harvest preservation. Thus government funding opportunities created opportunities for organized community fishing associations and syndicates in the Delta’s Panhandle. However, women were excluded as viable entrepreneurs and their roles in the marketing and processing of fish products was marginalized.

The LG17 scheme provided funding for infrastructural development where syndicates were able to acquire cold storage facilities from this fund to improve market outlets. Recently in 2009, the Boiteko Fishing Syndicate received further funding from the UNDP Small Grants (US$50,000) and used the money to construct a new spacious building with storage, sales and office facilities. Whereas

![Figure 3. Seasonal food shortage. Source: Authors’ elaboration.](image)

![Figure 4. Food provision and basket fishing. Source: Authors’ elaboration.](image)

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Source: <sup>a</sup> Anon (1989), <sup>b</sup> Mmopelwa (1991), <sup>c</sup> Mmopelwa (1992), <sup>d</sup> Mmopelwa (2001).
government funding created business and employment opportunities for men, this was, and still is not the case for women fishers in the Panhandle. The AE10 scheme funded community-based development projects in response to a drought spell of the 1980s. The scheme was crafted to primarily provide funding for fishing operations to the poorest members of the fishing community (NORPLAN, 1985). Again a number of male-only fishing syndicates were formed through this funding source.

3.3. Persistent and embedded gendered inequalities in development policies and programmes

Several interviews with stakeholders revealed that FAP excluded women as viable entrepreneurs and that their role in marketing and processing of fish products was marginalized. Informal interviews with key stakeholders suggest that only a few women of notable education and political standing in the community ever ventured into commercial fishing enterprises. Women fishers therefore lost out in terms of employment opportunities, including increased access and control over utilization of fish resources.

Follow-up interviews indicate that the Fisheries Division public education and extension services and partner donor institutions continue to engage male fishers as individuals and as syndicates. Consequently, these fishers tend to benefit also from workshop consultations and seminars, and thus have continued access to emerging opportunities, information and skill development.

3.3.1. The Okavango Delta Management Plan (ODMP) development process

The major objective of the ODMP was to provide an integrated resource regime for the Delta to ensure both conservation of the Delta’s resources and improvement of the well-being of its people. The plan places considerable emphasis on community ownership of development programs. During the first round of the OMP planning process (2003/2004), a total of 33 kgotla meetings were held in villages in the Okavango Delta. The purpose of the meetings was for communities to express their concerns to government officers. Analyses of all 33 kgotla meetings indicate that about 6% of all concerns expressed by villagers were related to issues of differential access and control to fish resources.

A total of 43 kgotla meetings were held in the second round of the ODMP in all the major villages and remote area settlements in the Okavango Delta (January-April 2005). Compared to the first round, the second round deliberately mobilized and or encouraged women’s attendance. While the minutes of the meetings suggest that female participation improved significantly, analysis of the minutes of kgotla meetings in the Panhandle suggest that questions, comments and or suggestions from kgotla attendees came from men participants only. During focus group discussions, the majority of women, who happened to be basket fishers, claimed to have heard about on-going ODMP kgotla meetings. In the socio-economic survey for instance, only 15% of women fishers said they attended these meetings, but could not voice their opinion “amidst a group of men”. There is therefore a need for stakeholder disaggregation in planning processes.

3.1.2. The BIOKAVANGO Project implementation process

The BIOKAVANGO Project\(^4\) was a five year (2005-2010) UNDP/GEF-funded development project whose primary focus was mainstreaming biodiversity conservation into water, tourism and fisheries sectors. The fisheries component of the project had three pilot sites in the Panhandle, (i.e., in Ngarange, Samochima and Mohembo). Analysis of the project’s workshop reports and community consultation meetings indicate that the project gathered information relating to conflict issues among fishers and negotiated agreements on co-management roles, rights and responsibilities among different actors (national and local). The project made a conscious effort to include women through various community structures such as the village development committees (VDCs) hence there was reasonable attendance at the meetings. However, the focus was still on organized groups and since the basket fishers (women) are unorganized, they were excluded. The tendency has been to simply head count women and men present at seminars and workshops rather than focus on issues of differential access to resources between organized and unorganized fish resource user groups. The socio-economic survey revealed that the majority of basket fishers (89%) were not aware of the BIOKAVANGO project before the interview. However, of those who had heard about the project, 11%, did not attend or take part in the activities.

The fisheries component of the project formed the Okavango Fishers Management Committee (OFMC) consisting of representatives from government departments, the private sector (tour operators) and fishing syndicates. The OFMC is an attempt to set-up a community based co-management structure whose responsibility will be to address the ensuing tensions between different resource users. The OFMC developed a code of conduct for responsible fisheries, which among other things, developed fishing guidelines in front of lodges, fishing free zones and no wake zones (BIOKAVANGO, 2010). The code was officially launched in the Samochima villages on 24 April 2010. Throughout this process, women basket fishers and their issues remained invisible to on-going OFMC structures and establishment and development processes.

\(^4\) http://www.orc.ub.bw/BIOKAVANGO.
5. Discussion: A case for gender equity in governance of the Okavango Delta fisheries

The FAP, AE10 and LG17 programmes were designed, among other things, to create employment opportunities and alleviate poverty in rural communities. Although these programmes were generally pro-poor and had demonstrable tangible benefits in fishing communities, the design and implementation failed, either implicitly or explicitly, to take into account the embedded nature of unequal gender relations. Consequently, the programmes’ outcomes entrenched pre-existing gendered disadvantages (especially with regard opportunities to own and control fishing assets). Hitherto, women fishers in the commercial fishing sector continue to operate in the informal sector. They are not recognized and their labour remains unrecorded (often as unpaid assistants of their husbands in fishing related tasks such as processing, sales, smoking and drying, especially in the fishing camps). Furthermore, the Fisheries Division’s public education and extension services continue to engage male fishers (either as individuals or as syndicate members) and leave out the women as they are not as organized.

During and after the ODMP kgotla deliberations, respective government institutions, especially the Fisheries Division, failed to contextualize the implications of the ODMP framework on different resource users and to elaborate on issues of differential access and control of fish resources. Conversely, focus group discussions suggest, as expected, that only a few women deliberate in public debates which are usually dominated by the men. Conversely, fisheries institutions also influence women’s accesses to fisheries resources and participation in the decision-making process by ascribing traditional gender roles and modes of behaviour.

Fishing culture is embedded in social networks with friends, neighbours and relatives. Women basket fishers prefer to fish individually or in social groups in the flood plains and have over time maintained a strong cultural identity. Women’s preference to fish in flood plains in the Okavango Delta demonstrates their ecological knowledge and is consistent with what has been observed by Welcome (1985) in tropical fisheries: that fish catchability increases at decreasing water levels.

Although the BIOKAVANGO Project made a conscious effort to incorporate gender issues in the project implementation processes, women fishers in the Delta are still not organized in formal institutions, and are therefore excluded by default. It has been observed that generally, membership to formal fisheries associations is more prevalent among men than women (Weeratunge et al., 2010). Village level small working groups (women’s fishing clubs) appear to be viable alternative platforms for communication and addressing women fisher issues. However, these need further research and methodological articulation.

The significance of basket fishing to household food and nutrition security cannot be underestimated since about 68.2% ranked fishing as the second most important livelihood activity. Food insecurity is seasonal and is experienced more intensely (43.2%) during the hot dry season (August-December). This is the same period when fishing activities are intensified. For 48% of the households, fishing contributes between 50-70% of food resources. It is therefore not surprising that the majority (71.9%) of basket fishers feared that fishing regulations may threaten not only their second most important livelihood activity, but also that (closed) fishing seasons will affect the inter-dependence and complementarities of fishers’ groups (commercial and subsistence).

Gender equity and sustainable livelihoods can be achieved by integrating women’s ecological knowledge with knowledge systems based on fishery biology in governance regimes of the Okavango Delta. However, knowledge interfaces cannot take place without the active participation of women fishers in the governance processes that affect them. The Sustainable Livelihood Framework (SLF) has also been used to design development intervention programmes in West and Central Africa (Kebe, 2008), and for SSFs generally (Ellis and Freeman, 2005; Allison and Horemans, 2006; TAB, 2006; Westlund, 2008). The framework is therefore relevant for identifying policy and programme priorities and also for integrating women fishers’ traditional ecological knowledge in Okavango Delta fishery management regimes in the context of Botswana’s rural development strategy.

Women use primarily baskets and mosquito nets to fish (Mmopelwa et al., 2009). However, mosquito nets are prohibited now in the Delta according to the new fishing regulations, despite lack of research to assess the impact of this fishing gear on fish stocks (Mosepele, 2008). Most basket fishers (including juveniles) catch mature small size fish species (Mosepele et al., 2003), all of which would in any case be stranded when water recedes from the flood plains (Mmopelwa et al., 2009). Research from other parts of the world (e.g., Bangladesh) has shown that smaller fish are nutritionally richer than larger fish, and that these are more evenly shared among all family members than larger fish and meat product (usually eaten by adult males) (Bene et al., 2009). For men, skill and experience are mediators in accessing fisheries resources, which is not the case for women fishers. The majority started basket fishing from as early as 10 years old or less. Although basket fishers have high human capital development in terms of fishing experience (some up to 10 years while others have over 25 years or more), their knowledge is of little value either as a pathway to increased access to fish resources or as an opportunity to participate in locally evolving fisheries co-management strategies. In other parts of the world, fisheries governance integrates fishers’ ecological knowledge in co-management innovations (Njock and Allison, 2008).
More still needs to be done before this ideal becomes a reality in the Okavango Delta.

The majority of basket fishers had no knowledge of the aims and objectives of the Okavango Fisherman’s Association (OFA). They also assumed that fishing syndicates in their villages were only for the commercial fishermen. Although it is still an “infant” as a community based co-management structure, the OFMC has very low participation of subsistence fishers, especially women. This is in spite of recommendations to safeguard women fishers’ interest especially with regard to shared fishing ground in lagoons and flood plains (Ngwenya and Cangas, 2008). In Uganda, for instance, the Fish Rules (2003) legally empowered Beach Management Units to manage fish resources. The empowerment of hitherto marginalized fisher groups as a pre-requisite to incorporation in new structures in Uganda was promoted by acknowledging diversity of interest and recognizing differences in power and influence between and within stakeholders (Nunan, 2006). The exclusion of basket fishers’ interests and knowledge from the OFMC formulated Code of Conduct is likely to further entrench gendered inequalities in the Okavango Delta fishery. Affirmation by OFMC of the ecological knowledge claims of commercial fishers was “appropriated” in the delineation of “fishing free zones” or “set-asides” as well as in formulating the ten point Code of Conduct for Responsible Fishing in the Okavango Delta (BIOKAVANGO, 2010). Prevailing governance regimes of the Delta fishery therefore, like elsewhere in the world, significantly affect different user groups’ power relations with respect to access, control and management of resources in fishing communities (Weeratunge et al., 2010).

Women constitute a significant proportion of fishers in the Delta (Mosepele, 2001), and their fishing activity contributes to not only household food security (Mosepele et al., 2006) but also to childhood nutrition security (Nnyepi et al., 2007). Excluding this major stakeholder from fisheries governance structures, at both local and national scales might ultimately imperil the value of this resource to riparian communities. In this scenario, the interests of women fishers (e.g., household food provision, childhood nutrition, etc.) and the socio-cultural value of the fishery (e.g., social fishing units, fishing basket construction, etc.) are subsumed within the needs of the “empowered” commercial and recreational (male) fishers. If the women fishers’ needs are not integrated into fisheries management paradigms, then their households may become food insecure. Food and nutritional insecurity in the socio-economically marginalized riparian communities (of the Okavango Delta) may result in a plethora of social and health challenges (e.g., malnutrition) among riparian communities. There is therefore, need for a policy shift that will empower this hitherto voiceless majority. Adopting this holistic management approach may also contribute to the Millennium Development Goals (MDGs).

Mainstreaming gender issues into fisheries governance will assist governments to gravitate towards achieving the MDGs, which is proving difficult for most countries in the South. Of the people in sub-Saharan Africa, 58% live on less than US$1.25 a day (UN, 2011), and women are the most vulnerable, especially in socio-economically marginalized riparian communities. Empowering women to make them important political actors in fisheries governance will assist in achieving MDG 1. However, the UN (2011) highlights that there is a disconnection between poverty reduction and access to food, which also needs to be addressed. In this respect, embedding gender issues into fisheries governance will ensure that women fishing issues are also integrated into the management paradigm, whereby their access to the fish resource may be safeguarded. This is particularly important in Africa which has the highest proportion of undernourished people according to the UN (2011). Based on the UN report (2011), criteria (e.g. rural area children are more at risk from dying; children from poor households are more likely to die before the age of five, etc.), children from riparian communities are most susceptible to infant mortality.

Gendered inequities still persist across production sectors and management at all levels in Tswana society (Lesetedi, 2003), and the fisheries sector is no exception. In developing countries, several authors have also discussed the marginalization of women in the governance of fisheries resources (Bennett, 2004; Kronen, 2004; ICSF, 2006; Choo et al., 2008; Kronen and Vunisea, 2009; Ram-Bidesi, 2009; Williams, 2009). Cangas (2007) and Ngwenya and Cangas (2008) highlighted gendered disparities with regard to access and control over fisheries resources in the Okavango Delta. Consequently, women fishers, as key fish resource users, remain, to use Fabricius et al.’s (2007) phrase, “powerless spectators” at the margins of Okavango Delta fishery.

In conclusion, small-scale basket fishing has much greater socio-cultural significance than large-scale commercial fisheries despite the latter’s economic importance. Basket fishers are also farmers; some gather other natural resources (aquatic and non-timber resources), and fishing is aimed at subsistence diversification (food security, labour buffering, coping, cash and smoothing) and reciprocal exchange. The goal of including women fishers’ ecological knowledge in fisheries co-management strategies is to empower them through representation. Okavango Delta fisheries’ co-management structures should not only serve as a forum for managing resource user conflict, but also to improve livelihoods in the broader context of the role of small scale fisheries in meeting Botswana’s rural development objectives.

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References


Gaborone.


ODMP, 2004. Results and analysis of the feedback community consultation process on the ODMP: First round of kgotla meetings. Harry Oppenheimer Okavango Research Centre (Now called Okavango Research Institute), Maun.

ODMP, 2005. Results and analysis of the feedback community consultation process on the ODMP: Second round of kgotla meetings. Harry Oppenheimer Okavango Research Centre (Now called Okavango Research Institute), Maun.


