

# The ‘shrinking commons’ in the Lake Ngami grasslands, Botswana: the impact of national rangeland policy

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*This paper analyses land management policy using land use mapping, interviews with farmers and other stakeholders, and a review of secondary material. The study was carried out in the Lake Ngami area of Ngamiland District in Botswana. It found that the net effect of policy and development initiatives implemented to curb perceived overstocking, overgrazing, open access tenure and low-output subsistence production was to narrow down the livelihood options for the rural poor and cause further damage to the rangeland. Policy-makers ignored the multi-purpose land use systems and goals of traditional pastoral systems, and emphasised commercialisation of livestock farming and privatisation of communal land. This unfortunately weakened or destroyed the local, traditional land management institutions and set in motion the shrinking of the commons. These policies are a colonial legacy that has survived the transitions from colonial rule to independence.*

## 1. INTRODUCTION

In Botswana today, most rural people make most of their living from the land – cultivating crops, rearing livestock and gathering veld products. In Ngamiland, in the Okavango Delta region, they also rely on water resources – fishing and harvesting aquatic plants. More recent livelihood strategies are tourism and community-based natural resource management.

While livelihood sources in general have changed in Ngamiland, with government safety nets (orphan support, destitute support, school feeding programmes, under-five feeding programmes, old age pension, drought relief) becoming more important, natural resources remain a significant source of livelihood for the rural poor (Kgathi et al., 2004; Mmopelwa et al., 2008). Twyman’s (2000) findings in the neighbouring Ghanzi District, and Magole’s (2003) in Kgalagadi District, confirm that the rural poor are still heavily dependent on land resources for their livelihood. Cattle in particular are of great economic and cultural importance in Ngamiland in general, but particularly for the Lake Ngami communities. However, the number of cattle-owning households throughout the country is decreasing and levels of poverty are increasing (Chanda et al., 2003). Several studies have linked this phenomenon to the current rangeland management policy (Fidzani, 1997; Magole, 2003; Chanda et al., 2003; Rohde et al., 2006).

This paper describes how communities living around Lake Ngami in Ngamiland District of Botswana have experienced the land reform. The study provides further evidence that this reform is partly responsible for the surge in rural poverty in Botswana. Over time, the policy has caused a 'shrinking of the commons', narrowing down the sources of livelihood available to rural communities and replacing them with unsustainable ones.

While increasing inequality in cattle ownership is a serious problem, the real tragedy is that rural communities who used to gain their livelihoods through multiple use of their land resources are becoming increasingly dependent on government aid. For example, the top five livelihood sources in the Matsheng area of Kgalagadi District are government support, formal employment, remittances, livestock sales and hunting and gathering (Chanda & Magole, 2001). Similarly, in the Lake Ngami area of Ngamiland District, government aid programmes have surpassed livestock-rearing and arable agriculture as important and widespread sources of livelihood.

Although the proportion of the national population living in poverty has fallen since the mid-1980s, most of that improvement was in urban areas with greater concentrations of employment and other economic opportunities. The rural areas have seen either marginal improvements or, like the Kgalagadi and Ngamiland Districts, dramatic increases in the incidence of poverty (Ministry of Finance and Development Planning, 1997). Further analysis of the poverty situation in the country shows a worrying trend with regards to absolute poverty. The national proportion of people living in acute poverty (less than \$1 a day) increased from 19.4 per cent in 1992/93 to 23.4 per cent in 2002/03 (Central Statistics Office, 2004). The situation is worse in rural areas, with 26.4 per cent and 36.1 per cent for the same periods. On the other hand, urban areas, which already had a low proportion of their populations living on less than \$1 a day, experienced a decline from 8.1 per cent to 5.1 per cent over the same period. There is a clear rural–urban divide in poverty in Botswana. There also appears to be an ethnic divide – the San and other minority groups are rendered more vulnerable to poverty because their opinions, and hence their interests in natural resource management, are disregarded (Hitchcock, 1980; Mazonde, 2002).

The introduction of artificial water points in the form of boreholes and the privatisation of these in the 1930s represent the onset of an evolution in communal rangeland use in Botswana, the main feature of which is land privatisation (Peters, 1994). However, the Tribal Grazing Land Policy (TGLP) of 1975 represents a point at which the Government of Botswana decided to intervene and speed up the process. Furthermore, in 1991 – following an assessment of the agricultural sector, including the TGLP – the government affirmed the grazing land policy and facilitated its continuation by producing guidelines for implementing the fencing component of the National Policy on Agricultural Development of 1991 (Government of Botswana, 1991).

The 'tragedy of the commons', an old and powerful narrative that has been proven theoretically flawed and at times totally untrue, was used to curve the policy direction for rangeland reform in Botswana and other sub-Saharan African countries (Worby, 1984; Peters, 1987; Abel & Blaikie, 1989; Leach & Mearns, 1996). The thesis, which was first advanced by Hardin (1968), assumes that private property rights are more likely to generate responsible and efficient management of land resources than communal ownership. Hardin's followers adopted and used the thesis to back development and implementation of land management policies – with disappointing results, however.

This paper presents the experience of the Ovambandero pastoral community of the Lake Ngami area in Ngamiland District. Section 2 introduces the study area and Section 3 explains the methodology adopted for the study. Section 4 presents and interprets the results, focusing on the evolution of land management through the pre-colonial, colonial and post-colonial eras, organised to give insight into each era. The section concludes by demonstrating the impact of land reforms in Botswana in general, and in Ngamiland in particular. Section 5 concludes the paper by showing the broader policy implications of the 'shrinking commons'.

## 2. THE STUDY AREA

The study area comprises the grazing area at the confluence of the Nkabe and Kunyere rivers, which deposit water into Lake Ngami about 100 km from Maun (see later Figures 1 and 2). The study is concentrated on the two communities of Toteng and Botlhatlogo and their localities. According to the 2001 population census, the two villages and their localities had about 4000 inhabitants of mixed ethnicity (Central Statistics Office, 2002): the Ovambanderu, Basarwa, BaHerero, Batawana and Bakgalagadi. The Ovambanderu, who are the majority in the area, came from Namibia in the early twentieth century (Carl Bro International Consulting Engineers and Planners, 1982). As is typical in Botswana,

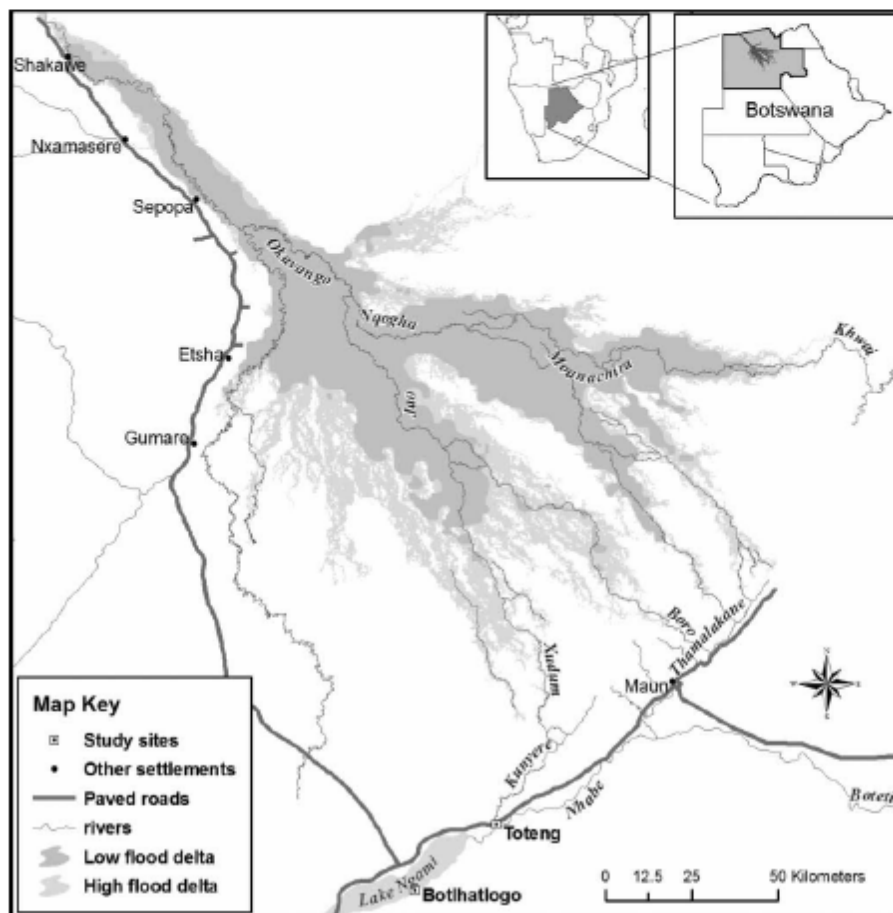


Figure 1: Map of Botswana showing the study area

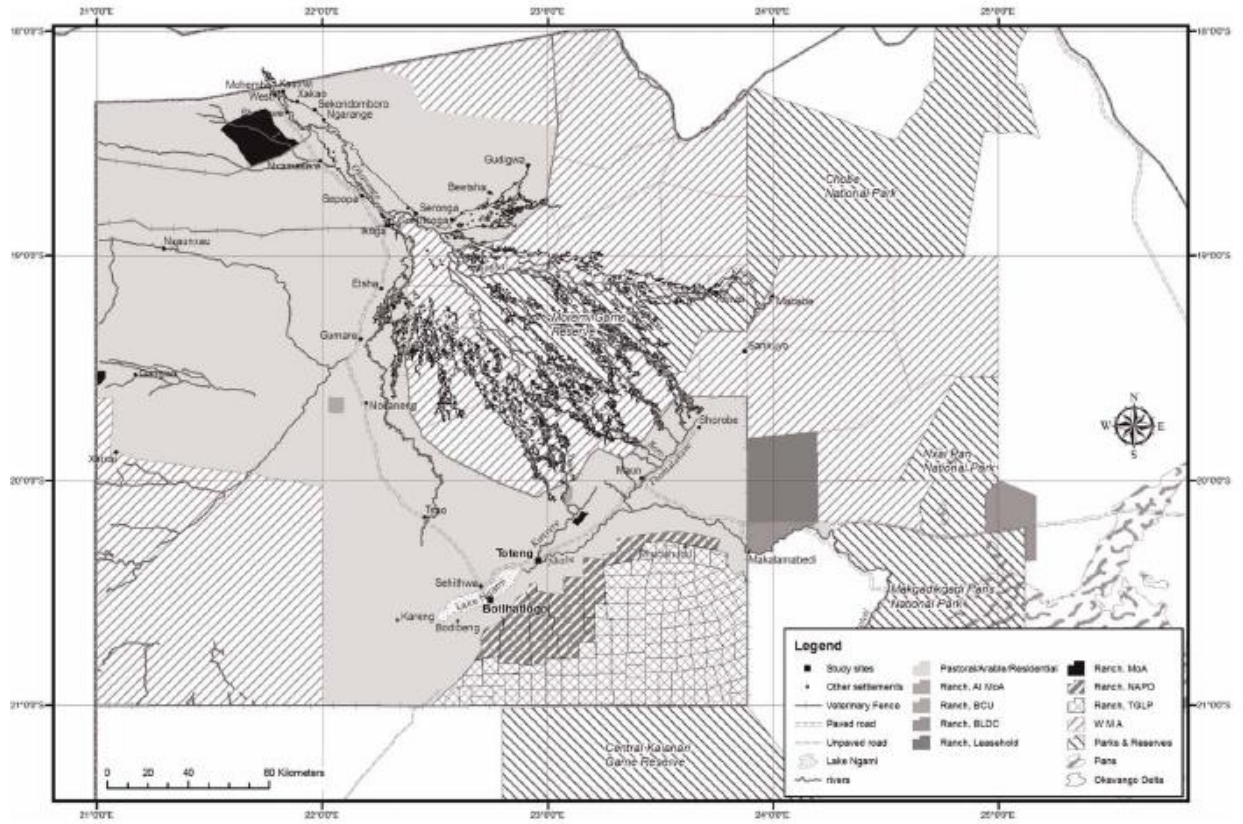


Figure 2: Implementation of the TGLP and the National Agricultural Development Policy in Ngamiland District



and perhaps in the whole of the southern African region, they are believed to have found the river San (Basarwa) already settled in the area practising their traditional livelihood systems of hunting and gathering (Carl Bro International Consulting Engineers and Planners, 1982). Owing to the dominance of the Ovambanderu pastoral community, the dominant source of livelihood in the area today is livestock rearing. Even people who do not own livestock benefit from employment and remittances from the industry.

Apart from thickets of acacia on the shore line, Lake Ngami is a grass plain, and hence favoured by pastoralists. The prevailing conditions here are semi-arid, with an annual average rainfall of 400 mm, varying over time and space. It is estimated from historical data that, when full, the lake is 35 km long by 8 km wide (Shaw, 1985; Hamandawana et al., 2005; Harebottle et al., 2006). Although local rainfall helps, the lake is usually filled by the Kunyere river, which branches off from the Okavango Delta. During years of good rain, and hence flooding, the water reaches the lake by June and the water level peaks around August (Harebottle et al., 2006). The lake is a sanctuary for a variety of bird species and wildlife, and offers good grazing for the livestock of the communities who live around it. The area being claimed by the pastoral and gathering communities of Lake Ngami, approximately 1400 km<sup>2</sup>, covers the entire lake and stretches south about 40 km into the commercial farms.

### 3. METHODOLOGY

To collect primary data, focus group discussions were held across the study area during August and September 2007. Discussions were held with Land Board members, communal livestock farmers and other resource users. The farmers' groups were chosen to cover the geographical area occupied by the community being studied. Group discussions were held in Toteng and Botlhatlogo villages (see Figure 1) and in the nearby cattle post of Mogapelwa. The group discussions were attended by 15 farmers in Toteng, 13 in Botlhatlogo and only six in Mogapelwa. A general interview schedule was prepared and used to guide the discussion process, and as a constant reminder of important issues to cover, rather than as a standard survey instrument.

All of the focus group interviews had a facilitator and a scribe who took notes. Discussions lasted between 1.5 and 2 hours depending on the dynamics and enthusiasm of the group. The discussions focused on how the communal farmers and land users related to commercial farmers and how the annexing of land for commercial farming had affected them. The communal land users' reactions and coping strategies were also discussed.

The Land Board group comprised eight members, five men and three women. The group in Toteng had only two women attending, while three women attended in Botlhatlogo and none in Mogapelwa. Informal discussions with women in the village revealed that women do not regard themselves as farmers, especially if they have male relatives who are responsible for managing the livestock.

Besides the focus group discussions, interviews were held with key informants who possess particular information because of their position or status in the community. Key informants interviewed included the veterinary technician, the range management officer, the chiefs of Toteng and Botlhatlogo villages and three elderly men who were identified by the farmers as particularly knowledgeable about the traditional livestock and rangeland management practices. Discussions with key informants focused on how rangeland management has changed and how this has affected the welfare of the community.

The researcher also participated in a community-guided transect walk or field tour. Four farmers from Bothatlogo village offered to guide the researcher and explained the resources and resource use patterns. The walk, which was combined with driving in order to cover a large area, gave the researcher the opportunity to observe the current uses and condition of the range.

Much has been written about the TGLP and rangeland management in sub-Saharan Africa, hence secondary sources, both published and unpublished, were consulted. Government statistics, the 2001 population census data, rainfall data and livestock census data were consulted. The Geographic Information Systems (GIS) data of the University of Botswana's Harry Oppenheimer Okavango Research Centre database were used to produce a land use map and show the location of the study area in relation to the commercial farms in the area.

Qualitative data from informal interviews, focus group discussions and participant observations were analysed through issue or thematic focus. Data from focus groups were summarised into themes and clusters, which then provided the basis for writing up the analysis. Secondary data were synthesised for the historic debates during the evolution of communal grazing land in sub-Saharan Africa in general, and Botswana in particular. Spatial data were consolidated into a map showing different land uses, and the trend in the land area available for communal use in the District was compiled into a table.

#### **4. THE EVOLUTION AND IMPACT OF LAND MANAGEMENT IN BOTSWANA**

Botswana's political economy has evolved through the pre-colonial, colonial and post-colonial stages. For many communities in the country, each era was marked by its own distinct land management experiences. This paper contributes to the debate on the commons management in Botswana and southern Africa by describing the experiences of the Ovambanderu pastoralists and the San of the Lake Ngami area of the Okavango Delta.

##### **4.1 Pre-colonial land management policy: customary or traditional land tenure and management**

Pre-colonial land use and management in many areas of Botswana took the form of a common property resources management regime headed by the *kgosi* (chief) and his advisors (Hitchcock, 1985). The *kgosi* was the custodian of the land, thus he (rarely a she) held it in trust for the community. Another important feature of customary land tenure in Botswana was the right of access to land that all members of the community enjoyed. All rights, individual or communal, were derived from these access rights (Kalabamu, 2000). Individuals had rights to residential and arable land uses. Land not allocated for these purposes was accessible to all members of the community for collecting veld resources such as firewood, timber, thatching grass, food and medicine, and for hunting (Kalabamu, 2000). Under customary land tenure arrangements, individual rights were inferior to communal land rights.

##### **4.1.1 The traditional grazing system of the Lake Ngami Ovambanderu**

The Ovambanderu settled around Lake Ngami in the early twentieth century with the permission of the Batawana paramount chief in Maun (Carl Bro International Consulting

Engineers and Planners, 1982). According to the focus group discussions and confirmation by the elders in Toteng and Botlhatlogo villages, the Ovambanderu were and still are largely pastoralists practising minimal arable agriculture. Their crops are limited to melons, pumpkins and sweet reed. Indeed, unlike in other parts of the District, very few crop fields were observed during the transect walk.

The elders say that the Ovambanderu developed a system of grazing control based on the association between small groups of kinsmen and relatively small and defined areas of grazing. The system provided a simple but effective method of grazing land management; firstly by moving most of the stock seasonally between dry season (around the lake) and wet season (away from the lake) pastures, and secondly by confining the use of local grazing grounds to a specific kin group. This had the positive environmental effect of temporarily easing the grazing pressure around the lake and allowing the land to recover and also allowing the ground water table to recharge in the grazing areas away from the lake where boreholes and wells are a source of water. The socio-economic benefits included access to land and a means of livelihood for practically all families and a means of coping with droughts and avoiding severe stock loss. However, this system was considered backward and not compatible with modern practice, and was hence targeted for the 1975 land reform.

Studies of several African pastoralist groups have shown how wrong the accusations and assumptions made by the modernists have been (Ellis & Swift, 1988; Scoones, 1992, 1996; Behenke & Scoones, 1993). Ellis and Swift identified three erroneous assumptions made by those espousing the modernisation view of African pastoralism:

- (1) that African pastoral ecosystems are potentially stable (equilibrial) systems; 2) that these potentially stable systems are frequently destabilised by improper use on the part of pastoralists; and 3) that alterations of system structure (reducing livestock numbers, changing land-tenure patterns, etc.) are needed to return these systems to an equilibrial and more productive state. (1988:451)

In particular, it is erroneously believed that a stable equilibrium point at which stocking rates are suited to available grazing can be achieved through state intervention (Scoones, 1992). On the contrary, in their work with East African pastoralists, Ellis and Swift (1988) found that: (1) while there is evidence of long-term persistence, stable equilibria are not achievable in many ecosystems; (2) interventions aimed at achieving stability in non-equilibrial systems tend to be irrelevant and at times destructive; and (3) that interventions designed to accommodate system dynamic variation, as were traditional systems like that of the Ovambanderu, are more likely to be successful than those aimed at maintaining equilibrial conditions.

#### **4.2 Colonial land tenure and management**

According to Schapera (1943), when Botswana became a protectorate the colonial administration introduced crown (later state) lands, which was land belonging to the administration, and private land initially controlled by the British South Africa Company and the Tati Company but later alienated to European settlers and used mainly for ranching. As a result, at the end of the colonial era in 1966, 47 per cent of all land in the country was held communally by native communities and was under the control of *dikgosi*, 48 per cent of the country was held as crown or state land and the remaining 5 per cent was held privately by the Tati Company, the British South



Africa Company and some European individuals (Dickson, 1990). Most of the crown land reverted to communities at independence, while some was retained as state land and continued to be used as national parks and game reserves. By 1976, 71 per cent of the land was held communally, 23 per cent was state land and 6 per cent was held by individuals and companies as private land (Mathuba, 1993).

#### **4.2.1 The impact of colonial rule on access to communal (range) land resources**

While land 'owned' by communities was reduced from 100 per cent to 47 per cent of the country during the colonial era, access was effectively reduced by 5 per cent (private land). Most of the crown land was in the Kgalagadi and Ghanzi Districts. The heat in this area made the land unattractive to the colonial administration and the settlers, except for a few cattle farmers. As a result the Bakgalagadi and Basarwa communities who lived in these areas were neither removed from the land nor denied access. The situation in Ngamiland was even better. At independence, 84 per cent of the District land was still under communal use. This benefited the Ovambanderu, who did not lose any land in this era and could maintain their traditional pastureland management system as outlined above. The situation changed, however, when post-independence land reforms were implemented.

#### **4.3 Post-colonial land tenure and management policy**

The Government of Botswana retained the major tenure classifications of communal, state and freehold, as set during the colonial era. However, the land proportions under each tenure classification have changed. No freehold land has been created since 1978 (Kalabamu, 2000) and most state land reverted to tribal territories at independence (Mathuba, 1993). By the early 1980s, therefore, national land holdings stood at 71 per cent communal, 23 per cent state and 6 per cent private land (Kalabamu, 2000).

The first land reform instrument was the Tribal Land Act (Government of Botswana, 1968), which made provision for the creation of Land Boards to take over land management duties from *dikgosi* and all traditional leaders. This marked the beginning of the modernisation campaign that would rid land management of all things traditional. On the advice of international experts, the Tribal Land Act was followed by a policy targeted directly at the management of communal grazing land (the TGLP of 1975) and its sequel within the National Agricultural Development Policy of 1991.

##### **4.3.1 Post-colonial rangeland reforms**

The TGLP was the first policy to target grazing land directly. It came about as the result of the work of rural development consultants who diagnosed the range situation in Botswana, argued that 'there is an accelerating degradation of the natural pastures caused by overgrazing and poor pasture management' (Chambers & Feldman, 1973:56) and prescribed that an enclosure programme be put in place to curb the impending tragedy of the commons situation. They argued that 'in communal grazing situations where this has not been done, each owner competes with his neighbour; there can be no incentive to limit stock to the carrying capacity of the land and grazing system' (Chambers & Feldman, 1973:124).

Other studies on pasture management by different groups in Botswana contradict this statement (Hitchcock, 1985; Abel & Blaikie, 1989; Magole, 2003). They report on creative and



dynamic traditional systems that are compatible with the environment in which the people live. The case of the Ovambanderu of Lake Ngami adds to these cases. This pastoral community combined the wetland environment of the lake and seasonal rainfall to establish an effective traditional pastureland management system based on migration.

There is a tendency in national policy-making processes in Botswana to disregard multiple interests and knowledge systems in general, but particularly those of the poor. Often policy processes do not create a platform for all stakeholders to negotiate their stake or to contribute and influence decisions. The government only listens to 'experts', most of whom do not have to live with the consequences of their advice. Abel and Blaikie (1989) argue that there is a tendency within the environmental management arena to neutralise policy processes with science. For example, when the scientific 'truth' about the existence of overstocking and degradation and the supremacy of ranching were preached in support of the TGLP, the policy immediately assumed a moral high ground, and has since been difficult to challenge. Wynne (1994) submits that the construction of scientific facts is based on the illusions of a public that trusts experts. He argues that it is never assumed there could be alternative forms of knowledge in the public realm. Keeley and Scoones (1999) argue that scientific knowledge is often the result of a process where both the science (truth) and the scientists are selected by the policy-makers. Thus scientists and policy-makers sometimes engage in a process of mutual construction and become the only players in the policy process.

#### **4.3.2 Impact of rangeland land reforms**

A variety of literature reviewed by the author concluded that the land reform project had failed to achieve any of its three objectives: to stop overgrazing and land degradation, to promote greater equality of incomes in the rural areas, and to commercialise the livestock industry (Magole, 2003). It was found that the policy had worsened the problems it had set out to solve (Hitchcock, 1985; Peters, 1987, 1994; Tsimako, 1991; Thirtle et al., 2000; Magole 2003; Rohde et al., 2006). Peters, having studied the TGLP in the mid-1980s and come to the conclusion that the policy's effects were disastrous for both the environment and the rural poor, wrote that 'as of the end of 1985, it is unclear whether the policy will be redirected in the light of the accumulating evidence' (1987:173). The development of a similar policy in 1991 shows that it was not.

The policy proponents argue that, 'despite problems experienced during implementation TGLP demonstrated that fenced farming is much more productive than communal management system' (Ministry of Agriculture, 1991:11). The evidence for this, the policy argues, is the fact that some farmers now supply high-quality breeding stock that used to be available only through import; that farmers have also ventured into diverse production systems; and that they now practise artificial insemination, which is cheaper than natural breeding. This was contradicted, or perhaps these gains were found to be insignificant, by an assessment that concluded the commercial sector (within communal land), ever since its inception through the TGLP, had not proven itself to be superior to the traditional sector (Thirtle et al., 2000).

#### **4.4 Impact of land reforms in Ngamiland – the shrinking commons**

Demarcation of TGLP ranches started by 1976, and by the late 1970s and early 1980s most Districts, including Ngamiland, had allocated land to some farmers. More

ranches were demarcated and allocated in the late 1990s under the National Agricultural Development Policy.

In Ngamiland the area south of Lake Ngami was chosen for demarcation and allocation of ranches (see Figure 2) under the TGLP. According to the local people in this area, the land annexed for this purpose was land to which the pastoral communities (Ovambanderu) migrated during drought years. Some of the areas also had ponds that held water for much of the year and were used to relieve the lake area, especially by those who did not own wells. The initial implementation of the TGLP, however, did not interfere much with the community's nomadic pastoral system and access to other resources. At this stage, the farms were an average of 40 km from the community homesteads and dry-season grazing area. Farmers argue that there was enough land and other resources within the 40 km, and hence there were no conflicts and no complaints.

However, implementation of the sequel policy in the mid-1990s increased the number of the farms and brought them much closer to the villages of Toteng and Botlhatlogo (see Figure 2). The farms are now less than 15 km from the homesteads, in some cases 10 km. In all the discussions, including those with key informants, community members complained that not only are their movements curtailed by the existence of the farms but some water ponds and veld products are now inside the farms' fences and therefore inaccessible. Land use conflicts have also arisen as the communities try to change direction and migrate north of the lake. There they have clashed with communities from other settlements such as Tsao.

The Land Board also reports that communities have complained. However, the Board at district level cannot respond to the complaints as it is merely implementing a national policy that is decided at central government level. This is a symptom of a policy process that excludes some stakeholders and upholds decision-making by others (Peters, 1994; Magole, 2003). A stakeholder analysis of the land users and managers in Lake Ngami showed that there are numerous stakeholders and interests in the land (see Table 1).

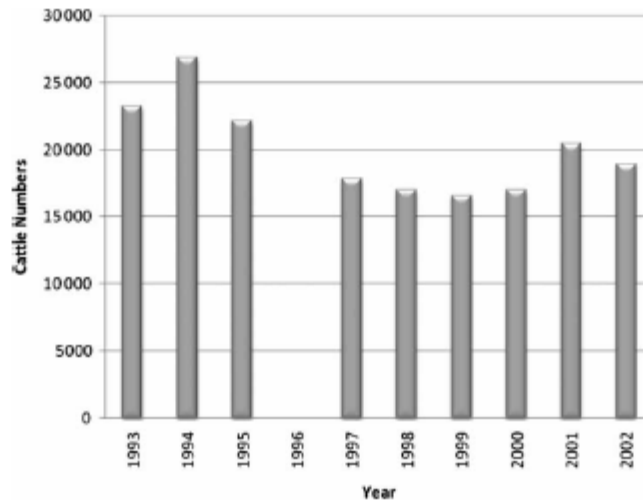
The major problem with the current policy, therefore, is that some interests are ignored while others are upheld. Interests in the rangeland are to some extent influenced by the source of livelihood. For example, big farmers are interested in getting ranches and increasing their cattle holdings, whereas herders (usually the San) are interested in accessing the range for veld products (see Table 1). Therefore disregarding any interests will have a detrimental effect on livelihoods. Typically in the arena of land management in Botswana, those of the poor and powerless get ignored and those of the rich and powerful are considered (Peters, 1994; Magole, 2003). Power plays an important role in getting attention paid to one's interests. As Table 1 shows, it is those with high levels of socio-political and economic power (big farmers, politicians and top government officers) whose interests were considered when decisions were made. All farmers (pastoralists) in the area reported, and the researcher observed, that they graze their livestock close to the village all year round. Farmers are pessimistic that their herds would survive a drought should a severe one occur under these circumstances. The current herd (see Figure 3), which is building up after the 1996 cull to control the spread of contagious bovine pleuropneumonia (commonly known as cattle lung disease), has not experienced a severe drought. There have therefore been no significant cattle losses since restocking began in 1997. However, the herd is struggling to reach the post-cull numbers, and farmers believe this is because of poor grazing as they graze the same area all year round.

**Table 1: Groups with interests on the range in Lake Ngami, Ngamiland**

Group	Position in political economy	Source of power	Interest/aims with regards to rangeland	Direct means to reach aims
<i>Dikgosi</i> (Chiefs)	Traditional leaders of different ethnic groups	Powers diminished, but still powerful and influential at local level	Grazing, exclusive rights to land, land management powers	Support government policy
Big farmers	Ruling elite, includes politicians, top government officers and wealthy individuals	Political, economic and administrative	Grazing, exclusive rights to land, larger herds	Making or supporting policy; budget allocation, campaigns
Small farmers	Poor rural dwellers with few livestock-rearing for subsistence, often with no other source of income	Largely powerless, but part of community with access to communal land	Grazing and water, larger herds, veld products	Apathy, oppose or support government policy. Stay within community
Herders/ Basarwa	Mainly Basarwa (bushmen), provide labour in cattle posts	Powerless, landless. Few livestock, or none	Employment, residence, hunting (illegal) and gathering, and water	Stay employed, move to villages. Poaching
Land Board members	Land authority since 1970	Tribal Land Act, policy, administrative, government support	Employment/income, access to information and land/ranches	Support and implement government policy
Politicians	Legislators, policy-makers, responsible for financial and human resources allocation	Political, economic, access to information	Larger herds, exclusive rights to land, sustaining the beef industry and good prices	Legislation, policy, budget allocations
Top government officers	Responsible for policy development, advice legislators	Administrative, and government support, able to access important information	Employment/income, land/ranches, increased livestock	Policy, administrative practices including budget allocations

*Note:* Tabular technique adapted from Abel and Blaikie (1986).





**Figure 3: Lake Ngami cattle numbers, 1993–2002**

Although diseases such as cattle lung infections and foot and mouth are a big factor in cattle-rearing in the area, the small farmers are adamant that their losses have not been due to disease but have occurred as a result of the rangeland policy, which has removed their access to grazing and water sources as well as their traditional nomadic pastoral system, which they believe served to conserve the range and give their livestock a chance for inter-seasonal (dry and wet season) and disaster (disease, drought or flood) survival. Big floods, which also have not been experienced since 1996, are also a problem as they usually cover a large area and take a long time to recede, altering the amount, type and quality of grazing. In the focus group discussions, the farmers recalled the biggest flood in living memory, the 1968 one, and they say that grazing resources were badly affected.

In Toteng village some farmers claimed that the borehole owners used to allow them to water their livestock for free before they acquired exclusive rights, but now they have to pay in cash or make labour-for-water arrangements. This situation was observed fairly recently in the Lake Ngami area but also by Peters (1994), which led her to conclude that 'fences have become a contested image of actual and threatened division and a focus of public dissension' (Peters, 1994:2).

The small farmers were not the only aggrieved group. The residents of Botlhatlogo and Mogapelwa, mostly San, reported that they used to live around the boreholes and benefited from the water for domestic purposes and liked to live at the cattle posts, close to some natural resources that they used as food supplements and medicine. They also say they used to provide casual labour for cash, clothing items and food. Since the allocation of farms, they have had to move to the village to access social services, especially water. Not only are they not allowed onto the farms to gather veld products, they are also hampered by the long distances they have to walk from the village to go gathering. They now have to eat 'village food', which they believe is not nutritious.

Key informants commented that the San in the villages consume more alcohol than they used to when they lived in the cattle posts, some even saying they have observed that many of the San have become frail ever since they moved to the villages, where they consume fewer herbs or none at all. Although the consumption of home-brewed alcohol by the San

**Table 2: The shrinking commons: amount of land available for communal use in Ngamiland District, 1964–2008**

Year	Land available for communal use (km <sup>2</sup> )	% of total District land	Reason for reduction of communal land
1964	111 650	100	All land under communal use
1981	102 423	92	Protected areas established: Moremi, Chobe, Nxai-Pan, Makgadikgadi
1991	58 508	52	Wildlife management areas and commercial ranches established (TGLP)
2001	58 508	52	No change from the 1991 status
2008	45 870	41	More commercial ranches and wildlife management areas established (1991 agricultural development policy)

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

was observed by the researcher, the observation period was not long enough to make valid conclusions. However, displaced and disillusioned San are known to abuse alcohol and other drugs (see e.g. Survival International, 2006; Magole & Magole, 2008).

The San reported that they have observed a trend of denying them access to land resources. First the government banned hunting through wildlife management policies, and now gathering is affected by the fencing policy. This is the process referred to in this paper as the ‘shrinking commons’. By chipping away at communal land the government has continually shrunk the commons and increased the incidence of poverty, especially among poor rural communities who depend on natural resources for their livelihoods. Table 2 shows how land available for communal use in Ngamiland District has been shrinking over the years. First, some land was chipped away to establish protected areas, then even more was annexed to establish commercial farms and wildlife management areas. Like the study by Magole (2003) in Kgalagadi District, this study found that these actions have disadvantaged the rural poor and the majority of the small farmers who cannot be allocated ranches.

## 5. CONCLUSION

This study set out to present the case of a community that has been dispossessed of its land and disregarded in land use decision-making and whose important livelihood source is threatened by the prevailing land use policy. While the official line about land access in Botswana is that communal land increased in the post-independence era, in reality this was very temporary. Livestock commercialisation (farms), conservation (wildlife management areas) and other uses have all continued to reduce the communal land and deny rural dwellers access.

The root of the problem is that decisions on the new land management systems were never negotiated with local farmers, nor were their knowledge and interests taken into account. For example, farmers’ knowledge of arid environments was ignored in favour of expert knowledge that had no proven basis. Instead, the communities were put in a weak position as their livelihood systems broke down and they become

poorer and increasingly reliant on government aid. Over the years, community members are likely to lose yet another asset—their invaluable indigenous knowledge. What compounds the ‘tragedy of the commoners’ (Magole, 2003) is that for over three decades the rangeland policy has not achieved its objectives and yet it is not losing favour with government. The reason for this may be the land-grabbing opportunity it offers the rich and powerful.

However, the economic downturn may bring winds of change. The Government of Botswana has for a long time been rich and powerful from the revenue from diamonds. It is a government that has for a long time had the capacity to make decisions and finance them. With the economic downturn, however, and diamond revenue being less guaranteed and budgets being cut, the government may start to dialogue with people and listen to ideas for cutting costs. These may include building self-sustaining communities. Already a paradigm shift seems to be looming in natural resource management. The rhetoric of integrated natural resource management, the ecosystems approach and other such has recently crept into government policy documents (Department of Environmental Affairs, 2008), and perhaps practice will follow. There is also hope that the ailing wildlife-dominated community-based natural resource management programme may in the future be extended to range management and offer the communities an opportunity to have a say and to gain improved access to their land.

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