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Botswana Case Study

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1. COUNTRY BACKGROUND OF BOTSWANA

Current natural resource management in Botswana takes place in a specific physical, historical and political context. The purpose of this section is to outline this context. The physical environment of Botswana is briefly summarised in order to highlight the physical constraints on agricultural production and identify the main environmental problems facing the country. The historical development of Botswana into a labour reserve for South Africa during the colonial period has also had a major impact on the rural economy of Botswana and is outlined below. Finally, the post Independence period is discussed, during which Botswana has experienced a very high rate of economic growth, based primarily on diamonds. This has provided the government with a revenue position that has been exceptional compared with most other countries in Africa.

1.1 THE PHYSICAL ENVIRONMENT

Botswana is a land-locked, semi-arid country of 582,000 km² with a population of approximately 1,300,000. It has a population density of two people per km² which is one of the lowest in the world. However, it is estimated that only 3 to 5% of the country is suitable for cultivation (Arntzen 1989:57). Most of the population is concentrated on the south eastern side of the country, known as the hardveld, where the sandy loam soils are suitable for arable production. The remaining 84% of the country is covered by the Kalahari sands. This is unsuitable for arable production but is used for grazing livestock, wildlife, and hunting and gathering.

Botswana's dry environment and poor soils are better suited to livestock production than arable production. In 1991, there was an estimated 2,844,000 cattle and 2,301,000 goats (Central Statistics Office 1993:89). Arable production has been highly variable with rainfall being the key determinant of output. Sorghum is the main crop, followed by maize, millet and beans. Botswana has been a net importer of food grains since Independence in 1966 (MFDP Vol 2 1991:9).

Rainfall throughout Botswana is low and almost all rain falls between October and April. Rainfall varies from a maximum annual mean of 650mm in the north east of the country to a minimum of 250 mm in the south west of the country. The mean annual rainfall for Botswana is 450 mm. Most rainfall is lost through evaporation. Annual evaporation is about 2000 mm per year, nearly four times greater than the mean annual rainfall (Silitshena and McLeod 1989:39).

Botswana suffers from frequent droughts, which tend to follow a 15 to 20 year cyclical pattern (Arntzen 1989). This is characterised by a period of drought for 7 to 10 years, followed by a similar period of wetter years. Both the 1960s and 1980s experienced prolonged drought, while the 1970s were generally years of good rainfall. The drought in the 1980s lasted from 1981 until 1987. During this period, 30% of the national cattle herd was lost and Botswana's cereal imports were eleven times the volume of local production (MFDP Vol 2 1991:9-14). Due to the lack of surface water, the production costs for irrigated agriculture are very high, and imports from South Africa and Zimbabwe are cheaper.

Apart from during the rainy season, there is little surface water in the country. The one exception is the Okavango Delta in the north west. There are only two perennial rivers; the Chobe river which forms the border with Namibia in the north and the Limpopo river which forms the border with South Africa in the south east. As a consequence of this, an estimated 75% of human and livestock

populations in Botswana depend on underground water supplies, either through boreholes or wells (Silitshena and McLeod 1989:43). The total potential surface water resources, excluding the Okavango Delta and Chobe River, are about 200 million cubic metres per year. Only about 15% of these are currently being utilised. Estimates for groundwater resources are 100,000 million cubic metres but less than 1% of this is rechargeable. Furthermore, complex geology, low yields and low water quality in certain areas make extraction difficult. Botswana's annual water demand was 120 million cubic metres in 1990. The agricultural sector accounts for over half of this, of which livestock is the main user. The composition of water demand in 1990 was: livestock 31%, settlements 28%, mining 17%, irrigation 16%, wildlife 5% and other 2% (MFDP Vol. 2 1991:14).

The most serious environmental problem facing Botswana is rangeland degradation. There is little doubt that overgrazing by livestock is the main cause of the degradation. However, there has been much debate over both the seriousness and, especially, the solution of this problem. This debate is discussed in Section Two. Land degradation due to soil exhaustion has been less of a problem in Botswana since rainfall has been the major constraint on arable production, not soil fertility (ATIP 1990:122). Other problems include depletion of groundwater and firewood resources in some areas, and encroachment of cattle into wildlife areas (Arntzen 1989:71-3).

1.2 THE DEVELOPMENT OF A LABOUR RESERVE IN THE BECHUANALAND PROTECTORATE

The current dependence of the rural economy of Botswana on remittances from labour migration in order to satisfy subsistence needs has a long history. From the end of the nineteenth century, Botswana became increasingly integrated into the wider Southern African economy, dominated by the demand for unskilled labour in the South African mines. This had profound consequences for Botswana and led to the systematic decline of arable production and a stagnant economy in which self sufficiency had been eroded. The new nationalist government at Independence inherited a country in which 50,000 of its men, approximately a third of its labour force, were working in South Africa (Colclough and McCarthy 1980:170, Parson 1985:40).

The period of British rule in Bechuanaland was characterised by neglect and underdevelopment. The primary British goal in annexing the country in 1885 was to prevent the Boers and Germans from expanding into an area which formed a vital link between Cape Colony and British interests in Central Africa. Colonial administration in the protectorate was initially limited to maintaining law and order. Until the decade before Independence in 1966, there was virtually no investment in the infrastructure (Picard 1987:98, Murray and Parsons 1990:163). The main development during the colonial period was that Botswana increasingly became a labour reserve for South African mines. This loss of male labour had a major impact on agricultural production in Botswana, as more and more households depended on cash income generated from labour migration. The transformation of Botswana into a labour reserve resulted from both a demand for cheap labour in South African and by British colonial policies which directly facilitated the process of labour migration.

Labour migration to South Africa first began on a large scale at the end of the nineteenth century (Picard 1987:110). The rinderpest epidemic of 1896-7 wiped out an estimated 90% of cattle and then in 1899, the colonial administration introduced a hut tax in Bechuanaland (Parson 1984:21, Massey 1980:7-15). This required each household to produce cash each year, and for many, especially those without cattle, the only solution to this was to seek waged employment in South Africa. The number of migrants gradually increased until by 1935 an estimated 10,000 Botswana were working in South Africa (Schapera 1947:32). During the period 1938-40, Schapera

(1947:161) estimated that the income generated by labour migration was, at 42% of the total, the largest single contributor to household income. By the mid 1960s there were an estimated 50,000 labour migrants from Botswana working in South Africa, and by the 1970s this had risen to approximately 70,000 (Colclough and McCarthy 1980:171).

The colonial administration assisted in the recruitment of labour, and one of the functions of the district commissioner was to act as the district labour officer (Picard 1987:110-2, Kowet 1978:94-7). Government regulations and agreements with South Africa also increased the dependency of Botswana on waged labour. The customs union agreed between South African and the High Commission territories of Bechuanaland, Basutoland and Swaziland in 1910 made the economies of these territories increasingly dependent on the dominant South African economy (Picard 1987:106-8). At the same time, South Africa restricted access to its own markets from these territories. The most damaging restriction for Bechuanaland was the weight restriction on cattle imported into South Africa which was imposed in 1924. This fixed a minimum size for cattle which few cattle raised on the communal rangelands were able to meet (Colclough and McCarthy 1980:16, Murray and Parsons 1990:161). The colonial administration also discouraged Botswana from participating in trade by refusing to grant licences, thus removing a potential alternative source of generating a cash income (Picard 1987:109, Parson 1984:21-3).

During the colonial period the administration largely neglected rural development. Arable production, the main activity for the majority of the population, received little attention. There was no Department of Agriculture until 1935 and even by 1953 there were only seventeen agricultural extension officers for the whole country (Picard 1987:113-5). The only sector in which the government invested heavily was the livestock industry. The government aimed to encourage the commercialisation of livestock production and provided assistance in improved breeding and herding practice and drilled boreholes to open up new grazing lands. An abattoir was opened at Lobatse in 1954 where cattle were processed for export. At Independence, meat and meat products accounted for over 90% of Botswana's exports (Colclough and McCarthy 1980:70).

To summarize, colonial rule in Botswana facilitated three major developments which were inherited and continued by the nationalist government. Firstly, labour migration became an essential element in the economic strategy of most rural households. Secondly, the commercialisation of livestock production was promoted which was of most benefit to the large cattle owners. Thirdly, investment in arable production was severely neglected. It was not until the 1980s that the government implemented programmes aimed at improving arable production, as is shown below in Section Two.

1.3 Economic Growth and Liberal Democracy

At Independence in 1966, Botswana was among the ten poorest countries in the world. Yet in the following years, up until 1991, Botswana had an average annual rate of economic growth in terms of GNP per capita of 8.5%, greater than any other country in the world. Botswana is widely acknowledged as an African success story, where rapid economic development has taken place in the context of stable government and multi-party elections. This has been brought about by a number of factors, but most important to growth has been the discovery of diamonds and other minerals and sound economic management by the government. The government has avoided many of the pitfalls that other African governments have experienced through careful attention to macro-economic planning (Harvey 1992, Good 1992). Other factors include an export agreement with the

European Community for beef at above world prices, the renegotiation of the Southern Africa Customs Union Agreement, and increasing aid flows from international donors.

Botswana is now the third largest diamond producer in the world. The government and De Beers each have a 50% share in diamond production, which has led to a very favourable revenue position for the government. In 1992, diamonds accounted for 78.9% of exports. Other exports were copper-nickel 7.2%, meat and meat products at 3.5%, textiles 2.1%, soda ash 1.2%, hides and skins 0.5% and other goods 6.5% (Central Statistical Office 1993). In 1993 Botswana had over 10,000 million Pula (in 1995, 4.25 Pula were equivalent to UK £1) in foreign reserves, equivalent to at least 20 months of import cover (MFDP 1994:29). The government has also received much support from international donors, which it has used to help fund extensive rural development programmes, such as the Accelerated Rural Development Programme (ARDP) which was implemented in the 1970s. The programme focused on developing rural infrastructure, with special attention to health, education, water and roads. By 1985, an estimated 80% of Botswana lived within 15km of a health facility. In the 1980s, the government became increasingly concerned with arable production and implemented both the Accelerated Rainfed Agricultural Programme (ARAP) and the Arable Lands Development Programme (ALDEP). These provided huge subsidies to farmers, and are discussed in Section Two below. The government has also established a highly effective drought relief programme which ensured that, despite severe drought in the 1980s, the rural population did not suffer from severe malnutrition. In 1984, over 500,000 were receiving supplementary feeding (Harvey and Lewis 1990:302, FSG 1990).

This has had major implications for the rural economy. The high economic growth has led to a huge increase in employment opportunities. Harvey (1992:16) estimated that in 1989 the total modern sector employment was 250,300 out of a total population of about 1.3 million. Labour remittances from urban centres continue to form an essential part of rural household income. In the 1980s the increasing employment opportunities in Botswana resulted in a shift away from labour migration to South Africa. By 1986, there were four to five times as many Botswana employed in Botswana as were employed outside the country (Harvey and Lewis 1990:37). Temporary international labour migration has consequently been replaced by more permanent labour migration within Botswana. Most Botswana still maintain a close link with their home villages whilst employed elsewhere in the country and usually return there on their retirement (Werbner 1993).

Increasing inequalities in income have accompanied rapid economic growth (Molutsi 1986). Surveys of rural income conducted in 1973/4 and 1986 showed that despite 13 years of rapid economic growth there had been little measurable impact on the cash income of poor rural households (Harvey and Lewis 1990:282). The main improvement for rural households during this period had been the provision of rural services, notably water supply, education and health (Harvey 1992:11).

Economic growth in Botswana has taken place within the context of a strong state, multi-party elections and support for the private sector. The state has planned and directed economic development through a highly competent and efficient bureaucracy (Charlton 1991, Somolekae 1993, Borhaug 1993). Multi-party elections, both at national and district level, have been held every five years since Independence. The Botswana Democratic Party has won each of these with an overwhelming majority. The BDP depends on rural areas for the majority of its support. The main opposition party, the Botswana National Front, has considerable support in urban areas but has had less impact in rural areas except for in Southern District. However, the need to maintain support

from the rural poor has influenced government policies and programmes on rural development. The results of the last three elections for Botswana are presented below¹.

Table 1.1 Summary of Parliamentary Elections

	1984	1989	1994
Seats won by each party	BDP 29 BNF 4 BPP 1	BDP 31 BNF 3	BDP 27 BNF 13

¹ The election results are taken from the "Report to Minister of Presidential Affairs and Public Administration on the General Election" for 1984, 1989, and 1994.

2. NATURAL RESOURCE MANAGEMENT IN BOTSWANA: INSTITUTIONS AND POLICIES

2.1 INSTITUTIONS

2.1.1 Central Government

There are nine ministries in Botswana: Ministry of Presidential Affairs and Public Administration; Ministry of Finance and Development Planning; Ministry of Agriculture; Ministry of Commerce and Industry; Ministry of Education; Ministry of Health; Ministry of Labour and Home Affairs; Ministry of Local Government, Lands and Housing; Ministry of Mineral Resources and Water Affairs; and Ministry of Works, Transport and Communications. The key sectoral ministries involved in natural resource management are Agriculture (MOA), Local Government, Lands and Housing (MLGLH), and Mineral Resources and Water Affairs (MMRWA). Due to a well resourced central government, there has been, on the whole, adequate funding for both national and sub national levels. Suitably qualified officials at both national and district levels have been more of a constraint than resources. As a result, the government has depended on the employment of expatriates as senior civil servants to make up for the lack of suitably qualified and experienced Batswana, although the percentage of expatriates in formal sector employment has steadily declined since 1968 (Harvey and Lewis 1990:298, Charlton 1991:271, Molutsi 1989a:107, Colclough and McCarthy 1980:5).

Ministry of Finance and Development Planning

The Ministry of Finance and Development Planning is the preeminent ministry in Botswana and has played the key role in development planning. The Minister of Finance and Development Planning is the Vice President and the Permanent Secretary of MFDP ranks above Permanent Secretaries of other ministries. Although the Office of the President in the Ministry of Presidential Affairs and Public Administration is superior to MFDP, in practice it delegates most of its work and concentrates mainly on security matters. The MFDP was formed in 1971 by combining the Ministry of Finance and the Ministry of Development Planning. The strength of the MFDP rests on three factors. Firstly, the Finance and Audit Act gave it the right to prepare and control the budget. This included the provision that all of the other sectoral ministries need the approval of MFDP before initiating development programmes. Secondly, the Minister of Finance and Development Planning between 1971 and 1980 was the Vice President, Quett Masire, who became President in 1980. Thirdly, the MFDP was able to recruit many of the most able civil servants including expatriates (Colclough and McCarthy 1980: 91, Gasper 1990:230).

The MFDP consists of four main divisions. The Division of Financial Affairs concentrates on revenues, financial sector issues and tendering procedures. The Division of Budget Administration is responsible for budget preparation and implementation, accounting and internal auditing. The Division of Economic Affairs focuses on the preparation and implementation of the National Development Plans. It contains the following departments: Central Statistics Office; Development Programme; Strategic and Contingency Planning; and Macro-Economic Planning. Planning officers from this division are also seconded to other sectoral ministries. The Rural Development Coordination Division was created to act as the secretariat for the inter-ministerial Rural

Development Council and its sub committees. It also serves as a policy making unit and seeks to facilitate and coordinate the development efforts of other ministries and local authorities (NDP VII 1991:267-71).

Ministry of Local Government, Lands and Housing

The Ministry of Local Government, Lands and Housing is responsible for the four local authorities, the District Administration, District and Town Councils, the Tribal Administration and the Land Boards. It coordinates national policies on local authorities and provides most of their funding. MLGLH contains a number of departments including the Department of District Administration, Department of Local Government and Development, Department of Tribal Administration, the Department of Local Government Service Management, the Department of Town and Regional Planning and the Department of Lands. The Minister of Local Government, Lands and Housing has the final power of approval over most activities relating to local authorities. There is no regional tier of administration in Botswana, only central and district authorities.

Ministry of Agriculture

The Ministry of Agriculture (MOA) is divided into five main departments, each of which contains a number of divisions: Department of Crop Production and Forestry; Department of Animal Health and Production; Department of Agricultural Research; Department of Cooperatives; Department of Ministry Management. In addition to these departments, there are three sections that are directly under the Minister: Division of Planning and Statistics which provides policy analysis and planning services to the whole ministry and acts as the key link between the ministry and the MFDP; Division of Agricultural Information and Public Relations which covers public relations and disseminates information for the ministry; Agricultural Resources Board which is responsible for controlling the use of agricultural resources.

Government agricultural policies have been planned by professionals in the Ministry of Agriculture. The ministry is organised on sectoral lines and this has been reflected in agricultural policies. Consequently, policy making has tended to treat each sector independently, rather than generating policies that provide a broader framework. This is especially the case with arable production and livestock. The major government agricultural programmes, the Tribal Grazing Lands Policy (TGLP), the Agricultural Lands Development Programme (ALDEP), and the Accelerated Rainfed Arable Programme (ARAP), have been concerned with either livestock or arable production, not both. The sectoral divisions between livestock and arable production were further institutionalised in the restructuring of the Ministry of Agriculture in 1990. Before then the Department of Field Services contained the Division of Crop Production and the Division of Animal Production. Agricultural demonstrators were responsible for both sectors. However, in 1990, the Division of Animal Production was incorporated into the former Department of Veterinary Services, to form the Department of Animal Health and Production. The Department of Crop Production and Forestry was formed at the same time. Range ecology is located in the Department of Crop Production and Forestry, rather than in Animal Health and Production, thus institutionalising a distinction between rangeland management on the one hand, and livestock production on the other.

These sectoral divisions are reflected at the sub-national levels. There are six agricultural (i.e. arable) regions which are divided into twenty five agricultural districts in total, and fifteen veterinary

districts which cover both animal health and production. Rangeland ecology, for example, is the responsibility of the regional or district agricultural offices, whereas livestock production is under the district veterinary offices. At the extension level, the agricultural demonstrators are concerned only with crop production, whereas animal health and production are the responsibility of the veterinary assistants. The agricultural districts and veterinary districts maintain their own offices, and their boundaries do not coincide with each other, nor with the boundaries of the administrative districts. The non-coincidence of these boundaries undermines the coordinating role of the district commissioner and the district development committees.

Ministry of Mineral Resources and Water Affairs

The Ministry of Mineral Resources and Water Affairs has overall responsibility for the water sector in Botswana. The departments within the Ministry dealing with the water sector are the Department of Water Affairs (DWA), the Department of Geographical Surveys (DGS), and the Water Utilities Cooperation (WUC). The DWA is responsible for strategic planning of water resources and provision of the water supply in rural areas. The DGS undertakes investigations into groundwater resources. The WUC is a parastatal linked to the DWA which provides the water supply to the major urban and mining centres.

The DWA contains five operational divisions. The Hydrology and Water Resources Division is responsible for natural water resources planning and development. The Groundwater Division undertakes drilling and groundwater investigations for village water supply projects. There are also the Design and Construction Division and the Operations and Maintenance Division. Finally, there is the Water Apportionments Board which controls the extraction of surface and groundwater resources. This is a quasi-judicial body whose members are appointed by the Minister of Mineral Resources and Water Affairs which issues rights to use water resources.

The water supplies in the seventeen major villages of Botswana are planned, constructed and operated by the DWA. Water supplies for other villages are planned and constructed by the DWA but handed over to the district councils for operation and maintenance. Each district council has its own water department, directly responsible to the council secretary (DWA 1991 Vol. 7).

2.1.2 Local Government

There are four separate institutions responsible for local government in Botswana: the district administration; the district council; the tribal administration; and the land board. The administration of local government depends on horizontal interlinkages between these institutions, and on vertical interlinkages with central government ministries. Each of these have distinct responsibilities which are described below (this information is largely taken from Tordoff 1988a and 1988b, and Reilly and Tordoff 1991).

Structure of Local Government in Botswana (from Reilly and Tordoff 1991)

District Administration

The district administration is a bureaucratic body which represents the Ministry of Local Government and Lands at the district level. In Botswana, each of the ten district administrations is under the authority of a district commissioner, who is a civil servant appointed by the Minister of Local Government, Lands and Housing. The district commissioner is the most senior government representative in the district. He or she is in overall administrative charge of the district and is also an *ex officio* member of the district council. With his small staff and limited resources, the district commissioner is required to coordinate development at the district level, a difficult task when district and ministerial boundaries do not coincide as with agriculture.

Two other key posts in the district administration are the district officer (development) and the district officer (lands). The former was created in 1970 in order to assist the district commissioner with development planning. The latter post was created in 1975 to help with the implementation of the Tribal Grazing Lands Policy but now has a more general role in land use planning in the district and providing technical advice to land boards. The DO(L)s are now part of the new Department of Lands in MLGLH. Although they are directly under the district commissioners, they also report to the Principal Land Use Officer in the MLGLH on technical matters. The DO(L) is responsible for coordinating all land use planning in the district. This is done mainly through the District Land Use Planning Unit (DLUPU), comprising the DO(L), the DAO, the DO(WA) and the Physical Planner of the District Council, which deals with all land use issues and environmental issues in the district. The DO(L) is the secretary of DLUPU, and the chairman is chosen from among the members.

District development committees were set up in 1971 in order to coordinate development and planning at district level. The DDC is controlled by the district administration; the district commissioner is the chairman and the district officer (development) is the secretary. Other members of the DDC are the district officer (lands), representatives of the district council and of government line departments in the district. The DDC provides an institution by which the district commissioner is expected to coordinate the development inputs of different ministries and departments; its effectiveness depends on the cooperation of the latter and this is not always forthcoming. Central government ministries and departments account for some 80% of development expenditure in the districts. They maintain a high degree of control over the use of their funds, and district heads maintain strong vertical links with the central ministries. District level civil servants are recruited by the central government civil servants through the Department of Personnel and Services Management while district council and land board officials are recruited by the Unified Local Government Service (ULGS), which is a separate department within MLGLH.

District Councils

Nine district councils were established in Botswana in 1965. Their areas of jurisdiction correspond to those of the district administrations, with the exception of Ngamiland and Chobe districts which have one council between them. The statutory responsibilities of the district councils are to provide primary education services and basic health services, maintain rural roads, operate and maintain rural water supplies, organise community development, implement the drought relief programme and provide a range of administrative services.

District councils in Botswana are heavily dependent on central government for both income and staffing. For example, in 1987-8, 82.5% of the total district councils' recurrent expenditure came

from central government grants. As a consequence, district councils are subject to a high degree of control from central government ministries, in particular the Ministry of Local Government and Lands and the Ministry of Finance and Development Planning. The abolition of the local government tax in 1987 cut off the main source of income that the district councils were able to raise themselves. This was a regressive tax on income which the government abolished on the grounds that it was expensive to collect and not very equitable.

District council staff are also under central government control. In order to strengthen the calibre of council staff, and ensure greater uniformity in standards across the country, the Unified Local Government Service (ULGS) was created in 1976. The ULGS, now called the Department of Local Government Service Management (DLGSM), is a department within the MLGLH, and is responsible for the recruitment, posting, transfer, promotion and discipline of all local council staff above the industrial worker grade. The calibre of district council treasurers, who handle large sums of public money, has improved, though the remote and small district councils still experience difficulty in attracting adequately qualified and trained supporting staff.

Tribal Administration

Botswana is divided into eight major tribal authorities. Each is headed by a chief, the Senior Tribal Authority, who is a member of the House of Chiefs. There are various other ranks of tribal authority, down to the village headman in small villages. Each receives a salary from the MLGLH. Other employees of the Tribal Administration are the tribal secretaries, the customary court clerks and the local policemen. Each tribal authority has a tribal secretary who is an administrative officer, and each customary court has a court clerk and local policemen.

During the colonial period, the Bechuanaland Protectorate was administered through a system of indirect rule. The chiefs of the eight largest tribal groups administered their reserves with minimal interference from the colonial government. This system of indirect rule was abolished at Independence and the chiefs were stripped of much of their former powers. These powers were taken over by district councils and land boards. However, the chiefs still retain an important, if greatly diminished, role in local administration in Botswana. Their most distinct role is to administer the customary law. Each village in Botswana has a customary court presided over by the representative of the tribal administration (a headman, subordinate chief or deputy chief depending on the size of the village). The customary judicial system is still used in Botswana, providing a popular and accessible means of settling minor offences and locally orientated disputes. More serious crimes are handled by the district magistrate's court. The chiefs have also been incorporated into the district councils as *ex-officio* members, and maintain an influence at national level as members of the House of Chiefs which advises the National Assembly on tribal and customary matters.

Responsibility for land allocation has been transferred from the tribal administration to the land boards. Initially chiefs were represented in the land boards, but were later removed. However, all applications for land must be endorsed by the local chief or headman. Land boards also refer to the traditional leaders disputes over land which was granted before the establishment of the land boards in 1970.

Despite the loss of formal power, the chiefs still retain great influence in rural areas. The chief, and subordinate chiefs and headmen, are looked to for advice and guidance on a wide range of issues

while the *kgotla*, the traditional meeting over which the chief or his representative presides, retains a central role in village affairs and in formulating village opinion in Botswana.

The Land Boards

There are three categories of land in Botswana: tribal land (71%); state land (23%); and freehold land (6%). Land boards were established in 1970 in order to take over the allocation of tribal land from the chiefs. Land allocation under the tribal administration was viewed by the government as inefficient and arbitrary, especially in response to the increasing demand for land. The government transferred responsibility to a new body, the land board, which was initially attached to the district council. There were originally nine land boards in Botswana, and three more were established in 1976. In 1973, 23 subordinate land boards were set up to assist the land boards in the more populated districts, and since then the number of subordinate land boards has been extended to 36. Most land boards originally had six members, two from the district council, two from the tribal administration and two appointed by the Minister of Local Government and Lands. Thus, land boards retained a link with the tribal administration.

In the mid 1980s a number of reforms of the land boards were made in response to shortcomings that had emerged. Firstly, an attempt was made to improve the educational background, training and commitment of land board members. Minimum educational requirements were established for land board members and they received training in land board procedure. They were also encouraged to consult more carefully with traditional authorities in reaching decisions. Secondly, in order to improve the technical and organisational capacity of the land boards, responsibility for the recruitment and training of land board staff (the secretariat) was taken over by the Unified Local Government Service (ULGS). Thirdly, the autonomy of the land boards *vis a vis* the district councils was strengthened. Fourthly, the chief was removed as a member of the land board. Finally, the subordinate land boards were strengthened through improvements in staffing, membership and organisational capacity.

2.1.3 Decentralisation in Botswana

Decentralisation in Botswana has been characterised by deconcentration of power from central government to the district administration and field officers of central ministries, with limited decision-making powers devolved to elected local authorities (Egner 1986:37; Reilly and Tordoff 1991:152). After Independence in 1966, the district councils were established and took over many of the responsibilities of the district commissioners and the traditional authorities. However, within a few years the central government became disillusioned with the inefficiency and ineffectiveness of the councils (Reilly and Tordoff 1991:152). In addition, following the 1969 local elections in which the opposition parties made significant gains at the expense of BDP, the government was also concerned not to let district or town councils become centres of opposition (Gasper 1990:234). The district administration was subsequently strengthened at the expense of the councils (Egner 1986:38). For example, the district development committees, which were established in 1971, were placed under the chairmanship of the district commissioner, not the council secretary. The district administration has continued to be strengthened *vis a vis* the councils.

Although the capacity of councils to implement programmes has expanded enormously since they were established, decision making power has largely remained with central government. Councils

have little freedom to act independently in financial management, revenue control and personnel management (Karlsson et al 1993:19). Recruitment of council staff was taken over by central government in 1974 with the establishment of the Unified Local Government Service and the Unified Teaching Service. Although this improved the career structure of council staff, it created problems of political accountability. Councillors, who are responsible to the electorate for the actions of the council staff, do not feel that they have sufficient authority over them. Proposals by the Local Government Structure Commission in 1979 to set up a statutory body with ultimate responsibility for all local authority staff, comprising representatives of MLGLH, local authorities and independent members, have not been implemented (Egner 1986:56).

The most powerful form of control that central government exercises over councils is financial. Councils have a weak revenue base and are dependent on transfers from central government. Civil servants in MFDP and MLGLH make the key decisions about the level of funding which each council is to receive. Central government has discretionary powers to hold up or reduce disbursements of funds to councils after each council's annual development budget has been agreed. Councils have not been able to decide on how and when resources are to be used but have been subject to decisions made for them by central government (Danevad 1993:122, Egner 1986: 87-92).

2.1.4 Local Institutions

The Kgotla

The kgotla is the traditional Tswana village assembly and is still the most important and respected village institution throughout Botswana. All members of the village are allowed to attend the kgotla meetings and to speak and it is the primary institution for the discussion of village affairs. The chief or headman calls the kgotla meeting. Physically, the kgotla consists of an open meeting ground, partially enclosed by a distinctive arc of upright wooden poles, which is located near to the chief's house. The kgotla forms the central place of each village. Nowadays, many villages have constructed offices adjacent to the kgotla, for the headman, the village development committee (VDC), court clerk and local police.

Matters of importance to the village are discussed at the kgotla. The purpose of bringing such matters to the kgotla is to both inform the villagers and provide them with an opportunity to express their own views. The kgotla is the primary means for the communication of government plans and policies. Officials and politicians will address the villagers at the kgotla, or the headman may call a kgotla meeting to inform the villagers of government plans and proposals which will affect the village. The tradition that villagers are permitted to express their views at the kgotla has continued, providing an opportunity for ordinary Batswana (the citizens of Botswana are called Batswana) to discuss matters with civil servants, field officers, councillors and members of parliament. The kgotla also serves as the customary court where both civil and minor criminal cases are heard by the chief or headman. An estimated 80-85% of all civil and criminal cases in Botswana are heard in the kgotla (Egner 1986:17, Odell 1982:9). The kgotla is also utilised in the functioning of modern institutions. The process of electing land board members begins with elections at village kgotla although the Minister of Local Government, Lands and Housing is not obliged to uphold their choice of candidates. All elections for members of various village committees, such as the village development committee and farmers' committee are also held at the kgotla.

Despite the undoubted importance of the kgotla, it has not been used as a participatory institution for policy making. In reality, the government has used the kgotla primarily for informing the public of policies that have already been decided by central government, and for requesting assistance in implementing programmes. The kgotla is used to legitimate government policy and initiatives, rather than to incorporate villagers into the decision making process. Although the kgotla is used for consultation, politicians and civil servants have often failed to respond to the views or complaints that villagers have expressed at the kgotla (Danevad 1993:95, Seepapitso 1989, Lekorwe 1989). As Odell (1982:13) notes, "despite the long and deeply rooted history of the kgotla, it too often remains simply a convenient forum in which politicians and civil servants can communicate their own ideas or try to persuade local people to accept plans devised elsewhere".

There is also the question of the extent to which the kgotla is representative? In the past, women and members of minority groups, such as the Basarwa and Bakgalagadi, were prohibited from participating in the kgotla. These prohibitions no longer apply and anyone can attend the kgotla. However, while such groups attend the kgotla nowadays, they do not usually participate fully in the discussions, and older men are still the most influential group in the kgotla. Research carried out for the University of Botswana's Democracy Project found that while women come in larger numbers to the kgotla than men, only 25% of women claimed to have spoken in the kgotla meeting (Lekorwe 1989:219). Fortmann (1986:12-21) found similar results in a survey carried out in Central and North East District.

The Village Development Committee

The village development committee is responsible for promoting and coordinating village development. These committees were established by a presidential directive in 1968 as non-statutory, non-political, voluntary committees of villagers. They have no legally enforceable powers to raise funds or invoke sanctions. Members of the VDC are elected every two years at the kgotla. Supervision of VDCs is undertaken by the district councils, through their departments of social and community development, although the VDCs are legally separate bodies to the councils.

Most VDCs have between six and ten elected committee members. The members then elect among themselves a chairman, deputy chairman, treasurer, secretary and assistant secretary. The headman and district councillor are *ex-officio* members, while government officials posted to the village are usually invited to attend as non-voting members. This includes the agricultural demonstrator, the head teacher, health workers and local police. The council's community development officer with responsibility for the village is also invited to attend in order to provide advice.

The VDC must meet at least four times a year, but can meet more frequently as required. Minutes of each meeting are kept by the VDC secretary. On receiving copies of the minutes, the District Council pays the elected VDC members a sitting allowance. The sitting allowance is only paid for the four quarterly meetings, not for additional meetings, and in 1995 was ten pula per meeting.

Surveys carried out in the late 1970s and early 1980s showed that the performance of VDCs in Botswana has been mixed (Fortmann 1986, Zufferey 1986). Of the 400 registered VDCs in 1979, only 100 appeared to be operating effectively (Reilly and Tordoff 1991). However the drought relief programme in the 1980s, combined with the introduction of sitting allowances for committee members, led to a substantial institutional development in VDCs. The Labour Based Relief Programme was implemented through the VDCs; "villages with hitherto dormant VDCs came alive

in response to the incentives which the programme offered" (FSG Vol. 6 1990:6). VDCs were involved in LBRP in several ways. Firstly, the VDC had to identify village projects that they wished to undertake through LBRP. The VDC's proposals were then discussed at the kgotla in order to gain the support of other villagers. The VDC then made a formal application to the District Drought Relief Committee. Once projects had been allocated, the VDC was responsible for the recruitment of labourers and supervisors. Houses constructed through LBRP were handed over to the VDC. The letting out of such houses has been an important source of income for VDCs in Botswana.

The VDC must seek approval of all its plans and proposals at the kgotla and it is through the kgotla that it communicates with the whole village. The extent to which other village leaders cooperate with and support the VDC varies from village to village. In some villages, the headman and VDC may work closely together. In others, there may be considerable tension between them. Where there is opposition to the headman, whether from the villagers or the councillor, the VDC may be used as a focus of opposition (Fortmann 1986:39).

Other Village Institutions

The most common village groups found in Botswana include: farmers' committee; parent teachers association; drift fence groups; dam groups; borehole syndicates; health clubs; 4 B clubs (for school children); Botswana Council of Women; village extension team (all government workers in a village, such as teachers, nurses and local police); and churches. The extent to which such groups are active varies from village to village. In general, membership of these organisations is limited to a small proportion of the village (Fortmann 1986).

Non Governmental Organisations

National and international NGOs have had only a minor role in development in Botswana and, with the possible exception of the brigades introduced in the 1960s, do not form part of the political culture (Thomas 1994:7). In 1988, there were only 44 registered voluntary organisations. The government has been able to organise and fund its own welfare and drought programmes and even in times of drought has not needed to depend on international NGOs. Conservation NGOs, such as the Kalahari Conservation Society, have been active in Botswana, although they have tended to be dominated by expatriates. They have not had any major input in policy making, but they have lobbied effectively to delay or prevent certain programmes (Thomas 1994:9).

2.2 POLICIES AND PROGRAMMES

2.2.1 Agricultural Policy in Botswanan National Development

The strong association between government policy and large-scale ranching in post-colonial Botswana is quite conspicuous: large-scale ranchers in the post-colonial era have depended upon the state for their business and the state has subsidised the cattle industry. (Mazonde 1994: 19)

Any attempt to explain agricultural policies in Botswana should take into account the political importance of the rural agriculturally dominated areas. The Botswana Democratic Party (BDP) which has won every election since 1965, has the population as the core of its electorate. It is important for the regime to demonstrate that it has the welfare of the rural poor in mind (Borhaug 1993: 3)

Agricultural policies in Botswana have been characterised by both support for wealthy cattle owners and the provision of welfare to the rural poor. Government support for those engaged in commercial livestock production has been well documented in the literature (Parson 1981, Harvey and Lewis 1990:89). The Tribal Grazing Lands Programme, which is discussed below, was the most significant policy in this respect. However, in the 1980s the government increasingly directed programmes at poorer farmers. This reflected the concern of the ruling BDP with maintaining its support among the rural poor.

Government expenditure on livestock was substantially more than on arable cultivation for the first five National Development Plans, as table 2.1 shows. It was not until the Sixth National Development Plan (1985-91) that planned expenditure on the arable sector was greater than for the livestock sector.

The changes in expenditure on livestock and arable production indicated in table 2.1 relate to the implementation of government policies. The huge increase in expenditure on livestock for NDP IV and V, which together ran from 1977 to 1985 coincided with the implementation of the Tribal Grazing Lands Policy. Expenditure on the arable sector rose dramatically in NDP V which began in 1982, and was maintained at a similar level in NDP VI, despite a halving of the overall budget for agriculture in NDP VI. This coincided with the implementation of the Arable Lands Development Programme (ALDEP) and the Accelerated Rainfed Agricultural Programme (ARAP) during the 1980s.

The cattle industry has not contributed to government revenue, despite the fact that it is dominated by some of the wealthiest people in the country. The Presidential Commission on Economic Opportunities, conducted in the late 1970s, concluded that public finance of the cattle sector averaged 12.1 million Pula per year while flows from this sector to the government in the form of taxes and payments for services averaged 7.5 million Pula. The Commission recommended that an additional slaughter tax should be imposed to increase government revenue, but this was rejected by the government (Harvey and Lewis 1990:89).

Table 2.1 Planned Development Spending on Agriculture in National Development Plans (000 Pula)

	NDP I	NDP II	NDP III	NDP IV	NDP V	NDP VI
	1968-73	1970-75	1973-78	1976-81	1979-85	1985-91
Livestock and animal health	1501 (59.3%)	4479 (80.7%)	9224 (74.3%)	20,635 (68.6%)	61,447 (56.6%)	11,606 (22.8%)
Arable	262 (10.3%)	351 (6.3%)	754 (6.1%)	3562 (11.9%)	24,067 (22.2%)	23,830 (46.9%)
Research	92 (3.6%)	86 (1.5%)	755 (6.1%)	2214 (7.4%)	4621 (4.3%)	1300 (2.5%)
Other unallocated	678 (26.9%)	633 (11.5%)	1675 (13.5%)	3628 (12.1%)	18,418 (16.9%)	14,120 (27.8%)
Total	2533	5549	12,408	30,039	108,553	52,856

(Source: Harvey and Lewis 1990:90)

Livestock production has also formed an increasingly small proportion of exports since Independence. At Independence, meat accounted for 97.2% of exports, yet by 1987 it accounted for only 3.1% of exports (table 2.2). The total value of livestock exports has increased enormously however, showing a real increase in livestock production despite its decline in its relative contribution to total exports. At Independence, meat exports were worth 10.4 million Pula, but in 1992 they were worth 130 million Pula.

Table 2.2 Botswana Exports by Principal Commodities in P millions (percentages)

Year	Meat and meat products	Diamonds	Copper-Nickel	Other
1966	10.4 (97.2%)	-	-	0.3 (2.8%)
1976	46.0 (30.1%)	37.0 (24.2%)	52.0 (33.9%)	18.0 (11.8%)
1987	83.9 (3.1%)	2,251 (84.5%)	118 (4.4%)	211 (7.9%)
1992	130 (3.5%)	2,898 (78.9%)	266 (7.2%)	380 (10.3%)

(Sources: Colclough and McCarthy 1980:70 and GOB Statistical Bulletin 1993)

Despite the decreased relative importance of livestock production as an export commodity, cattle ownership is still the major form of wealth in Botswana. Most Batswana invest any surplus income in cattle. Although recent surveys suggest that the urban-based elite are increasingly diversifying investment into real estate and companies, rather than just livestock, these constitute a small, highly educated group (Molutsi 1989a:111, Tordoff 1989:283). The majority of Batswana lack both the capital and the knowledge to make such investments.

2.2.2 Livestock Policies and Rangeland Degradation in Botswana

The Tribal Grazing Lands Policy

Since independence, the Government of Botswana has provided extensive support for commercial ranching. They have given two main reasons for this: firstly, in order to increase beef production for foreign markets; secondly, to protect rangeland from degradation. Pastoralist production on the communal areas has been perceived by the government as inherently unproductive and ecologically destructive, and therefore in need of major reform (Mazonde 1994, White 1993).

A major policy initiative in the direction of commercial ranching was the Tribal Grazing Land Policy (TGLP) of 1975. The objectives of the TGLP were to commercialise livestock production and conserve the range. This was to be achieved by allocating blocks of land within the communal areas for leasehold ranches which were to be used for commercial ranching. These ranches could be leased to individuals for a fifty year period. Measures were also planned to improve livestock production in communal areas, including improvement in extension services, strengthening of cooperatives and the promotion of group ranching (White 1993).

The programme rested on a number of assumptions: firstly, the creation of TGLP ranches would remove a large number of cattle from the communal grazing lands and thus reduce the pressure on these areas; secondly, the granting of long term leases for TGLP ranches would encourage improved ranching methods, leading to better rangeland conservation and increased production; thirdly, there were large areas of unexploited grazing land in Botswana (Harvey and Lewis 1990:86).

All these assumptions proved to be mistaken. A major problem with the TGLP ranches was dual grazing rights. TGLP ranchers moved their cattle between their ranches and the surrounding

communal grazing land in order to maximise available grazing. This put even more pressure on the surrounding communal grazing land. There is no evidence that either range conservation or livestock productivity are significantly better on TGLP ranches than on communal areas, and in some cases they have been found to be in fact worse (de Ridder and Wagenaar 1984).

Furthermore, many of the initiatives taken by the government in the communal areas to improve production for the commercial market have failed to find acceptance among farmers. Lastly, much of the land allocated for leasehold ranches was already in use, either for livestock or hunting and gathering. These former users were excluded from exploiting the resources on TGLP land (White 1993:22, Harvey and Lewis 1990:86).

Despite large government investments in the TGLP, a widespread view in Botswana is that the TGLP has not proved a successful policy measure, and should be abandoned (Mazonde 1994). The main beneficiaries of the TGLP have been the elite, who have obtained exclusive rights to rangeland and built up large herds. However, as yet the government shows no indication of abandoning the objectives of TGLP. In 1991, the National Assembly approved the Agricultural Development Policy which recommends further fencing of communal grazing land. This is discussed further below.

Carrying Capacity

The carrying capacity approach has promoted the belief that all communal rangelands are overstocked. The concept and conclusions from it have been insufficiently questioned by practitioners, harmful to communal area dwellers, wrong for rangeland management. (Abel 1992)

Government policies on rangeland management in Botswana have been based on the perceived need to control rangeland degradation on communal areas through control of livestock numbers. Central to such policies has been the concept of the "carrying capacity" of the rangeland. Attempts were made by the government to estimate the potential carrying capacity of rangeland throughout the country (Field 1977). Where this carrying capacity was exceeded, rangeland degradation was considered inevitable.

The concept of the carrying capacity of rangeland is based on what has been called "succession theory" in the literature (Stoddard et.al. 1975, Abel 1992, Behnke and Scoones 1992). According to this theory, there is an orderly and predictable process of succession whereby one association or community of plant species replaces another until a persistent stable "climax" vegetation is achieved. If the climax is disturbed, the successional trend will cause the vegetation to return through the successional sequence to the climax. According to this model, the task of range management is to balance grazing pressure against the regenerative power of the vegetation on the range to return to the climax. A stable, sub-climax needs to be maintained, which would produce a steady flow of animal products. Carrying capacity is defined as the stocking density at which this can be achieved. If, however, carrying capacity is exceeded, the equilibrium between grazing pressure and regenerative pressure will be upset and the condition of the rangeland will progressively deteriorate.

This concept of carrying capacity is based on the assumption that ecosystem stability should be the aim of rangeland management. An alternative approach to the definition of carrying capacity has been developed by wildlife ecologists (e.g. Bell 1985). This has been applied to the management of

rangeland in Africa and has the advantage of being able to take account of different strategies of livestock production (Behnke and Scoones 1992, White 1993). Rather than defining carrying capacity in relation to the ability of the range to regenerate itself, on this alternative view, carrying capacity is defined as the stocking rate at which the animal population is limited by the availability of forage. This is known as the ecological carrying capacity, when the production of forage equals the rate of consumption by livestock. The animal population will not grow beyond this because death rates will equal birth rates. Livestock may be plentiful but in poor condition, and the vegetation would not be composed of the same species had there been no livestock.

The usefulness of this alternative approach is that it allows for different management strategies regarding livestock. Output per animal declines as the ecological carrying capacity is approached, but output per hectare of rangeland increases. If the purpose of livestock production is to raise high-grade animals then the livestock population will need to be kept at a sufficiently low level to ensure that abundant vegetation is maintained. This management strategy is likely to be found in commercial ranching. Subsistence pastoralism, however, depends on live animal products such as milk, blood, draught power and transport, rather than on animal slaughter. In such cases, high stocking densities are found, approaching the ecological carrying capacity. Although this strategy means lower output per animal, and poor condition and high death rates among livestock, it also entails a higher output per hectare which is of more value to the pastoralists' needs. The carrying capacity for subsistence pastoralism is therefore significantly higher than that for commercial ranching.

The notion of ecological carrying capacity needs to be modified due to the variability of rainfall in both space and time. In most of Botswana, forage availability is largely determined by rainfall, whose variability far exceeds any variation in grazing pressure due to changes in stocking rates (Abel 1992, White 1993). In order to account for the limiting factor of rainfall, the concept of what Ellis and Swift (1988) have described as a "non equilibrium grazing system" has been developed. The concept of a non-equilibrium grazing system due to variability in rainfall shows how problematic it is to talk of optimum carrying capacities for any given rangeland areas. Livestock managers need to maximise opportunities in good years and minimise losses in bad years, which would not be possible if fixed carrying capacities were imposed.

The most effective strategy, in terms of livestock productivity, in semi arid, non-equilibrium grazing systems is what has been called one of "opportunism" (Sandford 1982). Opportunistic livestock management varies the livestock population in accordance with the current availability of the forage. Livestock numbers build up during good years, and reduce in times of drought. Mortality rates are very high during drought, when there is insufficient forage to support the livestock population. However, such losses are acceptable since in the long term, productivity is higher than if a "conservative" strategy had been followed. A conservative strategy, favoured by governments and commercial ranchers, is one which maintains a livestock population at a relatively constant level in both good and bad years. This strategy reduces mortality in times of drought and leads to higher animal productivity but at the cost of failure to maximise production in good years.

One issue that proponents of opportunistic strategies (Abel and Blaikie 1989, Behnke and Scoones 1992, Sandford 1982) have not commented on is that small herd owners may not be able to recover from drought years. While large herd owners are likely to have sufficient survivors on which to build up their herds again, small herd owners may be forced out of livestock production altogether, as has happened in parts of eastern Botswana. The number of livestock owned by an individual may, therefore, need to be considered as an additional factor in considering management strategies.

The rangelands of Botswana also show a high degree of spatial variability in soil fertility, quality of forage and rainfall. This gives rise to great variations in the productivity of the rangeland (Abel and Blaikie 1989, White 1993). Such spatial variations in productivity are both unpredictable and largely uncontrollable. Herd mobility provides the most effective means of exploiting such unpredictable environments. Livestock can be moved to make optimal use of those patches of the range which are temporarily of higher productivity, allowing less productive areas to rest and recuperate. If a strategy of mobility is followed, a large area of rangeland can sustain a higher livestock population than if the same area of rangeland was divided up into several herds confined to individual areas. Sedentary livestock populations in a particular area are limited by the minimum productivity of the rangeland, whereas mobile livestock populations would be moved to other areas at times of minimum productivity (Behnke and Scoones 1992)

Rangeland Degradation

According to the succession theory, rangeland degradation occurs when the carrying capacity is exceeded, leading to a change in the vegetation pattern of the range. However, change in vegetation gives no indication of whether or not the utilisation of the range can be sustained in the long term. Changes in vegetation do not provide a means of assessing the extent of degradation, but merely reflect the fact that rangelands in semi-arid regions are inherently unstable as a result of both variation in rainfall and agricultural usage.

An alternative definition of degradation focuses on the question of the long term productivity of the rangeland. According to Abel and Blaikie (1989),

Range degradation is an effectively permanent decline in the rate at which land yields livestock products under a given system of management.

In this definition, land degradation only occurs when the productive capacity of the land irreversibly declines. In Botswana, stocking rates have increased steadily throughout this century. Although output per head has declined as stocking rates have increased, output per hectare has continued to increase (Abel and Blaikie 1989, White 1993). De Queiroz (1993) has questioned this, arguing that although livestock population has increased, so has the available rangeland, and stocking rates have actually decreased. However, de Queiroz based his argument on data taken from Kgalagadi District, where the drilling of boreholes has opened up previously unusable areas of the Kalahari. On the eastern hard veld, stocking rates have continued to increase even though no previously unexploited rangeland has been opened up (Abel 1992).

Changes in vegetation cannot provide an answer to the question of rangeland degradation. Large fluctuations in species composition, plant biomass and cover are characteristic of rangelands subject to erratic rainfall. In such areas, vegetation has adapted to these constant disturbances; although unstable in the short term, it is resilient in the long term. Degradation can be said to occur only when the system is pushed beyond its resilience to return eventually to a more productive state (Abel and Blaikie 1989, Behnke and Scoones 1992).

An alternative approach has suggested that soil loss rather than changes in vegetation provides a more reliable indicator of irreversible rangeland degradation. This requires techniques that can measure soil loss and relate them to economically significant changes in livestock production. The

most significant research in this regard has been carried out by Biot (1988) and Abel (1992) near to Kalamare village in Mahalapye sub district, eastern Botswana.

Biot found that in his study area, rates of soil loss were greater than rates of soil formation because existing soils were originally formed under a moister climate. Plant productivity is likely to decline even in the total absence of livestock, although livestock production may accelerate ongoing processes. The main factor affecting herbaceous production in Biot's study area was soil depth. He developed a model which led him to estimate net soil losses in the area and the rate at which soil depths were declining. He concluded that any decrease in herbaceous production due to soil erosion would only affect the ability of the land to sustain current stocking densities in about 400-500 years time.

Abel (1992) has built on Biot's research on soil erosion in order to look at the economic costs to herd owners of maintaining current levels of soil loss as opposed to undertaking measures to reduce them. He compared the current stocking rate in the communal areas of eastern Botswana with the lower, government-recommended stocking rate for the same areas. He found that destocking to the government-recommended rates would be at a considerable cost to herd owners in reduced productivity (18% reduction in production per hectare over an eleven year period). However, there would be virtually no change in the rate of soil loss if the lower stocking rate was followed. Abel concluded there was no case for destocking; the immediate costs to producers would be unbearable and force many small herd owners out of livestock production, while the long term gains in terms of reduced rangeland degradation would be marginal.

Neither Biot or Abel are claiming that rangeland degradation does not exist in Botswana, but rather that it is a relative term. In relation to soil loss, there is no clear threshold stocking rate at which degradation begins or ceases. Biot summarises these conclusions in his (1992) paper:

The recent evidence on animal, vegetation and soil changes in Botswana's rangeland does not support the earlier perceptions of a rapidly degrading environment. On the contrary, despite warnings and the failed programmes of stock control, livestock production is now higher than ever before. Vegetation changes usually associated with high stocking densities under ranch conditions are not always observed on heavily stocked communal rangeland. Although soils are eroding, and the land's productive capacity declining, the soil's residual productive lifespan is still in the order of a few centuries, and does not warrant undue concern at this stage.(Biot et. al. 1992)

While stocking densities will affect the rate of soil erosion, the need is to balance short to medium term economic interests of livestock producers with the long term condition of the range. The aim of government policy should therefore be to determine socially-acceptable rates of range degradation, assessed in terms of the interests of both present and future generations (Abel and Blaikie 1989).

If Biot and Abel are correct, there is no immediate problem of rangeland degradation in the hardveld of Botswana. Whether the same applies to the sandveld, where most of the large herds are kept, is unclear. According to their argument, overgrazing should be considered in relation to the purpose of livestock production rather than to irreversible rangeland degradation. Clearly, much of Botswana suffers from overgrazing for commercial livestock production, but the quality of grazing may be sufficient for more subsistence orientated livestock production. To date, livestock policies in Botswana has been orientated towards commercial production.

2.2.3 Arable Agriculture

At Independence, government extension efforts focused on a small number of farmers who owned sufficient cattle to plough and who were prepared to adopt new farming methods. A Pupil-Farmer scheme had been established in which the agricultural extension workers provided advice and training to this select group of farmers. This scheme was abandoned in 1973 on the grounds that it was too selective. Extension workers were now expected to assist all farmers in their extension area.

The first major government programme was the Arable Lands Development Programme (ALDEP) which was introduced in the late 1970s. ALDEP was targeted at those farmers who ploughed less than 10 hectares and had less than forty head of cattle. Its main objective was to introduce improved farming methods and techniques, but unlike earlier extension efforts, ALDEP provided substantial financial assistance. In 1983, following various trials, the government decided that it would pay 85% of the cost of any assistance, leaving the farmers with only 15% to pay.

ALDEP was directed at the poorer farmers, while the TGLP was directed at the large cattle owners. There was a large group of farmers, who owned over 40 head of cattle and who engaged in crop production for subsistence, who did not benefit from these programmes. The MOA originally planned the Accelerated Rainfed Agricultural Programme (ARAP) as a modernisation programme targeted at farmers with over 40 head of cattle. The objective was to commercialise the arable production of this group of farmers. Farmers were to be provided with a substantial grant for ploughing expanded fields, up to 10 hectares. They were also to be provided with seeds and fertilisers for up to 3 hectares.

However, ARAP was implemented in a very different way to the original MOA plans and this was a direct result of political intervention. The Minister of Agriculture insisted that ARAP must be available to all farmers, not just the middle income farmers. ARAP consequently became a massive programme which paid grants to all farmers in Botswana to plough up to 10 hectares. Furthermore, it had originally been planned that the ploughing grants would be a one off payment in the first year of the programme, but the government decided to give the grants every year.

ARAP was implemented in 1985 and effectively become a large scale drought relief programme rather than a targeted modernisation programme as originally planned. ARAP provided a set of subsidies which were intended to assist farmers continue with arable production rather than move to urban areas. Under ARAP, the government paid farmers for destumping, ploughing, row planting and weeding, up to a maximum of 10 hectares. Seeds were distributed free, and 85% of fencing costs were provided by the government. ARAP entailed a massive government expenditure on arable agriculture.

The implementation of ARAP had put a huge burden on the MOA extension staff. By the 1987/8 ploughing season, 95,000 farmers were claiming ploughing grants from ARAP. Agricultural demonstrators found that they had to devote most of their time to administering ARAP, including measuring fields, rather than undertaking extension work. One survey conducted in 1988 found that 80% of agricultural demonstrators spent 70-100% of their time on ARAP (Borhaug 1993:98).

ARAP also created a large market for the hire of draught power. Farmers without draught power could ask a tractor owner to plough his field, and then the tractor owner would claim the ploughing

grant from the MOA. Tractor owners consequently benefited enormously from ARAP. Before ploughing subsidies were introduced, farmers without draught animals had to make arrangements with owners of draught animals. A common arrangement was for the former to plough the latter's field first, and then he was allowed to use the latter's animals to plough his own field. Another arrangement was to obtain *mafisa* cattle through which cattleless households had access to draught power through looking after cattle belonging to owners of large herds. Ploughing subsidies have led to a huge increase in tractor use among poorer households.

ARAP proved a very popular programme among farmers and had major political benefits for the BDP. It provided farmers with draught power with a substantial transfer of cash each year, and those without draught power had their fields ploughed for them without charge in either cash or labour. ARAP was used by the BDP to demonstrate to the rural electorate that it was concerned with their welfare. The BDP has successfully maintained its support in rural areas and has increased backing among the Ngwaketse in Southern District, a former BNF stronghold, despite the growing support for BNF in urban areas (Borhaug 1993: 111-112, Molutsi 1989b:128, Tsie 1991:51).

ARAP fulfilled the political objectives of the BDP, but failed to fulfil the agricultural development objectives of the MOA. Government transfers to farmers under ARAP were not invested into modern or more commercialised farming methods. Rather, ARAP was used by most farmers to subsidise their existing system of production. The area ploughed by farmers increased under ARAP but crop production did not significantly increase.

Neither ARAP nor ALDEP addressed a crucial restriction on arable production in Botswana: the returns on investment in arable production are much lower than investing in livestock production or in employment as an unskilled worker. For example, in 1978 Lipton (1978 vol II: 188-9) estimated that even with above average yields, a farmer would need over 33 hectares to earn as much as the minimum unskilled wage in the government sector. Most farmers who produced a surplus crop with assistance under ARAP invested any income made from selling the surplus into livestock, where risks were lower, and returns higher. Only wealthy farmers with diverse sources of income could take the risk of investing in arable production. (Borhaug 1993:67).

ARAP was terminated in 1990. However, since 1991, ploughing subsidies have continued under the drought relief programme. This programme is basically a reduced version of ARAP. All farmers can receive grants for ploughing and row planting, up to five hectares, and seeds are provided free of charge. Unlike ARAP, the current programme is officially recognised as a drought relief programme rather than an agricultural modernisation programme.

Prices offered to farmers by government parastatals may also have been a factor in agricultural production. The "boom" economy of Botswana, based on diamonds has led to decreased agricultural prices and a subsequent negative effect on arable production. Love (1994) argues that, primarily through exchange rate movements, the exceptional growth of the mineral sector created relative price disadvantages in the agricultural sector. Botswana imports most of its cereal needs from South Africa. Between 1981 and 1989 the Botswana Pula rose 24.1% against the South African Rand. The major purchaser and importer of sorghum and maize in Botswana, the Botswana Agricultural Marketing Board (BAMB) sets its purchase price for Botswana farmers as that of the import price from South Africa plus a notional extra charge. The effect of exchange rate changes was to make South African imports cheaper and hence BAMB lowered the price offered to Botswana farmers. Love estimates that the real purchase price offered to farmers by BAMB fell by 22.5% between 1985-89.

Love also argues that changes in prices offered by the Botswana Meat Commission were a major factor behind the fall in cattle numbers during the 1980s and the increase in smallstock numbers. He argues that the decrease in the ratio of cattle to smallstock in the 1980s was not simply due to the greater resistance of smallstock to drought but was also due to changes in the relative stock prices during this period which made investment in smallstock more attractive to farmers.

2.2.4 The New Agricultural Development Policy

To improve the contribution of agriculture to national development objectives, there has been a fundamental shift in strategy from NDP 6. This is a change from an objective of national food self sufficiency to one of food security at both the national and the household level. (NDP VII vol 2 p21)

The Seventh National Development Plan (1991-7) abandoned the objective of food self sufficiency for Botswana in favour of food security. Given the physical environment and increasing population, food self sufficiency had proved both unrealistic and expensive. Arable production costs in Botswana were higher than import costs. For example, the cost of producing one tonne of maize under ARAP, excluding government recurrent costs and ALDEP contributions, was P604, P1054 and P706 in successive years from 1985/86 to 1987/88 which was at least twice the price of importing maize. The new strategy outlined in NDP VII depended on the continuing ability of Botswana to generate foreign exchange through the export of diamonds and other products. At the household level, the strategy depended on raising rural incomes.

The new Agricultural Development Policy, which was approved by the National Assembly in February 1991, forms the basis for the proposed agricultural developments under NDP VII. This is a wide ranging policy, covering both the arable and livestock sector, which sets out the government plans for attaining food security. However, most attention on the ADP has focused on the controversial plan to allow fencing of communal grazing land. The stated rationale for this follows that of the TGLP: that communal rangelands are unproductive and severely degraded. The ADP recognises that many problems were encountered in the implementation of TGLP, including the problem of dual grazing rights, but does not question the objective of increasing the individual tenure of rangeland. The ADP states that:

The TGLP will therefore be modified and expanded to cover all production systems. Farmers will be allowed, where feasible, to fence livestock farming land either as individuals, groups or communities to improve productivity of the livestock subsector and ensure sustainable use of range resources. (Government Paper No. 1 of 1991:11)

The MOA has been the key ministry involved in initiating and planning the ADP, beginning with the Agricultural Sector Assessment review in 1988. However, it will be the responsibility of the MLGLH, through the land boards and Department of Lands, to implement the controversial fencing part of the policy. The policy has not yet been implemented, but pilot schemes are planned for the western sandveld of Central District, Kgalagadi and Ngamiland. A coordinating committee has been established to coordinate the implementation of ADP, comprising of personnel from both the Ministry of Agriculture and the Department of Lands in the Ministry of Local Government, Lands and Housing. There are also district coordinating committees for the ADP. The potential impact that the ADP will have on Mmutlane is discussed in Section Three.

2.2.5 The Drought Relief Programme

Drought is a recurrent problem in Botswana and poor rural households have suffered most. This section considers how the government has responded very effectively to drought and its impact on the rural economy. The drought relief programme shows the importance of central government planning in Botswana. Local government, district agricultural offices and VDCs have played an essential role in implementing the programmes, but key decisions have been made by central government.

Botswana experienced a prolonged, severe drought in the 1980s. During six consecutive seasons from 1981-7, total rainfall was between 16% and 38% below average (Food Studies Group Vol. 1 1990:4). Cattle losses amounted to 30% of the national herd, and cereal imports were eleven times that of local production (NDP VII 1991: 9 and 14). The Government of Botswana responded to the drought by implementing a massive drought relief and recovery programme which prevented Botswana suffering from the type of disaster that afflicted the Horn of Africa during this period. The drought relief programme was established in April 1982 and continued until June 1988, at a cost of 258 million Pula. A drought recovery programme was then implemented for a further two years, at a cost of 182 million Pula. In 1991, another drought began and the government continued the drought relief and recovery programme. The drought relief programme has had three main components: provision of food to vulnerable groups; public works programmes to raise rural income levels; and subsidies for agricultural production. The drought relief programme has been very successful in preventing deaths from famine, containing rural malnutrition and limiting the fall in rural incomes (Food Studies Group Vol. 1 1990:vii, Harvey and Lewis 1990:305).

The drought relief programme was described in the official evaluation as "one of the most progressive responses to drought in Africa" (Food Studies Group Vol. 1 1990:14) The success of the programme has been due to a number of factors. The strength and efficiency of central government in Botswana has been crucial to the effectiveness of the relief programme. The government has also been in a favourable revenue position due to the mining industry which has allowed it to direct substantial expenditure to drought relief. Between 1984 and 1988, the four peak years of the programme, government expenditure on drought relief was approximately 15% of the total development budget. Botswana has also received substantial support from donors and NGOs, mainly in the form of food aid rather than funding or operational support; the government has been the main funder of the drought relief programme. Finally, the district councils have carried the main responsibility for implementing the drought relief programme at the local level. Although there exist a number of limitations in the councils' ability to undertake the programme, they have shown a greater operational capacity at the local level than is found elsewhere in Africa (Food Studies Group Vol. 1 1990:4-14, Vol. 6 1990:2-5).

Drought relief in Botswana has been implemented through existing institutions at both national and district levels. Coordination has been the responsibility of sub committees of general development committees. The Inter-ministerial Drought Committee (IMDC) was established in 1978 as a sub committee of the Rural Development Council (RDC). The RDC is a long established committee which coordinates national development and consists mainly of permanent secretaries. It is chaired by the Minister of Finance and Development Planning. The secretariat for both committees is provided by the Rural Development Coordination Division of the Ministry of Finance and Development Planning. Another sub committee of the RDC is the Early Warning Technical Committee (EWTC) which is largely concerned with monitoring drought conditions. Both the

IMDC and EWTC have the key role of coordinating the inputs of various departments and agencies with a role in drought relief. Members of IMDC undertake a drought assessment tour in January each year, visiting each district to assess the situation. The IMDC then makes recommendations to the President as to whether a drought should be declared. The President makes an annual declaration, usually in April, on whether the government will implement a drought relief programme for the following year (Food Studies Group Vol. 6 1990:3, Sorto 1992).

Each district has a district drought relief committee (DDRC), which is a sub committee of the district development committee. It is chaired by the district commissioner and the secretary is the drought coordinator who is appointed in each district if a drought year has been declared; he or she is attached to the district council. In many cases the coordinators are retired public servants who are temporarily employed by the councils. The DDRC is made up of representatives of various government departments and local authorities. It has two main functions. One is to provide a forum for assessing the impact of drought in the district. Each department prepares reports for the DDRC on the drought situation in their sector. The other is to consider village proposals for projects to be undertaken through the Labour Based Relief Programme (LBRP), which is part of the drought relief programme.

The district council is responsible for implementing the LBRP. The drought coordinator is assisted by drought relief technical officers who supervise the LBRP projects. Many of the DRTOs have been expatriates, and currently many have been recruited through United Nations volunteer programme. At the village level, LBRP projects are managed by the VDC, who select both the labourers and supervisors for each project. Finances for the LBRP are handled by the council's finance department which authorises all payments for materials, and pays labourers in each village directly. This has put a huge extra burden on the finance departments.

The LBRP provides cash earning opportunities for rural dwellers. The government provides materials and pays people for their labour. The LBRP was first started in 1980 and initially focused on rural road building and maintenance, and the construction of drift fences. Nowadays, most LBRP projects undertake the construction of houses for teachers or other government employees posted to villages. LBRP projects initially followed the criteria that at least 70% of total project costs must be for labour. This was later reduced to 60% as more building materials were needed for more sophisticated construction projects (Sorto 1992).

The drought relief programme also provides subsidies for agriculture. This is handled by the Ministry of Agriculture, through the district agricultural offices. Until 1990, drought assistance was provided for under ARAP. Since 1991, the subsidies are limited to a maximum of five hectares. In 1994/5, farmers received 120 Pula per hectare for ploughing, and 50 Pula per hectare for row planting, and free seeds for planting up to five hectares. The management of this programme in each extension area is the responsibility of the agricultural demonstrator. Each farmer's field has to be measured and certificates for payment prepared. This is very time consuming and as a consequence little, if any, time is left for extension work.

The drought relief programme in Botswana is an example of effective administrative deconcentration to district level rather than devolution of decision making power. Key decisions concerning whether a drought is to be declared and the amount of funding are made by central government through the IMDC within the MFDP. District councils and district agricultural offices are responsible for implementing these decisions at the local level. District drought relief committees decide on how to allocate LBRPs within their districts, but overall funding is fixed by

the MFDP. Despite the wide variations in vulnerability to drought in districts across Botswana, the decision to declare a drought is made by central government for the whole country.

2.2.6 National Conservation Strategy

After Independence, the Government of Botswana concentrated primarily on increasing agricultural production and reducing food imports. Environmental management was not a priority issue for the government and there was no overall planning or strategy for environmental conservation.

However, with environmental problems mounting and pressure from donors, the government decided to initiate the development of the National Conservation Strategy (NCS) in 1983. The International Union for Conservation of Nature and Natural Resources (IUCN) was invited to advise the government on developing the NCS, with funding from various multilateral and bilateral donors. IUCN advisors worked with government officials in the Department of Town and Regional Planning in MLGLH. The planning process for the NCS took several years, and was finally approved by the Cabinet and National Assembly in 1990 (Borhaug 1993, Yeager 1993).

The NCS is an ambitious, national, integrated strategy for the sustainable use of resources in Botswana. The challenges, goals and means of implementing the NCS are set out in the Seventh National Development Plan 1991-1997 (MFDP Vol.1 1991:108):

Government has adopted a National Conservation Strategy to deal with the following main environmental challenges:

- growing pressure on water resources;
- varied degradation of rangeland pasture resources;
- depletion of wood resources both in commercial harvesting and in uses for domestic fuel;
- unsustainable harvesting of some veld products; and
- pollution of air, water, soil, and vegetation or crop resources.

The principal conservation goals of the strategy are:

- the conservation of all main ecosystems, including wildlife, vegetation, and soils;
- the protection of endangered species;
- the maintenance of stocks of renewable resources, including veld products, while increasing their sustainable yields;
- the control of the depletion of non-renewable resources, particularly minerals at optimal rates;
- the more equitable distribution of incomes and rewards in the interest of conserving natural resources;
- the cost-effective restoration of degraded natural resources, including improved capacity for regeneration of the veld; and
- the prevention and control of pollution.

Achieving these conservation objectives will entail designing development so as to minimise environmental costs and to enhance the quality of the environment. It will also require that,

when trade offs between development and conservation must be made, full account is taken of the environmental and social costs involved.

The principal elements of the National Conservation Strategy are as follows:

- the provision of economic incentives and the use of disincentives; these are required to stimulate sustainable development and to discourage over-utilisation of natural resources;
- the enforcement of existing laws and regulations and, where appropriate, the introduction of new legislation;
- the improvement of planning and administration procedures to ensure that full recognition is given to ecological needs; and
- the expansion of facilities and programmes directed to improving environmental education, training, awareness, and research; conservation education will be specifically included in school and teacher training curricula.

In order to implement the National Conservation Strategy and to ensure effective coordination between the conservation of natural resources and sustainable development, the Government will:

- establish a NCS Advisory Board under the chairmanship of the Minister of Local Government and Lands;
- create a NCS Coordination Agency within the Ministry of Local Government and Lands;
- designate Environmental Liaison Officers within Ministries/Departments; and
- re-designate some District Officers (Lands) as District Environmental Officers.

The NCS Advisory Board is not an implementing agency but rather a coordinating body. As with drought relief, the government seeks to implement NCS through established departments, rather than setting up a new institution. The NCS Coordination Agency is a small unit within the MLGLH providing the secretariat for the NCS Advisory Board. The Board is made up of representatives from relevant government departments, academic institutions and NGOs. Its role is to coordinate the inputs of these different agencies, initiate policy, liaise with donors, and commission research.

To be effective, the NCS will need to be integrated into national, sectoral and district planning and will present a formidable task to both central and district level officials (Borhaug 1993:15). However, since 1990 when the NCS was approved by the National Assembly, it has had little influence on development planning and implementation. This indicates a lack of serious commitment to the NCS by the government. The fact that the NCS coordinating agency has been located within the MLGLH is itself a reflection of the government's ambivalence about the NCS. The MLGLH is a line ministry and is not able to coordinate the work of other line ministries, notably the Ministry of Agriculture and Ministry of Mineral Resources and Water Affairs. Major livestock and arable policies pursued by the Ministry of Agriculture, such as TGLP and ARAP, have been blamed for increasing environmental damage in Botswana. If the NCS is to genuinely influence agricultural policy making, it will need to be backed by more authority than the MLGLH. The NCS's coordinating agency is marginalised in the MLGLH but would carry far more weight if

it was located in the Ministry of Finance and Development Planning. This ministry controls the budget of all the line ministries and already provides the secretariat for other inter-ministerial committees, notably the Rural Development Council and the Inter-ministerial Drought Committee. The NCS is likely to be more effective if it is more clearly backed by the authority of the MFDP.

3. MMUTLANE VILLAGE

3.1 THE ECONOMIC AND ENVIRONMENTAL CONTEXT

3.1.1 Introduction to Mmutlane

This case study is based on fieldwork undertaken in the small village of Mmutlane by the author. Fieldwork was undertaken in Botswana for a period of twelve weeks between November 1994 and February 1995, and the author was resident in Mmutlane for most of this time. The research concentrated on interviewing Mmutlane farmers and village leaders. Interviews were also conducted with officials and leaders in Mahalapye, Shoshong, Kalamare and Bonwapitse. Interviews with central government officials were carried out during visits to Gaborone. It was not possible to employ local researchers to assist with the fieldwork, but a local school teacher was employed as an interpreter for the whole period of fieldwork.

Mmutlane village is situated in the Shoshong Hills in eastern Botswana, at an altitude of about 1150 metres. It is 30 kilometres from Mahalapye, the main town in the area and the headquarters of Central-Mahalapye Subordinate District and about 10 kilometres from Shoshong, a large village with a population of over 6000. Other neighbouring villages are Bonwapitse, a small village 15 kilometres east of Mmutlane, and Kalamare, a large village 15 kilometres north of Mmutlane. According to the 1991 census, the population of Mmutlane was 815 and consisted of 119 households. The village has a tribal court, local police station, a primary school, an agricultural office and a health clinic. It has one main shop, several "street vendors" (small shops), and three bars. It also has several churches which meet in members' homes, although two are under construction.

Mmutlane was selected as the case study site during a preliminary visit to Botswana by three members of the IDPM project team for three weeks in August 1994. The Shoshong Hills had already been identified as providing a possible research site for a number of reasons. Firstly this area is located on the hardveld in the eastern side of Botswana where most of the population is concentrated and where rainfed cultivation is practised on a significant scale in addition to pastoralism. It was felt that this would provide a more appropriate case study area for the project than the more sparsely populated areas of the sandveld to the west and south-west where cultivation is unviable due to low rainfall and poor soils. Secondly, the relief of the Shoshong Hills has given rise to many seasonal rivers and streams. Some of these have been dammed, and the resulting small reservoirs are used for dry season watering of livestock. Thirdly, the relative closeness of the Shoshong area to Gaborone (about 250 kilometres) was an important factor given the limited period of fieldwork and the need to carry out interviews with central government officials in Gaborone.

Finally, there is extensive secondary data on agriculture for the Shoshong Hills. In the early 1970s, UNDP/FAO undertook an extensive study of agriculture, income and population in the Shoshong Hills, which is summarised in Fosbrooke (1972). Secondly, Shoshong was one of the villages selected for the Agricultural Technology Improvement Project (ATIP). This is a farming systems research programme undertaken by the Department of Agricultural Research with USAID assistance. It began in the early 1980s and was still running in 1995. Numerous reports have been written, and the research findings have been summarised in two substantial reports (ATIP 1985 and ATIP 1990). Thirdly, both Abel (1992) and Biot (1988), two of the main exponents of the view

that the seriousness of rangeland degradation in Botswana has been exaggerated, undertook their research in the area.

Within the Shoshong Hills, the village of Mmutlane was selected as the case study site. One of the primary reasons influencing the decision to select Mmutlane as the case study site was that it has a small dam. The dam forms a vital water resource for watering livestock in the dry season, and is used by surrounding villages, not just Mmutlane. It was felt that this would provide a good opportunity to look at the management of a communal water resource.

Mmutlane is ethnically homogeneous, populated by the Batalaote. These are a Tswana speaking people who became a subordinate group to the Bangwato in the nineteenth century. The village is divided into a number of different wards. When Mmutlane was established in 1908 by seven Batalaote families from Serowe, each family represented one of the following wards: Maiphitlhwana; Matope; Madupi; Madingwana; Kgosing; Bopedi; Tlhatshwana. These families were later joined by relatives from their wards, and by members of other wards. By the 1960s, 15 wards had been established in Mmutlane, and all are present to this day. The other wards, in approximate order of establishment at Mmutlane, are: Maoloso; Sedigelo; Moshoko; Motsampa; Khunwana; Moselekwana; Senna; and Bokaa.

The average number of households per ward is eight. The largest ward, Matope has 21 households in it, while the smallest ward, Moselekwana, has only one household. Each ward is associated with a distinct territorial space in the village although these are not exclusive, bounded spaces. Each ward has a headman, which is usually an inherited position. Most of the other household heads in the ward are patrilineal relatives of the headman, although wards are not exclusive patrilineal groups. Newcomers can be incorporated into a ward if the ward head agrees. Equally a member of one ward can ask permission to live in another ward, if the headman of that ward agrees to this. Sons usually stay in the same ward as their parents after marriage, although they form a new household. Daughters go to the ward of their husband. People usually marry outside the ward, although it is not forbidden to marry within the ward.

The members of the ward do not form a unit of domestic agricultural production, but rather each household in the ward operates separately. They do not farm together, nor do they farm in the same area of the lands. In the past this was supposedly the norm, but by the 1930s Schapera (1938:201) found that the tendency for people of the same ward to farm in the same locality was breaking down. Nor do ward members keep cattle together. The ward will meet together if there are any important things to discuss, such as a marriage, or for settling minor disputes. Disputes among people of the ward are first brought before the ward for settlement. If they cannot settle it themselves, the dispute will be passed on to the headman of the village.

3.1.2 Origins of Mmutlane and Neighbouring Villages

In the nineteenth century, only Shoshong was inhabited. It was the Bangwato capital from 1838 until 1889, when Khama III, the Bangwato chief, moved the capital to Palapye. There are several historical records of Shoshong in the nineteenth century from travellers and missionaries who stayed there, including Livingstone. These are referred to in Fosbrooke's (1971) account of the population changes in Shoshong in the nineteenth century. In the 1860s it was estimated to have a population of 30,000, but by the 1880s the estimated population was 15,000. The site was abandoned in 1889 in favour of Palapye. Shortage of water at Shoshong was one of the reasons for this move. Shoshong was repopulated again at the turn of the century on Khama's orders. Although a small Bangwato elite ruled the village, most of the inhabitants were Bakaa from Molepolole and Baphaleng from Palapye. By 1909, the population was estimated to be 3000.

Kalamare was inhabited in the eighteenth century by Batalaote but in the nineteenth century they left to join the Bangwato at Shoshong. However, the village was reoccupied by Bakaa at the turn of the century, on the orders of Khama. Bonwapitse was originally a cattle post for the chief at Serowe and the village developed from the cattle post settlement. Mahalapye was also a cattlepost area for the Batalaote in the nineteenth century but developed into a major centre this century as a railway town.

There is no record of permanent settlement at Mmutlane in the nineteenth century, but wells were established in the surrounding hills by the Batalaote for watering cattle. The Batalaote had followed the Bangwato from Shoshong to Palapye in 1889 and then on to Serowe which became the new Bangwato capital in 1902. The Batalaote in Serowe fell into a dispute with the Bakaa over the use of the wells, and as a consequence, seven Batalaote families from Serowe moved to establish a settlement at Mmutlane in order to secure the wells for the Batalaote. This took place in around 1908.

3.1.3 Population Change in the Shoshong Hills

Population change in the Shoshong Hills has been characterised by a relatively stable rural population but massive urban migration. The population of Mahalapye, which developed as a railway town and administrative centre in the colonial period, increased from 2433 in 1946 to 28078 in 1991. During this same period, the population of Shoshong actually declined, although if the population of the lands is included, it increased by about 40%.

Table 3.1 Official Census Data by Village

Village	1909	1936	1946	1964	1971	1981	1991
Mmutlane		302		540	764	720	815
Bonwapitse						409	465
Kalamare		885		2052	1879	1689	1643
Shoshong	3000		6957	7022	6362	4600	5592
Mahalapye			2453	13199	11377	20712	28078

The figure for Shoshong in 1909 is an estimate by a missionary who visited Shoshong at that time, and is given in Fosbrooke (1971). Mmutlane and Kalamare were both occupied by this time but there are no figures for their respective populations although seven families had moved to Mmutlane in 1908. Censuses were carried out in Botswana in 1936, 1946, 1964, 1971, 1981 and 1991. It has not been possible to consult the 1936 census, but the figures given for 1936 are quoted in Fosbrooke (1971). The 1946 census only records those villages with populations of over 1000. Since neither Kalamare nor Mmutlane is recorded in the census, it can be assumed that each had a population of below 1000.

The 1971, 1981 and 1991 censuses were carried out using enumeration areas and it is necessary to distinguish between the total population of a village and its surrounding localities and the population resident in the village at the time of the census. The above table gives the population of the village only. The earlier censuses only give a number for the population of each village without indicating if it refers to just the village or includes people from the village but who were at the lands at the time of the censuses.

The 1971 census only gives a figure for the actual villages and does not indicate with which village each lands settlement is associated. It is therefore impossible to calculate the total population associated with one village. However, Syson (1972) quotes data from the 1971 census which does give population by village of association and these are given below. The UNDP also undertook a complete census of the villages in the Shoshong hills in 1971 and these are also given in Syson (1972) and are similar to the figures given in the official census. The UNDP census in 1971 gives the following results : Mmutlane - 659; Shoshong 6338; Kalamare 1841. The figures Syson gives for Shoshong itself includes the small hamlet of Ikongwe, which according to the 1971 census report had a population of 440. Furthermore, the 1971 government census does not give a separate figure for Mmutlane but includes it as part of a wider enumeration area. However, Syson (1971) quotes a figure for the Mmutlane population from the 1971 census, which suggests she had access to unpublished data which had not been aggregated.

Table 3.2 Population Including Lands

	1971			1981			1991		
	village	lands	total*	village	lands	total	village	lands	total
Mmutlane			764	720	242	962	815	193	1004
Bonwapitse				409	68	477	465	96	561
Kalamare	912		1879	1689	1108	2797	1643	1401	3044
Shoshong	3132		6362	4600	4328	8928	5592	4455	10047

* Quoted in Syson 1972

These figures need to be qualified. Not all the people living in the area identified as Mmutlane lands are from the village. Some are from Mahalapye or other villages. Also, although the 1981 and 1991 censuses were carried out in August when most people would have returned to the village, it is possible that some villagers were still temporarily at the lands, undertaking clearing and fencing activities. Some villagers do spend most of the year at the lands, but they still maintain houses in the village where some members of their household reside. For example, children attending the village primary school stay in the village during the week all year round, except in the school holidays. The drought relief's LBRP also keeps people in the village. Many women work on the LBRP during the morning, and then go to the lands in the afternoon. Most Mmutlane villagers have lands between 3 and 10 kilometres from the village and walk there and back on a daily basis, often staying at the lands at weekends when there is no LBRP work. Donkey carts are widely used for transport to the lands.

Comparisons on trends in sex and age breakdowns of the Mmutlane population can only be made for the village population. The 1981 and 1991 censuses only give the population of the associated lands for each village. They do not provide further census information on those people living outside the village at the time of the census, except for the 1991 census which break downs the total population by sex although not by age.

Table 3.3 Population of Mmutlane Village by Sex

Year	Total	Male	Female	Ratio Male: Female
1964	540	265	275	1.00: 1.04
1971	659	324	335	1.00: 1.03*
1981	720	342	378	1.00 :1.11
1991	815	366	449	1.00 :1.23

* calculated from UNDP census 1971 since no breakdown by sex given in the report of the official census (Syson 1972:26).

These figures show an increase in the ratio of females to males in the Mmutlane population since 1964 and it is reasonable to assume that this indicates an increase in male migration out of the village. According to the 1964 census, only 14 men and 1 woman were absent from the village. Those who had been absent for less than one year - 7 men and 1 woman - were included in the population of the village. There were a further 7 male absentees in addition to the 265 males counted, who had been absent for one to five years. If these are added, the number of males is only 3 less than the number of females.

The 1971 census does not give information on absentees. However, the 1971 UNDP census states that in Mmutlane there were 95 male absentees and 68 female. Of these 17 men and two women were living in South Africa, the rest were living elsewhere in Botswana. 36.8% of male absentees and 52.9% of female absentees were living in Mahalapye. If the absentees are added to the population resident in Mmutlane there are 419 males and 403 males (Syson 1972). The 1981 and 1991 censuses do not give information on absentees working elsewhere in Botswana, only on those working abroad. In 1981, there were 11 men from Mmutlane listed as working abroad in the mines, and one woman working abroad. In 1991, 11 men and one woman were given as living abroad, although only seven of the men were working in the mines.

If the census material is analysed by age as well as sex, it is clear that the lower proportion of men to women is a result of the out-migration by males of working age. The following tables indicate that males between the ages of 15 to 45 form a significantly lower percentage of the male population than the same age group of females form of the total female population.

Table 3.4 Mmutlane Population by Age 1971-1991

Year	Male			Female		
	A. 1-14	B. 15+	Ratio A/B	C. 1-14	D. 15+	Ratio C/D
1971			1.0: 1.0			1:0: 1.0
1981	212	130	1.6: 1.0	190	188	1.0: 1.0
1991	200	166	1.2: 1.0	226	223	1.0: 1.0

The 1981 and 1991 censuses provide a breakdown by age on the basis of 0-4, 5-9, 10-14, 15-19 etc up to 60-64 and then 65+. None of the earlier censuses give a breakdown by age but the 1971 UNDP census does provide a breakdown by age on the basis of 1-15 and 16+. For the sake of comparison, the UNDP figures have been included in the above table even though they refer to the 1-15 year age bracket not 1-14. The ratio for 1-14/15+ for this 1971 UNDP census will be slightly less than the figure of 1.0 given above.

Table 3.5 Mmutlane Male Population by Age 1981 and 1991

Year	0-14		15-44		45+	
	number	% males	number	% males	number	% males
1981	212	62%	89	26%	41	12%
1991	200	55%	114	31%	52	14%

Table 3.6 Mmutlane Female Population by Age, 1981 and 1991

Year	0-14		15-44		45+	
	number	% females	number	% females	number	%females
1981	190	50%	149	40%	39	10%
1991	226	50%	153	34%	70	16%

Table 3.7 Ratio of Male Population to Female Population by Age Groups 1981 and 1991

Year	0-14 Male: Female	15-44 Male:Female	45+ Male:Female
1981	1.0: 0.9	1.0: 1.67	1.0: 0.95
1991	1.0: 1.13	1.0: 1.34	1.0: 1.35

In summary, despite the high rate of population growth in Botswana as a whole, the rural population actually declined between 1981 and 1991. The national censuses of 1971, 1981 and 1991 are as follows:

Table 3.8 National Population of Botswana

Year	Urban	Rural	Total
1971	54,416	519,678	574,094
1981	150,021	791,006	941,027
1991	606,239	720,557	1,326,796

(GOB Statistical Bulletin September 1993. An area is defined as urban in these figures if it has a population of 5,000 or more and less than 25% of its workforce is engaged in traditional

agriculture. In 1991, 19 major villagers were classified as "urban" which had previously been classified as rural.)

The fact that Mmutlane's population has not significantly increased since 1971 reflects a national trend over the last 20 years of a massive increase in the urban population but little change in the rural population. In Mmutlane, this has been due to a high rate of permanent migration out of the village to towns in Botswana as opposed to temporary migration to the South African mines which was the pattern in the colonial period. Most young men, on finishing school, hope to leave the village in order to seek work in the towns or continue with further studies. This trend, indicated in the census material, was also confirmed by interviews carried out during fieldwork. Young men do not seek to invest in farming or cattle but rather seek paid employment. However, many fail to find it and return to Mmutlane. A comparison of the 1981 and 1991 censuses suggests a relative reduction in male out-migration from Mmutlane, which may be a result of the declining employment opportunities in Botswana. It is difficult to say whether or not the fact that a significant number of young men leave Mmutlane rather than establish their households in the village lessens the pressure on land resources. Many permanent absentees still apply for land from the land board in order to use in the future and many also keep cattle with relatives at the lands or at cattleposts.

3.1.4 Environmental Change in the Shoshong Hills

Many farmers in Mmutlane claimed that in the past they grew enough food for their families but now they are unable to meet the subsistence needs. Most held the view that rainfall has declined and this had led to decreasing crop yields and cattle losses. The notion of when this more productive "past" ended ranged from as recently as the late 1980s to as far back as the 1930s or beyond. This popular assumption needs to be assessed from the perspective of the available historical and environmental data on the area. The data suggest that rainfall has not changed significantly since records began early this century. Nor is there any conclusive evidence that agricultural production is limited by land degradation. Rainfall, rather than land degradation, has been the major limiting factor in both arable and livestock production. What is more questionable is the validity of farmers' claims that in the past they grew enough food. As was shown in Section One, Botswana was not self-sufficient in food during the colonial period. Labour migration became essential for rural household income, while at the same time leading to a reduction in agricultural production through loss of potential agricultural labour.

Rainfall

Monthly rainfall records exist for Mahalapye since 1917 and for Kalamare since 1923 (appendix figures 5 and 6). The mean rainfall for Mahalapye is 470.2 mm and for Kalamare is 433.8 mm. The rainfall records from other gauges in the Mahalapye which were established in the 1970s suggest a fairly even distribution of rainfall during this period (ATIP 1986 and DWA 1990). Although there are no records for Mmutlane, it can be assumed that it will not significantly differ from those for Kalamare and Mahalapye.

In order to look at overall trends since records began, 5 year running means were plotted for both Mahalapye and Kalamare (appendix figures 8 and 9). The graph shows a series of troughs and peaks for both stations with approximately 10 years between each trough and peak. More

significantly, the graph indicates that there has been no overall decline in rainfall since records began.

While overall rainfall may not have decreased, a change in the distribution of rainfall could have adversely affected agricultural production. Several farmers claimed that in the past, the rains started earlier and they were able to begin ploughing in October. In order to assess this, deviation from the mean rainfall for October, November and December has been plotted for both Mahalapye and Kalamare (appendix figures 11-16). These graphs do not indicate that there has been any major change in the monthly distribution of rainfall for these months.

However, it is possible that the distribution of rainfall within each month has changed. The ATIP (1990) study stresses the importance of a single substantial shower for moistening the soil sufficiently for ploughing to begin, rather than the cumulative affect of several smaller showers. It calculates that a shower of 20 mm is needed for ploughing to begin on sandy loam soil using animal draught power and the mouldboard plough most commonly used by local farmers. A change in the monthly distribution of rainfall over this period, from a small number of heavy showers to frequent, lighter showers, could delay ploughing. However, there is no evidence to suggest that such a change has taken place.

Land Degradation

In 1969-70, UNDP undertook an extensive survey of the villages in the Shoshong Hills. In his final report Fosbrooke writes:

The land of the whole Shoshong Sub Tribal Authority is severely degraded, both in regard to arable cultivation and livestock production. There are large areas in the vicinity of all the villages, except Mosolotsane, which have been exhausted by overcropping and overgrazing and which now suffer from severe bush encroachment (Fosbrooke, 1972:7).

Fosbrooke draws on reports by missionaries and travellers on Shoshong in the nineteenth century in order to assess environmental change. These reports refer to the extensive fields adjacent to Shoshong and the good harvests which supported a population of up to 30,000. Moffat, for example, arriving in Shoshong in 1854 writes of "extensive fields of native corn, some of which were unreaped from the abundance of the season" (quoted in Fosbrooke 1971:182).

These fields which are said to have been so productive in the nineteenth century have long since been abandoned and have become covered by dense, low bush. New lands areas have been opened up further away from Shoshong, making it necessary for farmers to stay at the lands during the growing season. One possible explanation for this is that the soils in the original fields became exhausted, necessitating a move to new areas further afield. However, fields are used by farmers for many years. The nineteenth century reports from Shoshong suggest that the same fields were used up until the move to Palapye in 1889 (Fosbrooke 1971:184). Of the 25 households interviewed in Mmutlane, 15 had been farming at the same place for over 20 years, and one farmer had been at the same place since the 1940s. Only one of these farmers claimed to have moved to a new area because of low productivity. Fields have been used for decades before soil exhaustion has been perceived as a problem. According to the ATIP research results, in most years rainfall was the most limiting factor on arable production. Poor soil fertility was only a limiting factor in years of high

rainfall (ATIP 1990:122). This supports the farmers' view that rainfall is the main constraint on production, not soil fertility. Furthermore, there is still unallocated land available that a farmer could apply for if he felt that his current land was exhausted.

Cattle losses in drought years are also attributed to poor rainfall. Overgrazing, whether in the lands area or cattleposts was not seen as a problem, except around the dam. The only farmers who were contemplating destocking were the two wealthiest farmers in the village who had other forms of income, as is described below. The studies of rangeland degradation and stocking densities in Kalamare by Biot and Abel, which were discussed in Section Two, support the view of local farmers. They concluded that current stocking rates can be sustained by the environment without leading to rangeland degradation, although cattle may be in poor condition.

3.1.5 Agriculture

Household Income

Few households are able to meet their subsistence requirements on agricultural production alone. There are two major additional sources of income. One is working on the government's drought relief programme, which operates on a cash for work basis. The other is from remittances from members of the household or relatives working in elsewhere in Botswana or in South Africa. In the sub-section below, "Farmer Profiles" more specific details are given of how individual households generate their income.

Cultivation

Only rainfed, dryland farming is practised by Mmutlane farmers. Arable farming is extensive rather than intensive, with large fields ranging from 3 to 10 hectares per household. Ploughs have been used in Botswana since the turn of the century. Productivity is very low, and most households fail to meet their subsistence food needs. Arable farming is not a commercial enterprise and very few farmers regularly produce a surplus which they sell. The main constraint on the scale of production is labour. Unallocated land is still available. There is a commonly held perception that the land supply is getting shorter, but there have been virtually no land disputes at Mmutlane. Normally children farm with their parents until they marry and set up their own household. They then apply to the land board for a field, or their parents may give them some of their own if they have enough to spare.

Ploughing begins following the onset of the rains, in either November or December. Most farmers broadcast seeds as they plough, rather than using a seed planter after ploughing, and few use harrows or cultivators. Most practice some form of crop rotation but rarely leave areas fallow. Fertilizer is never used. The main crops grown are sorghum and cowpeas. Most farmers grow some maize although yields are very low unless the rains are good. Other popular crops are groundnuts, soya beans, and water melons.

The Ministry of Agriculture established the Agricultural Development Project (ALDEP) in the late 1970s to provide equipment subsidies for farmers and to encourage farmers to adopt new farming methods. Through this programme, farmers only pay 15% of the cost of equipment and donkeys. The following table shows that while over half the households in Mmutlane have bought ploughs through ALDEP, there has been little interest in investing in additional farming implements.

Table 3.9 ALDEP Assistance Mmutlane Farmers

Agricultural Implement	Number of Farmers
Plough	61
Fencing material	26
Donkeys	18
Donkey equipment (chains, bridles etc)	17
Planters	9
Harrows	7
Donkey carts	2
Water tanks	2
Cultivators	1

A major factor affecting agricultural practice has been the drought relief assistance with ploughing and planting. The scheme was implemented to assist those who had lost draught animals during the drought. Through this scheme, the Ministry of Agriculture pays each farmer P120 per hectare ploughed, up to a maximum of 5 hectares. Alternatively, if a farmer has no draught animals or insufficient time to plough, he can ask a tractor owner to plough his land, for which the tractor owner gets paid P120 per hectare. Tractor owners can earn a substantial income through this scheme. The government also pays P50 per hectare for row planting, again up to 5 hectares, and provides free seeds for planting up to 5 hectares. This scheme puts a huge burden on the agricultural extension staff. Every field has to be carefully measured and recorded by the agricultural demonstrator and her field assistants. This leaves little time for extension work especially during the ploughing season.

The agricultural officers who were interviewed agreed that while the scheme has led to an increase in area under cultivation, it had not had a significant impact on crop production. There is insufficient data to assess the impact of the drought relief programme in Mmutlane. The earliest records for Mmutlane are from the 1992/3 ploughing season since there was no agricultural demonstrator in Mmutlane before 1992. It proved impossible to find out where the data from each extension area in Mahalapye Agricultural District were kept. The only data available are aggregated for the whole district and are recorded in Agricultural Statistics, published annually by the Ministry of Agriculture up until 1990 (appendix figure 17), the last year for which data are available.

Aerial photographs of the Shoshong Hills from 1963, 1975 and 1989 were obtained from the Department of Lands and Surveys in Gaborone. The 1963 photographs were on a scale of 1:40,000, the 1975 and 1989 photographs were on a scale of 1:50,000. An approximate measure of the areas under cultivation were made for each of these sets of photographs. The fields were marked on tracing paper and then transferred onto graph paper. The number of squares enclosed by the field boundaries were counted in order to calculate the actual area under cultivation. The figures are as follows:

Table 3.10 Estimation of area under cultivation from aerial photograph interpretation

Year	Area hectares	Population (year of nearest census)	Rainfall mm (data from Kalamare)
1963	647	540 (1964)	271 (1962-3)
1975	1090	764 (1971)	713 (1974-5)
1989	1113	815 (1991)	428 (1988-9)

It is not possible from the photographs to distinguish between fields that have been ploughed and planted in the year the photograph was taken and those that have been cleared but not planted. The area under cultivation nearly doubled between 1963 and 1975. This was probably due to a combination of an increase in population and improved rainfall during the 1970s. The population increased by 41% during this period. 1963 was a drought year, whereas 1975 was a high rainfall year. The average rainfall for the five years 1958-63 was 391 milimetres, and for the years 1970-75 was 485 milimetres. There was little increase in the area under cultivation between 1975 and 1989. There was an increase in the population of Mmutlane of only 7% during this period, although this is 31% if the population at the lands is included. The 1980s was a period of prolonged drought. The implementation of the ARAP programme in 1986 does not appear to have led to a significant increase in the area under cultivation during this period. In the 1993-94 season, according to the records of the fields measured by the agricultural field staff at Mmutlane, 1379 hectares were ploughed. However, comparison between this figure and the field sizes calculated from the aerial photographs is difficult, since there is no standard area within which the fields have been measured. The 1994 figure refers to the areas ploughed by Mmutlane farmers irrespective of the location of their lands, whereas the calculations from the photographs refer to the fields within a defined boundary. This was the area between the Shoshong Hills and the Bonwapitse River, with the southern boundary consisting of the Mahalapye - Shoshong road, and northern boundary by drawing a line at the same latitude (sheet 2226 D3 ref 74° 58') between the Hills and the Bonwapitse River.

While the evidence from the aerial photographs suggest that the introduction of ploughing subsidies have not led to a dramatic increase in the area under cultivation, it has led to a great increase in the use of tractors for ploughing. One of the problems of ploughing by tractor along with broadcasting seed is that the whole field is ploughed at once. When donkeys or oxen are used, it is impossible to plough a whole field at once and therefore ploughing is staggered. This spreads the risk of crop failure from fluctuations in rainfall. However, if a whole field is ploughed prior to a dry period, the whole crop may be damaged. The government has tried to encourage farmers to row plant, but most are reluctant to do this primarily because of the extra time involved and the initial cost of buying a planter.

The physical environment of Mmutlane and its neighbouring villagers is unsuitable for vegetable growing. There are no small-scale wetlands in the area, such as the dambos found in much of Zimbabwe, and no perennial surface water. The only way to grow vegetables is to use water from a borehole for irrigation, but this is very expensive. According to the horticultural officer for Mahalapye and Machecheng Agricultural Districts, there are only 14 horticultural gardens in total in

these two districts. Most of these are located on the Mahalapye river, east of Mahalapye, where shallow boreholes are used on the river banks. Only one farmer from Mmutlane, Mr. Mmipi is engaged in horticulture, but the circumstances that have made this possible are exceptional. Mr. Mmipi's agricultural activities are discussed in more detail below. There are no farmers in either Kalamare or Bonwapitse growing vegetables, but there are two in Shoshong. The most successful of these is the horticultural project run by the Shoshong Brigades Development Trust (SBDT). The manager is a Zimbabwean with extensive experience of vegetable production and the Trust has its own borehole which it uses for irrigation. Physical constraints are not the only problems with developing horticulture. Firstly, there is no tradition of vegetable growing in the area. Secondly, the market for vegetables is dominated by South African and Zimbabwean produce where the production costs are lower. Thirdly, fertilizers are not readily available locally and the SBDT manager has to order fertilizer from Zimbabwe.

To the south east of Shoshong there is an area of flood plains for the Bonwapitse river. This consists of black cotton soils. Both the ATIP (1985) and UNDP (Fosbrooke 1971) reports highlight the high arable potential of these areas, especially for growing maize. However, the floodplains are used exclusively for grazing land. No applications have been made to the land board for arable fields in this area. It is recognised by Shoshong villagers and the land board as grazing land and therefore any applications to cultivate this land would be rejected.

3.1.6 Livestock

Cattle are still considered the most important means of acquiring wealth among Mmutlane villagers. They are kept as a store of wealth which can be drawn upon when cash is needed. Some Mmutlane farmers with herds of forty cattle or more sell cattle regularly to the Botswana Meat Commission, although there are none who sell more than a few a year. Most cattle owners, however, only have small herds which they keep at the lands and only sell if they have a special need for money. According to the 1991 census, only 55% of Mmutlane households owned cattle.

Tswana traditionally kept cattle at "cattleposts" far away from their arable lands. This ensured that cattle did not destroy crops and had access to a wider area for grazing. Cattle were only brought to the lands for ploughing or for milking. Mmutlane villagers with large herds still keep cattle at cattleposts, but among owners of smaller herds of under forty cattle, there has been a trend towards keeping cattle permanently on the lands.

It is impractical, in terms of herd management, to keep a large herd of cattle at the lands, given the high degree of supervision they would require. This management problem for large herds helps conserve the grazing land around the village for small herd owners. Nowadays, the main reason for keeping cattle at the cattlepost rather than at the lands seems to be a question of labour rather than the quality of grazing. If cattle are kept at the lands or graze on the hills around Mmutlane, they have to be carefully supervised to make sure they do not cause crop damage. For someone with only a few cattle, this is not too difficult, but with a large herd it becomes a serious problem to keep cattle away from crops. The owner is fined if his or her cattle damage crops. If cattle are kept at some distant cattlepost, far away from any cultivated areas, careful supervision is not essential and they can be left to roam in search of good grazing. The herd owner only needs to hire one herdsman to manage his cattle, and makes occasional visits to the cattlepost, perhaps every three months. Although large herds are best kept at a cattlepost where management costs are at a minimum, cattle are also more vulnerable there as they are not carefully supervised. If there is a

high death rate at the cattlepost, the herd may be moved to the lands where management costs are higher but where the cattle are more carefully looked after.

The building of the village dam has provided a major water resource for livestock which has made it much easier to keep cattle permanently at the lands. Many of those who keep small herds of cattle at the lands at Mmutlane used to keep much larger herds at cattleposts. A common experience of these cattle owners is that many of their cattle started dying at the cattle post, due to disease or drought, and in response they brought the remainder of their herd to Mmutlane where they could look after them more carefully.

Villagers also claimed that less households owned cattle now. Many farmers reported that they had lost all their cattle in the 1980s or early 1990s. The main reason given was starvation due to drought, but disease was also given as the reason by some farmers. Unfortunately there is no data to support this since only the 1991 census gives the total number of households owning cattle, and even this gives no indication of the number of cattle owned.

Another major change in cattle ownership has been the decline of the mafisa system which allowed farmers who had no cattle of their own to borrow cattle from wealthier farmers. The borrower of mafisa cattle looked after them and in return could use them for ploughing and milk (Schapera 1955:246-8). Syson (1972) reports that of the sample households interviewed in the Shoshong hills area, 24.5% had lent out mafisa cattle, and 37.8% had borrowed mafisa cattle. However, 25 years since her survey was conducted, none of the farmers interviewed at Mmutlane claimed to be either borrowing or lending out mafisa cattle, although many said they had done so in the past. The decline in the mafisa system has been noted elsewhere in Botswana. The main economic function of the mafisa system was to enable cattleless households to engage in arable production and reduce the labour costs of the owners of mafisa cattle. Two main reasons have contributed to this decline. Firstly, there are alternative sources of draught power, in the form of either donkeys or tractors. The ploughing subsidies provided by the government further reduces the need for poor households to borrow mafisa cattle. Secondly, the prices offered by the BMC favour high grade cattle. Rather than lend out cattle for ploughing, which wears them out and decreases their value, it makes more economic sense for owners to sell surplus cattle (Molutsi 1986:32, Harvey and Lewis 1990:77).

More households in Mmutlane own goats than cattle. According to the 1991 census 77% of households kept goats. Many farmers who do not own cattle keep a few goats in the village or at the lands. Goats are more able to take advantage of the grazing on the steeper slopes of the surrounding hills. The agricultural statistics for Mahalapye West Agricultural District shows a more or less steady increase in goat numbers since 1983, during which cattle numbers have been in steady decline. These are presented in the form of graphs in the appendix. The greater resilience of goats to drought, and the relative improvement of goat prices over cattle prices offered by the BMC have been important factors, as was discussed in Section Two.

3.1.7 Farmer Profiles

Methodology for Household Interviews

The household interviews on which these farmer profiles are based were conducted in a semi-structured manner; a formal questionnaire was not used. In each interview, a standard set of questions was asked through the interpreter. Further questions were then asked depending on the response of the interviewee, both in terms of the information provided and the ease with which the interviewee took part in the interview. As a result, some interviews were lengthy and follow up interviews were also carried out. In other cases, where the interviewee was clearly uncomfortable with the interview and not forthcoming, the interview was concluded fairly quickly and less information was obtained than in other cases.

Prior to fieldwork, it was intended to conduct extensive wealth ranking exercises in order to select households for interview on the basis of relative wealth (see Gradin 1988). However, it proved impossible to do a wealth ranking exercise for the whole village. There are over 120 households in Mmutlane and no one was able to rank all of them. Wealth ranking exercises using the cards were carried out on two of the wards, which have about 16 households each. People were very unhappy about taking part in this; they did not like to disclose their own wealth, especially wealth in cattle, and felt that they should not be making relative judgements about other people's wealth. As a result, wealth ranking exercises were abandoned as a method of selecting households, although it continued to be one of the criteria for selecting households. Other criteria included: gender of household head, ward affiliation, and location of lands.

One of the main difficulties following any formal selection criteria for identifying households to interview was actually finding people. Most moved frequently between the village and the farms and many made regular visits to Mahalapye or neighbouring villages. It was impossible to work through a list of selected people to interview because of the problems of locating them. As a consequence, one of the most efficient ways of interviewing people proved to be through concentrating on particular areas of the "lands". All the farms in an area would be visited and if people were in, they were interviewed. There was an inevitable randomness about this process, but the households interviewed did represent a wide range in terms of wealth, ward affiliation and gender of household head.

Summary of Household Interview Data

Household Size

Household size was difficult to identify due to the interlinkages between households. This made it very difficult to calculate how many people were dependent on the income and production of any one household. For example, the interdependence between children and parents continues after marriage. After marriage, ideally a couple should set up their own household in the husband's parents ward. However, in practice they may live with the husband's parents for several years until they have obtained a residential plot from the land board and have built their own house. They may farm separately but share food together. Also, grandchildren often stayed with their grandparents while their parents worked in the towns. They were fed by the grandparents but money to support them was sent by their parents. The parents operated an independent household in the town but their children were also part of the grandparents' household, making it difficult to place

grandchildren in one particular household. Unmarried children, working in the towns, were considered as part of their parents' household, whether or not they sent remittances to their parents. Furthermore, while a household may be independent in one form of productive activity, other productive activities were undertaken on a cooperative basis with other households. This was most apparent in relation to crop production and livestock production. Adult children farm independently of their parents and siblings, especially after marriage, while cattle are usually herded together. Cattleposts were used jointly by parents and children, who share the cost of herding; in some cases they may even jointly own a herd.

Area Ploughed

Each farmer was asked how many hectares he or she farmed. Field measurements were not taken due to the shortage of time and the fact that most people's farms had been measured in the previous year by the agricultural field assistants. These measurements were taken in order to work out how much ploughing subsidy each farmer should receive under the drought relief programme. Farmers were also asked to estimate the area of any land belonging to them which had not yet been cleared for cultivation.

Land Allocation and Registration

Each farmer was asked which year he or she started farming his or her field and how the field was allocated. Prior to the 1970s, land was either inherited or allocated by the village headman. The land boards were in operation by 1970 and since then land applications have gone through the land board with the prior approval of the headman. Those who had inherited land or who had been allocated land by the headman before 1970 were asked if they had formally registered the land with the land board. In most cases they had done so only in the last few years, not in the 1970s when the land boards were first established. This may in itself reflect a concern with increasing pressure on land.

Draught Power

The implementation of ploughing subsidies in the late 1980s through the drought relief programme has had a major impact on ploughing arrangements. Prior to the programme, those without donkeys or oxen entered into various forms of cooperative arrangements with those who owned draught animals. Tractors were rarely used. As a result of the ploughing subsidies there has been a huge increase in the usage of tractors among households which do not own draught animals, and among households for which labour is in short supply. Those households with both draught animals and adequate labour have tended to continue to use donkeys or oxen to plough in order to earn the ploughing subsidy themselves. In some cases, owners of draught power plough others' fields as well and they divide the ploughing subsidy between them. Those with large fields over five hectares but with limited labour resources will sometimes arrange for a tractor to plough five hectares and then plough the remainder themselves.

Crop Production

Most households were unable to produce enough food for their household's needs. Of the twenty five households interviewed, only three said that they always meet their subsistence needs, while two others said they usually do. Only three households out of the five said they regularly sell any arable surplus. Of the remaining twenty households, eleven said they never produce enough food and nine said they sometimes do. Many of these households said that in the past they did produce enough. There was no consensus as to when this "past" was, ranging from decades ago to a few years ago, but all blamed the lack of production on declining rainfall.

Livestock

Sixteen of the households interviewed said that they owned cattle, although only four of these had more than 30 cattle. All of the households without cattle said that they had previously owned cattle but lost them due to drought. Four of these said that they had lost all their cattle in the 1992 drought. Only four households used cattleposts, although three households who now keep cattle at the lands said they used to keep them at cattleposts but had moved their cattle to the lands due to the high death rate at the cattleposts. Of those without cattle, four said that they used to keep cattle at a cattlepost, not the lands. The only household which did not own goats consisted of an elderly couple who were looking after young grandchildren, for whom herding would have been a problem. Donkeys were kept by most households; even when they preferred to use a tractor for ploughing, donkeys were used for transport between the village and the lands.

The official census conducted in 1991 provides information on stock ownership by household. It does not give the number of cattle or goats owned by each household, but simply states the number of households that own each animal. Of the 119 households in Mmutlane at the time, 66 (55%) owned cattle, 92 (77%) owned goats, 13 (11%) owned sheep, 54 (45%) owned donkeys, 84 (71%) owned poultry and 13 (11%) households owned no animals. Of the households selected for interview, 64% owned cattle, 96% owned goats and 80% owned donkeys. None owned sheep and the chicken population had been recently decimated by Newcastle's disease. Livestock ownership was slightly higher among the households interviewed than for the 1991 census but there is insufficient data to say whether this is a reflection of a bias in the selection of households, or wider changes in livestock ownership.

Income

The two major sources of income were the drought relief works programme (eleven households) and remittances from children working in the towns (eleven households). Seven households did not depend on either of these: two of these owned tractors and another was the driver for his father's tractor and shared the income; two were builders; one cut wooden fencing poles; and one was a teacher who worked in Mahalapye but farmed in Mmutlane and jointly owned a herd of cattle with his father and sister. Some people supplemented drought relief money by collecting and selling firewood or grass for thatching, or by brewing beer. Others said that if the drought relief programme was stopped or suspended, they would undertake such activities to generate income.

Membership

Twelve of the households interviewed said that they did not belong to any formal organisation, whether a community group or church. Of the thirteen households which did claim some form of membership, seven of these belonged to more than one organisation. There is no clear link between church membership and membership of other organisations, although most of the more active women members of the various committees were also church members.

Classification of Farmers by Income

Examples are given of more detailed profiles of several farmers in Mmutlane. They have been divided into three main categories: wealthy farmers, middle income; and poorer farmers. They follow closely the criteria which Arntzen (1989:100-1) used in the economic stratification of households. He defines the upper stratum as those with over 40 head of cattle or with one member of the household in formal employment; the middle stratum consists of households with 21 - 40 head of cattle (upper middle) or 1 to 20 cattle (lower middle); and the lower stratum as those

without cattle, consisting of those who farm and those which do not. These classifications relate both to sources of income and local perceptions of wealth. Although cattle remain a central factor in wealth ranking, other forms of wealth are becoming increasingly important. Diversification of sources of income is a major factor differentiating these categories.

The two wealthy farmers, Mr. B. Mmipi and Mr. Gabonamong, each have three main sources of income. Both are tractor owners, which means they can earn a considerable income from government ploughing subsidies. B. Mmipi sells vegetables and Gabonamong sells cereals and beans. Mmipi's main source of income is selling water from his borehole. Selling his water to others has led to overgrazing around his borehole to the detriment of his own cattle. Mmipi has moved away from investing in cattle since selling water is a more secure form of income than keeping a large herd. Gabonamong's third source of income is still in cattle. However, he plans to reduce his herd size in the future because of the poor grazing at his cattle post and instead invest in developing a small vegetable garden.

The farmers classified as middle income farmers all have at least two main forms of income, but none has a source of income comparable to that generated from owning a tractor or borehole. Four of the five farmers in this category own cattle, but their herds are relatively small and cattle sales low. Two receive remittances from children, and one works as a roof thatcher. Three of them sometimes work on the drought relief works programme. One of them also collects grass and brews beer.

The three households in the poorer farmers category have no regular source of income except for, in the case of Mr. M. Mmipi (a younger, half brother of B. Mmipi) and Mrs Molatsi, remittances from children in employment. None of them has managed to produce enough food for the household needs in recent years. All claimed to have owned cattle in the past but have since lost them all due to drought. Mr. Mobela relies on earning a small income from brewing beer and collecting firewood and grass for thatching. His wife also works on the drought programme.

All the households in the middle and poorer categories return to their houses in the village after harvest, and remain there until ploughing resumes again with the onset of rains. However, the two wealthy farmers remain at the lands throughout the year, although they both maintain houses in the village which they use occasionally. Both are able to obtain readily water for domestic consumption during the dry season. B. Mmipi has a borehole which provides domestic water for his family throughout the year and Gabonamong uses his tractor for transporting drums of water from the village to his farm. This allows them to continue with agricultural activities throughout the year. Mmipi's vegetable garden needs daily attention, and Gabonamong uses the dry season to continue to fence and clear his large allocation of land.

In terms of membership of village organisations, the middle income farmers are most active. Mr. Ntutu is deputy chairman of the VDC and used to belong to the farmers' committee. He is also a member of the Galatian church in Mmutlane. Mr. Otlhomile is a member of the dam committee and the drift fence group and a former member of the farmer's committee. Mr. Ramahosi is the leader of the Zionist Christian Church in Mmutlane and a former treasurer of the farmers' committee and a VDC member. His wife is chairman of the farmers' committee and is a member of the VDC. Mrs Mobela is a member of the farmers' committee. Mrs Motswera is not a member of any organisations but used to be a member of the health club.

Neither of the two wealthy farmers, B. Mmipi and Gabonamong, are currently involved in any organisations. Mmipi has never been a member of any organisation, whereas Gabonamong is a former treasurer of the farmers' committee and member of the parent-teachers' association (PTA). Both men concentrate on farming and spend little time in the village. The three poorer farmers do not belong to any organisations in Mmutlane other than churches.

The two wealthy farmers have gained most from the government's agricultural policies. As tractor owners they have been able to generate a considerable income through the ploughing subsidies under the drought relief programme. The middle income farmers all own draught power and have been able to earn the ploughing subsidy for their own fields. They have also benefited from the ALDEP scheme through which farmers can buy agricultural equipment at subsidised prices. The three poorer farmers are not able to generate income from ploughing because they do not own draught power, or in the case of Mrs Molatsi, do not have the labour for ploughing. Nor have they had the capital to get much benefit from ALDEP although Mrs Molatsi obtained donkeys and fencing materials through ALDEP.

Wealthy Farmers

1. Mr. B. Mmipi

Mmipi was born in Mmutlane in 1926. In his youth, he worked in many places, including Johannesburg, Windhoek and Kimberly and then returned to Mmutlane to farm in 1951. Mmipi is one of the few farmers in Mmutlane to live permanently at the lands. He has a house in the village but this is used by one of his sons. His reason for staying at the lands is in order to manage more closely his vegetable garden and the adjacent borehole. He has 13 children and many grandchildren, many of whom still belong to his household.

Mmipi has three main sources of income. Firstly, he owns the only borehole in the Mmutlane and Bonwapitse lands area and sells water during the dry season. Many cattle and small stock owners depend on Mmipi's borehole when other sources of water, such as the Mmutlane dam, dry up. Secondly, Mmipi started vegetable production in 1991, and is the only vegetable producer in the village. Thirdly, he bought a tractor in 1992 which his eldest son manages and which brings in a considerable income through the government ploughing subsidies.

His land is adjacent to the Bonwapitse river. The headman of Mmutlane granted him permission to sink a borehole there in 1970 for watering his cattle. He had raised the money for the borehole by using a mule and cart to run a transport service between Mmutlane and Mahalapye. Initially he only used the area as a cattlepost but later realised that the alluvial soils there would be good for cultivation. In 1975 he started dryland farming there but only formally registered the land with the land board much later. He has cleared eight hectares, but still has additional land that has not yet been developed.

Mmipi is the only person from Mmutlane to farm at the river although many use this area for grazing. Mmipi thought this was due to what they perceived as a risk of flooding. Apparently, one other man used to cultivate a field by the river but he gave up after a bad flood destroyed his crops. Most people thought that the river flooded every year, but Mmipi has only experienced two bad floods since he started farming at the river in 1975, both of which washed his fences and crops away. Given the infrequency of the floods, the benefits of farming at the river more than

compensated for the occasional years in which his crops were completely destroyed. However, Mmipi is only able to take such risks because he has other sources of income should his crops fail.

Mmipi is the only farmer in Mmutlane to grow vegetables. He started the vegetable garden in 1991 on the suggestion of his daughter. His daughter had no training in vegetable production but had got the idea from school and realised the potential due to the good soils and abundant water from his borehole. He has two fenced, vegetable gardens, both adjacent to his borehole, which he uses for irrigation. He grows onions, spinach, cabbages, tomatoes, green maize, and potatoes. These are sold in Mmutlane, Bonwapitse, Kalamare and Mahalapye on an informal basis.

Nowadays, Mmipi owns only about 15 cattle which he keeps at the lands, along with goats and donkeys. The grazing land around his farm is in poor condition due to the large number of cattle which use the area. In the rainy season they drink at the river and during the dry season, they use Mmipi's borehole. He lets anyone use his borehole as long as they pay, and does not restrict the number of cattle that any one owner can water at his borehole. He charges according to the number of cattle they have, and may charge as much as P500 to use it for one dry season. Crop damage was not a problem because his field and vegetable gardens were fenced.

2. Mr. Gabonamong

Gabonamong was born in Mmutlane in 1927. He worked in the mines in South Africa from 1947-52. He has 11 children and 19 grandchildren. Of the children six are still living in his household, although one of these is farming independently. One child is working in the mines and one is working in Gaborone. His main sources of household income are hiring out the tractor, cattle sales and selling surplus crops.

He has 13 hectares of cleared land and 10 hectares of uncleared land. He was allocated this land by the headman in 1959. He only applied last year to register it formally with the land board. His household is able to meet subsistence food needs and most years sells surplus sorghum, maize and beans. Surplus food is sold directly to individuals, not through any marketing boards or businesses. Gabonamong attributes his success in farming to harrowing which he thought allowed more water, sunshine and air to circulate among the crops. Other factors leading to high crop production are early ploughing, an exceptionally large field of 13 hectares, and careful attention to weeding. He broadcasts seeds rather than row plants. He never uses fertiliser nor leaves fields fallow, although he did practice crop rotation. He did not think that production was declining due to soil exhaustion.

Gabonamong keeps cattle at a cattle post at Kedikelwe, about 11 kilometres north of his farm, on the Mahalapye river. He has a well there which never goes dry, and his youngest son looks after his cattle. Some cattle are also kept at the lands for milking. He also keeps goats at the cattle post and donkeys at the lands. He considers the grazing at Kedikelwe to be poor nowadays due to low rainfall and he intended to distribute his cattle among his children and only keep a few for himself at the lands. He sells cattle through the Mahalapye Marketing and Credit Cooperative of which he is a member. His father was a member of the Shoshong Cooperative, but he himself joined the Mahalapye Cooperative since it was easier to transport cattle to Mahalapye by road than to Shoshong. He was able to buy his tractor in 1990 by selling cattle.

Middle Income Farmers

1. Mr. G. Ntutu

Ntutu was born in Mmutlane in 1940. He worked in mines in Johannesburg from 1965-6 and then returned to Mmutlane. There are 16 in his household, consisting of Ntutu, his wife, nine children and five grandchildren. None of his children have yet married or established their own households, although three children work in Gaborone and send money home regularly. Ntutu's main source of income is selling cattle. Most years he also produces a surplus of sorghum and cowpeas which he sells. He, or his wife, will sometimes work on the drought relief programme, but both concentrate on farming activities during the ploughing and growing season.

Ntutu currently ploughs about 6.5 hectares, and in addition has several hectares of uncleared land. He obtained his land in 1984 through an allocation from the land board. Previously he had farmed on his father's land. However, when his father died, following Tswana custom, the younger brothers inherited the land. The main crops that he plants are sorghum, beans, sunflower, watermelons and groundnuts. Most years he is able to grow enough food for his family's subsistence needs. He thought that in the last few years, rainfall had become more irregular and this had reduced production. He uses donkeys for ploughing which he considers stronger and more hard working than cattle. He also supplements his income by hiring out his donkeys to others.

Ntutu has about 40 adult cattle which he keeps at the lands. Until 1990 he kept them at a cattlepost but the drought that year killed off many of his cattle and he moved the remainder to the lands. He thought that there was enough grazing at the lands all year round for his cattle. He uses the dam for watering his cattle. When this dries up he uses the borehole owned by Mr. Mmipi for which he pays P500 a year. He sells older cattle to the BMC every year, through the Mahalapye Cooperative.

2. Mr. G. Otlhomile

Otlhomile was born in Mmutlane in 1941. From 1963-4 he worked in the mines in South Africa, and has lived in Mmutlane since then. There are nine in his household, including himself and his wife. He has one son working in Gaborone and another staying in Selibi-Phikwe, although he is not sure if he has a job. The main sources of his household's income come from selling cattle and working on the drought relief programme. He has not been able to meet the subsistence needs of his household since 1988, when he was able to sell a surplus. Since then the rainfall has not been good and they have to buy food from the shops.

He has 8 hectares of cleared land which was granted by the headman in 1965. This land is now registered with the land board. He feels that the 8 hectares is insufficient for his household's needs but there is no unallocated land adjacent to his fields so he cannot extend. Normally he ploughs 5 hectares with a tractor under drought relief, and the remaining 3 hectares he ploughs with cattle or donkeys.

He has 30 cattle which he keeps at the lands, together with 13 goats and 11 donkeys. They graze on the adjacent hills, where he said there is very good grazing. In the past he was part of a borehole syndicate at Mmachele. However, many cattle died from disease there, so he moved them to his lands, where they have fared much better. His cattle drink at the dam or, during the rains, at the Bonwapitse river. When the dam dries up he takes his cattle to Mmipi's borehole. He pays Mmipi one ox for using the borehole for 6 months. Once he approached the Boipelego dam group to use the dam, but was told that the full quota of cattle using the dam had been reached. He normally sells about one ox a year, either to individuals or cattle agents. Although recognising that the BMC pays higher prices, he did not use the Shoshong or Mahalapye cooperatives because of the delay in getting the money.

3. Mr Ramahosi

Ramahosi was originally from the Bokaa ward in Shoshong but married a woman from Mmutlane and decided to settle in the village. They have eight children and four grandchildren living in their household, although one of the children is working in the towns. Ramahosi's main source of income is as a roof thatcher but in addition they sell surplus food some years. He used to keep cattle at the lands but they all died in the 1992 drought. He has 10 hectares of cleared land and a further 4 hectares of uncleared land. They started farming here in 1967, and were given the land by Mrs Ramahosi's father. In 1993 they registered the land with the land board.

The Ramahosi family are renowned in the village for practising improved farming methods, which they have been using since 1987. They are one of the few households to own and use a row planter, harrow and cultivator. All these implements were purchased under ALDEP whereby farmers pay just 15% of the cost, along with two ploughs, fencing and donkeys. Food production has increased since they started using the improved methods. They normally produce enough food for their household and sometimes sell the surplus. Last year, for example, they sold 3 sacks of maize (1 sack = 70kg) and 3 sacks of beans. For maize they got P60 per sack and for beans P50. They practice both row planting and broadcasting seeds. Row planting produced a better yield but they sometimes broadcast seed if time is short. They also practise crop rotation which they felt was very important, although they never leave any land fallow.

4. Mrs K. Motswera

Mrs Motswera was born in Mmutlane in 1930. She is now a widow and heads the household. She has four children; two sons, two daughters and eight grandchildren. One son and one daughter are married, and the other son works in town. Her income comes from selling cattle and assistance from the son who is in employment.

She has 6 hectares and an additional 2 hectares of uncleared land. They have farmed there since 1954 and the land is now registered with the land board. If there is time her son ploughs her land with oxen in order to receive the ploughing subsidy which they share between them. If not, she hires a tractor. Some years, depending on the rainfall, they produce enough food for subsistence needs, and sometimes they even have a surplus to sell. She owns both cattle and goats but many have gone astray because there is no one to look after them.

5. Mrs G. Mobela

Mrs Mobela was born in Mmutlane in 1940. She is a widow; her husband died in 1991. She has an adult son and an adult daughter in her household and two grandchildren. She cultivates five hectares of land which she inherited from her maternal grandmother. This has been registered with the land board. She would like to cultivate more land but cannot expand her field since it is surrounded by other people's fields and she does not want to farm elsewhere. Her yields have not been good in recent years and she has to buy most of her food.

In order to generate cash, her son ploughs her field with donkeys to get the ploughing subsidy, and she works on the drought relief programme, collects and sells grass for thatching, and sells traditional beer. She also owns five cattle, five goats and six donkeys which she keeps in the village. During the 1992 drought she lost 20 cattle. The only group that Mrs Mobela belongs to is the Farmers' Committee.

Poorer Farmers

1. Mr. D. Mobela

Mobela was born in Mmutlane in 1948. He worked in the mines in South Africa from 1974-7 and from 1987-9. He is married with six children, none of whom are married or in employment. One of his children helps with farming, but the rest are at school. In order to earn money for purchasing food and other necessities, they sell traditional beer, and collect firewood and grass for thatching. His wife sometimes works on the drought relief programme. He owns two goats but owned no cattle nor donkeys. In the past he owned cattle but lost them all in the drought.

He has 3.5 hectares of land, all of which is cleared. The land originally belonged to his father from whom he inherited it as the last born son. He has formally registered this land with the land board. The land has not been sufficient for his household's needs and he recently applied for an additional 2 hectares from the land board, adjacent to his current farm. This has now been formally allocated by the land board although he has yet to clear it. He hires a tractor to plough under the drought relief programme but complained of having to wait a long time for the tractor to come.

He never produces enough food for his family's needs. His field is located near to one of the gates in the drift fence and many cattle pass through this area. Crop damage from cattle is a common problem and he has sometimes found it difficult to get compensation for this. He has made a simple bush fence which is easily breached by cattle, but he does not have enough money for a wire fence.

2. Mr. M. Mmipi

M. Mmipi was born in Mmutlane in 1925. He went to work in the mines in South Africa in 1946, and worked on and off in the mines and farms in South Africa for twenty years. In 1967 he returned permanently to Mmutlane and married. They have nine children none of whom is married. Of these, three are working in the towns, one in Gaborone and two in Palapye. His household is dependent on remittances from these children in order to buy food and clothes. He used to keep about 20 cattle at the lands but they all died of various diseases a long time ago.

He has 5 hectares of cleared land and 6 hectares of uncleared land. He obtained the land through the land board and has farmed there for many years. In the past, he farmed on his father's land, but there was not enough space there for all the sons and he decided to move. His household does not produce enough food for their subsistence requirements. He compared the present situation to his youth when the rains were much better and when they produced plenty of food. He hires a tractor for ploughing under the drought relief programme.

3. Mrs. G. Molatsi

Mrs Molatsi was born in Mmutlane in 1920. Her husband died in 1983. She has five children, but only one daughter and her child remain in the household. Her only source of income is the money she receives from her children who have urban employment. She has no cattle and is too old to work on the drought relief programme. She farms five hectares on land allocated to her husband in 1973 by the chief. This was later registered formally with the land board. She has a few goats and donkeys, although she is unable to plough herself and asks a tractor owner to plough for her. The only group of which she is a member is the congregationalist church (UCCSA).

3.2 THE INSTITUTIONAL BACKGROUND TO MMUTLANE

3.2.1 Local Government Institutions

Mahalapye Subordinate District Administration

Mmutlane is directly under the Mahalapye Subordinate District Administration, with no intermediate level of administration between them. Mahalapye is one of five subordinate districts in Central District, the others being Serowe-Palapye, Bobonong, Boteti, and Tutume. There are four district officers working for the sub-district administration: the district officer; assistant district officer; district officer (lands); and district officer (development). At the time of research both the DO(L) and DO(D) were away on study leave for one year. Mahalapye Sub-District Administration does not have a district commissioner but is headed by a district officer, who reports to the district commissioner at Serowe. However, the district officer has similar powers to that of the district commissioner and rarely needs to refer matters to Serowe. He is the first point of contact with the sub-district for the Office of the President and central ministries and he coordinates the visits of the President, ministers and other senior officials. As chairman of the sub-district development committee he coordinates all other government departments in development initiatives within the sub-district. He also has a judicial role. He can sign warrants and summons if the district magistrate is absent. He also reviews punishments administered by the customary courts, and can reduce the sentence if he thinks it is too harsh. However, neither the customary courts nor the magistrate's court are the responsibility of the district officer.

The district officer is assisted by the assistant district officer. At Mahalapye, the ADO undertakes many of the judicial responsibilities of the district officer, acting as the marriage officer and commissioner officer for the sub-district and reviewing customary court cases. He also coordinates the administration of the district office and acts on behalf of the district officer when he is absent. The DO(D) is responsible for development planning in the sub-district and assists the district officer in coordinating development projects, whether originating from central or local government, or donor agencies. The DO(D) is also secretary of the sub-district development committee.

The work of the district officers (lands) in Central District is coordinated by the senior DO(L) in Serowe, who is currently an expatriate. Each sub-district should have its own DO(L), although in January 1995 only two of these positions were filled. One of the main tasks of the DO(L)s is to advise land boards on land use and environmental issues. For the past four years, the DO(L) at Serowe has had an inventory on the location of most of the water points in Central District, including dams, wells and boreholes. The location of the water points was surveyed with the global positioning system and the information has been put on a GIS data base. The inventory also contains information on who owns the water point, what it is used for, how deep it is, its yield (if a borehole) and condition (eg. working, out of use). The senior DO(L) has ordered satellite navigators for each of the subordinate land boards in the district so that they can develop their own data bases.

Mahalapye Sub-district Council

Mahalapye is one of the five subordinate councils of Central District Council, the boundaries of which follow those of the five administrative subordinate districts. The subordinate district councils have essentially an administrative function and are not political bodies. The district councillors are elected to the Central District Council, not to one of the subordinate district councils and all major decisions are made at Serowe. In the 1994 elections, there were 104 council seats, of which 100 were won by BDP candidates, 3 by the Botswana Progressive Union and 1 by the Botswana People's Party. There are 24 wards within Mahalapye Subordinate District, all of whom elected BDP candidates, and in addition the minister nominated 3 further BDP councillors from the sub-district. Councillors from the same sub-district do not meet as a group, except for the sub-district licensing committee which makes recommendations to the district licensing committee. No other council committees have sub-district committees. Council staff, on the other hand, are attached to specific sub-district councils, not just to Central District Council. Their role is to implement programmes decided upon by the district councillors. All funding for the sub-district councils comes from Serowe. Recruitment of staff, other than industrial workers, must be approved by Serowe.

The Mahalapye Sub-district Council is the largest employer of staff and has the largest budget of any government institution in the sub-district. It has the following departments: Education; Social and Community Development; Works; Health; Treasury; Transport; Secretariat; Remote Area Development Programme; Water Unit; and Roads. The council is responsible for primary health care in the sub-district. Nurses employed in clinics are members of ULGS. Hospitals and their employees are the direct responsibility of the Ministry of Health. The sub-district council is responsible for primary schools, but not secondary schools which fall directly under the Ministry of Education. The council is responsible for building and maintaining schools, providing books and stationery, and administers the payment of teachers on behalf of central government.

Among the many functions of the Social and Community Development Department are supervising VDCs and running the destitutes' programme. There are community development officers (CDOs) in the main villages of the subordinate district, including Shoshong and Kalamare. Mmutlane falls under the responsibility of the CDO at Kalamare. The SCDD plays an advisory role in helping VDCs to seek funding for VDC projects and runs workshops for VDC members. The VDC must send minutes to the SCDD in order for the members to get the sitting allowance and must also provide financial statements.

Mahalapye Drought Relief Programme

The drought relief programme falls under the secretariat of the subordinate district council and is coordinated by the drought coordinator. He is assisted by three technical officers, two of whom are supplied by the United Nations volunteer programme. All of these are civil engineers, and each is responsible for a specific area of the subordinate district. Funding for the DRP comes directly from the MLGL, but is coordinated by Serowe. The funding goes to the treasury department of the district council, and no money is handled by the drought coordinator or by his DRTOs. This puts a heavy burden on the council's treasury department and extra staff have had to be employed to work specifically on the DRP.

Each sub-district has a drought committee which consists of representatives of all relevant government departments. Each VDC in the subordinate district submits a list of the projects they want to undertake as part of the DRP. The subordinate district drought committee then reviews these proposals and decides which should be included in the drought relief programme. It then draws up a project memorandum of all the projects to be carried out under DRP in the sub-district, with a cost breakdown for each project. This is sent to the MLGL for approval. The total budget approved for DRP projects in Mahalapye Sub-district in 1994/5 was 3,368,280 Pula (£842,070) including transport costs. This covered 35 villages or smaller settlements. They were all general construction and fencing projects, including classrooms, houses for government workers, kgotla shelters, storerooms and cemetery fences. Mmutlane had a total allocation of P98,140 compared with P47,553 for Bonwapitse and P48,353 for Kalamare. Villages such as Mmutlane which have a good record of completing projects on time are usually allocated more projects than villages which have poor records of completion.

The main problem constraining the implementation of the DRP is the inability to purchase building materials in bulk. Basically, the DRP lacks the purchasing power for undertaking such a massive programme. No special conditions have been established for the drought relief programme and it is subject to normal council regulations. The drought coordinator asked the MLGL for a waiver to free them from these regulations, but this was refused on the grounds that it may be open to abuse and funds might be used indiscriminately. The DRTOs are limited to purchases of a maximum of P5000 at any one time, which has led to considerable delays in obtaining building materials for village projects.

The Bangwato Tribal Authority

The Bangwato Tribal Authority covers the whole of Central District. There are two types of sub-division within the tribal authority. Firstly, it is divided into a number of subordinate tribal authorities each of which has a chief (the senior subordinate tribal authority). Mmutlane's headman, for example, falls under the authority Shoshong's senior subordinate tribal authority. Village headmen report firstly to their senior subordinate tribal authority, who in turn report directly to the Bangwato chief (the senior tribal authority) in Serowe. Within Mahalapye Subordinate District, there are five subordinate tribal authorities: Shoshong, Mookane, Sefare, Ramokgomi and Mahalapye. Each of these chiefs is of the same status and each reports directly to Serowe, not Mahalapye.

However, the administration of the Bangwato Tribal Authority follows the subordinate district boundaries, not those of the subordinate tribal authorities. Each subordinate district has an assistant tribal secretary (ATA) who reports to the tribal secretary in Serowe. There is one assistant tribal secretary for Mahalapye. His main duty is the financial administration of the district. He pays the salaries of all the chiefs, headmen, court clerks, and local police, and also all allowances. He is responsible for the administration of all money allocated to the tribal administration in Mahalapye subordinate district and is assisted by an accounts officer and supplies officer. None of the employees of the tribal administration, including the court clerks and local police, are members of ULGS. Salaries for each employee of the tribal administration are sent by MLGL to the assistant tribal secretary in Mahalapye for distribution.

The Bangwato Land Board

The Bangwato Land Board has thirteen subordinate land boards. Three of these are within Mahalapye subordinate district: Shoshong, Mahalapye and Sefhare. Each of the subordinate land boards is of equal status and all report directly to the main Bangwato Land Board in Serowe. While most land allocations can be made by the subordinate land boards, the following types of allocation must be made by the main land board at Serowe: customary application for boreholes and open wells; common law applications for leasehold land. Land used for commercial use, such as a shop or a poultry farm, must be leasehold. Leases are usually for 50 years and are paid to the land board. Applications for water points and common law applications must first be made to the subordinate land board. The members of the latter visit the site and then make a recommendation to the main land board, which then makes the final decision.

The Shoshong Subordinate Land Board

Mmutlane and its lands fall within the boundaries of the Shoshong Subordinate Land Board (SLB). Shoshong SLB covers a large area, stretching from the main Francistown - Gaborone road in the east to the Central Kalahari Game Reserve in the west. There are ten main villages within the SLB: Shoshong, Kodibeleng, Kalamare, Boloka, Mmutlane, Mokgegea, Dibete, Ikongwe, Mosolotsane, and Otse. The boundaries of Shoshong SLB and Shoshong Tribal Administration do not coincide, with the former covering a much larger area than the latter. For example, Palla Road is in the Shoshong SLB but under the chief of Mahalapye. Bonwapitse is within the Mahalapye SLB, but some of the village lands are within the Shoshong SLB. The river forms the boundary near the village, but upstream the river meanders and the boundary is not clearly defined. The boundaries of Shoshong SLB are not physically demarcated, except where the boundary follows a road, river or cordon fence. According to the board's administrative officer, this has not yet caused major problems for the Shoshong SLB. The land board's minutes refer to only one case since 1990 in which there has been some confusion over boundaries. In November 1993, an application was made to Shoshong SLB for a borehole at Mokgware. The application had already been turned down by Mahalapye SLB on the grounds that it was not within its boundaries. Shoshong SLB also turned down the application on the same grounds. Serowe SLB was approached by Shoshong SLB, but it too did not know whether the site was in its area or not. The three subordinate land boards decided that Serowe SLB should be responsible for it, and the Bangwato Land Board was asked to approve of this.

The Shoshong Subordinate Land Board has eight members, four of which were elected by the village kgotla and four appointed by the Minister of Local Government and Lands. Each of the villages in the Shoshong SLB holds an election at the kgotla every five years to select a candidate for a the land board. Larger villages elect two or three candidates, while smaller villages elect only one. In the 1994 land board elections, a total of 20 candidates were elected in this manner. The selection committee has to select four of these as land board members. The procedure followed in Shoshong SLB in 1994 was to choose the four candidates with the largest majorities, relative to village size. The selection committee then has to suggest four names for the minister to nominate, although the minister is not bound by these. In the case of the selection of the new land board members in 1994, the selection committee, which is chaired by the district officer for Mahalapye Sub-district, selected four candidates from the remaining 16 candidates, based on qualifications, work experience, age and village. These were then recommended to the minister. The selection committee could have recommended other candidates who were not elected at the kgotla if they thought they would be better qualified for the job, but all those recommended by the Shoshong

SLB in 1994 were first elected at village kgotla. The minister nominated three of the selection committee's recommendations, but rejected the person from Boloka and nominated someone else. Of the new land board's members, five were on the previous land board.

In addition to the elected land board members, and the land board's administrative officer, there are several ex-officio, non voting members who are invited to attend the meetings in order to provide specialist advice to the land board members. These are representatives of other government departments - the district agricultural officer, the commercial officer from the Mahalapye office of Ministry of Commerce and Industry, the district officer (lands) - and the chief of Shoshong or his representative.

The Shoshong SLB meets six time a years. Members first meet in Shoshong for about a week to consider correspondence and general land board business, and to consider applications in Shoshong. They then visit all the villages in the Shoshong SLB to consider applications. This may take up to two weeks to cover all the villages. Applications are first considered at the kgotla, then the site of each application is visited. If the land board members approve of the application, the boundary is marked out. When an allocation is made, the SLB administrative officer makes a sketch map of the plot. A more detailed sketch is made for common law applications. The sketch map shows the size of the plot, its shape and boundaries (angles and boundary lengths are shown). In addition, an entry is made in the SLB's record book of the details of the allocation. The certificate of allocation also gives details of the size and location of the plot. Land that was already allocated before the establishment of the land boards in 1970 can be formally registered with the land board. In order to do this the land board depends on witnesses who were around at the time of the allocation, or who were in a position to know whether the applicant had been using the land in question.

3.2.2 Central Government Institutions

Mahalapye District Agricultural Office

Mahalapye Agricultural District is one of seven districts in the Central Agricultural Region. The agricultural districts are under the Department of Crop Production and Forestry in the Ministry of Agriculture. Mahalapye Agricultural District is headed by the district agricultural officer (DAO). The DAO is one of the senior civil servants in the subordinate district and a key member of all the major sub-district committees, including the sub-district development committee, the sub-district drought committee, and the sub-district land use planning unit. The DAO or his representative is also invited to all the meetings of the Mahalapye and Shoshong subordinate land boards.

He is assisted by the several specialist officers who are attached to the district office: crop production officer; soil conservation officer; forestry officer; bees officer; horticultural officer; 4B officer (school agricultural clubs); and marketing officer. There is also a cooperatives officer based at Mahalapye although he is accountable to a separate ministerial department and does not report to the DAO. In addition, there are several specialist technical officers based at the regional headquarters in Serowe who cover the whole region including a land use officer, plant protection officer, irrigation officer and resources officer. Mahalapye Agricultural District is itself divided into fifteen agricultural extension areas. Each of these should have a resident agricultural demonstrator and field assistants, although usually some posts are vacant. One extension area covers Mmutlane

and Bonwapitse. There is an agricultural demonstrator and two field assistants at Mmutlane and one field assistant at Bonwapitse.

Mahalapye Veterinary District

Veterinary districts in Botswana are under the Department of Animal Health and Animal Production in the Ministry of Agriculture. They are much larger than the agricultural districts. There are no veterinary regions, but there is a southern and a northern section. Mahalapye veterinary district is part of the northern section, whose headquarters are in Francistown. Mahalapye Veterinary District is headed by the district veterinary officer, who is assisted by four senior technical officers, nine technical officers, and one senior stock inspector. In addition many larger villages have a veterinary assistant. There is no resident veterinary assistant at Mmutlane. Mmutlane falls under the responsibility of the veterinary assistant at Kalamare although villagers complained that they he neglected Mmutlane.

Most of the work of the district veterinary office is concerned with animal health rather than animal production. In Botswana, free vaccinations are given against anthrax, contagious abortion, rabies and black leg. Vaccinations are also given against botulism in times of drought. Livestock officers must also assist in foot and mouth vaccination in the north west of Botswana twice a year. Given the extensive vaccination programme, little time is left for extension work in relation to animal production.

3.2.3 Non-governmental Organisations

There are no national or international NGOs running programmes in Mmutlane, Kalamare and Bonwapitse. All these villages have community based organisations, which are discussed below under the heading of village institutions. Two NGOs have been established in Shoshong, and these are briefly described below. Neither organisation has undertaken any programmes in Mmutlane, although some villagers from Mmutlane do use the Shoshong Marketing Cooperative for selling cattle.

Shoshong Brigades Development Trust

In 1984, Shoshong VDC approached CUSO, a Canadian NGO, to undertake a survey of the development needs of Shoshong with a view to setting up a development trust. CUSO had already helped to establish the Mahalapye Development Trust. In response to the recommendations of this survey, the Shoshong Development Trust was established in 1985. The aims of the trust were to create employment opportunities for the people of Shoshong. It initially concentrated on five areas: assistance to craft producers; an agricultural and horticultural programme; a bakery; a brick and block making unit; and a business extension service. The Trust was dependent on support from several donor agencies, both in terms of funding and personnel.

In 1992, the Shoshong Development Trust decided to become the Shoshong Brigades Development Trust in order to be eligible for funds from the Ministry of Education. This has made the Trust less dependent on outside donors, but a condition of receiving government grants is that the Trust has to focus primarily on training. Since becoming a Brigade Trust in 1992, the Trust has

become more closely linked with the government. In theory it is an NGO and should be autonomous but the Department of Vocational Education and Training in the Ministry of Education has demanded some say in the running of the Trust. For example, new appointments to the staff of the Trust must be approved by the Department.

The Minister of Education now appoints two of the trustees on the SBDT. Four other trustees are elected by the community through the kgotla and the chairman is selected from among them. Furthermore, according to the Deed of Trust, the SBDT now has to make the district officer, the assistant council secretary and the chief of Shoshong ex-officio members of the board of trustees. However, to date they have not shown much interest in involving themselves in the Trust. The National Brigade Coordinating Committee Secretary, in the Ministry of Education, is also a trustee but since he is a trustee of all 31 trusts in the country he rarely attends board meetings. The Coordinator is also a trustee and Executive Secretary of the Board.

Shoshong Marketing Cooperative

The Shoshong Marketing Cooperative was founded in 1973. Its main activity is sending members' cattle to the Botswana Meat Commission abattoir in Lobatse or Francistown. Since most farmers in the area only sell a few cattle at a time, it is not worthwhile for individual farmers to send them to Lobatse or Francistown as transport costs are high. The cooperative sells cattle to the BMC on behalf of its members, charging a 5% commission for this service. The cooperative also has a shop where it sells agricultural implements, fencing materials, building materials, gas and petrol and employs 21 people. It now has 758 members, most of whom come from Shoshong, but some are also from surrounding villages including Mmutlane. There is a P20 membership fee to join the cooperative. As members they receive 5% interest on their membership fee each year, and a bonus relating to any profit the cooperative makes at the end of the year.

3.2.4 Multi-party Politics

All the villages in the study area of this case study, Mmutlane, Bonwapitse, Shoshong and Kalamare fall into the Shoshong constituency. This constituency has always had a BDP Member of Parliament. The results of the last three general elections are as follows:

Table 3.11 Election Results for Shoshong Constituency

Constituency	1984	1989	1994
Shoshong	BDP 4630 BNF 145	BDP 3910 BNF 647	BDP 4315 BNF 1564

The official election reports only present figures for the whole constituency, and there is no breakdown of the votes for each polling station. It is not possible to find out whether the strong BNF vote comes mainly from Shoshong, which is a very large village, or if there was much support for the BNF in the smaller villages in the constituency. In the District Council Elections of 1994, there was a strong challenge by BNF for the Shoshong South ward, but in the other wards covering the Shoshong Hills area, the BNF did not reach 50% of the BDP vote. In Mmutlane, the BDP was unopposed. Previous to the 1994 elections Mmutlane fell within the Kalamare ward.

Table 3.12 Results of District Council Elections in the Shoshong Hills

Ward	1984	1989	1994
Shoshong	BDP 1444 BNF 88	BDP 1475 BNF 260	-
Shoshong South	-	-	BDP 503 BNF 491
Shoshong North	-	-	BDP 535 BNF 227
Kalamare	BDP unopposed	BDP 991 BNF 122	BDP 442 BNF 139
Mmutlane	-	-	BDP unopposed

As was referred to in Section One, Central District is a stronghold of the BDP. In the 1994 local elections, opposition parties won less seats there than in any other district in Botswana, despite the fact that Central District is much larger. The only exception was Kgalagadi District where, as in Central District, the opposition won only four seats; however, there are only 20 seats for the whole council in Kgalagadi as compared with 104 seats for Central District.

Table 3.13 Summary of Elections Results for Central District

	1984	1989	1994
No. of seats per political party	BDP 57 BPP 1 BPU 2	BDP 59	BDP 100 BPU 3 BPP 1

(BPP = Botswana Peoples Party, BPU = Botswana Progressive Union)

Despite the increasing support for opposition parties in Botswana, as was reflected in the 1994 elections, there has not been a strong challenge to the BDP in Mmutlane or in neighbouring villages. Local issues have not been represented in party political terms and there is no sign of any increasing politicisation of civil society in the study area.

3.2.5 Village Institutions and Leaders

The Kgotla

The kgotla, or the "traditional" village assembly, is the central institution in Mmutlane village. Any matter of public concern to the village is brought before the kgotla for discussion. For example, if the Village Development Committee (VDC) has made any plans or decisions concerning the development of the village, they must call a kgotla meeting and seek the approval of those who attend. If any politician or civil servant visits the village, a kgotla meeting is called to enable him or her to address the villagers and hear their response. The kgotla is usually called by the headman, but in his absence, the District Councillor or VDC chairman may call the villagers to assemble at the kgotla. All elections for village committees are also held at the kgotla.

The kgotla also has a more formal role as the customary court. Cases involving minor crimes are brought before the kgotla by the local police. The headman presides over the hearing and the court clerk records the proceedings. At Mmutlane, kgotla offices have been built next to the traditional meeting place which consists of a semi-circle of wooden poles. These offices were built by the VDC and provide an office for the headman, the local police, the court clerk and the VDC.

The Village Headman²

The village headman is the traditional village leader. In the present day, however, his role is diminished and challenged by leaders from modern institutions, notably the District Councillor and the VDC Chairman. The headman still presides over the kgotla, which is the most important form of assembly in the village, but his main official role nowadays is in the settling of customary court

² Unfortunately during the whole period of fieldwork, the headman of Mmutlane was on sick leave in Francistown so it was impossible to ask him directly about his role or observe him at work. It is unlikely that he will be well enough to return to Mmutlane and a new headman will have to be appointed.

cases. In the past the headman made land allocations but this role has been taken over by the land boards .

Most villages in Botswana now have a headman whom they elect and who is employed by the Tribal Administration as a civil servant. When a headman is elected by the villagers, he usually serves in a voluntary capacity for a few years before being formally recognised by the Tribal Administration. Some villages still have headmen who have inherited their position, as in Mmutlane, but who nonetheless are still formally recognised by the Tribal Administration.

The headman settles both civil cases and criminal cases. The maximum punishment he can give is six months in prison and three strokes as corporal punishment. Someone sentenced by the headman can appeal to the chief in Shoshong, and failing that, to the Bangwato Tribal Authority in Serowe. If the headman sentences someone to prison, the district officer must first confirm the sentence and may reduce it if he wishes. The headman also signs passport forms, identity cards and applications to the land board.

The Mmutlane headman, Lekutlhile, was appointed by his father who was chief of the Batalaote at Serowe. The chief came to Mmutlane and told the villages he wished his son to be headman. The villagers agreed to this. However, the chief also said that his son was a teacher and could not be headman until he retired. In 1981, Lekutlhile retired from teaching and returned to Serowe. The people from Mmutlane then asked the chief of the Batalaote to send Lekutlhile to Mmutlane. However, it was a long process as some of the Batalaote leadership were against sending Lekutlhile to Mmutlane. The matter went before the main Bangwato kgotla, and Lekutlhile finally came to Mmutlane in 1985 when he was installed as headman.

However, because Lekutlhile had been appointed by the Batalaote themselves, without being formally appointed through the Tribal Administration of the Ministry of Local Government and Lands, Lekutlhile was not recognised as a government headman and received no salary. The kgotla at Mmutlane was recognised only by Mmutlane people but did not have a formal link with the Tribal Administration. However, with the help of the VDC, Lekutlhile eventually received the formal recognition of the Tribal Administration in 1987.

Ward Headman

Minor disputes are usually heard by the ward headmen before being taken to the village headman. They attempt to reconcile the parties or, in the case of crop damage by cattle for example, reach an agreement on compensation. The tiny number of civil cases that are brought before the customary court indicates that this method of informal dispute settlement is still working effectively. Ward headmen are also consulted over marriage in order to agree on the bridewealth.

The District Councillor

The district councillor commands more authority than any other leader in Mmutlane. He is widely respected and is by far the most dynamic leader in Mmutlane. He is also the wealthiest man in the village, and owns the village shop, a bar, two tractors, and two pick-up trucks. He has a very active involvement in village affairs and works closely with the VDC and headman, and has been very effective in taking village needs and problems to government authorities.

He worked for many years in commercial management in various towns in Botswana, but returned to Mmutlane in the mid-1980s. He was elected as the VDC chairman, a position he retained until he was nominated as a district councillor. He has been a district councillor since 1989, when he was nominated by the Minister of Local Government and Lands as a councillor. Mmutlane was within Kalamare ward at the time. A new ward was created for the 1994 elections covering Mmutlane, Bonwapitse and two smaller villagers, Thawane and Tobela. The councillor stood as the BDP candidate and was unopposed.

The relative authority of the headman, VDC chairman and district councillor depends as much on the individuals concerned as it does on position. For example, the former councillor was based in Kalamare and had little interest in Mmutlane. The current councillor was then VDC chairman of Mmutlane and had a much greater role in initiating village developments than any other leader. The headman of Mmutlane was much older and did not take an active role in village developments.

By contrast, in Bonwapitse it is the headman who is the leading figure in village developments and the person to whom villagers go for assistance. Although the village is within the district councillor's ward, he does not take such an active involvement in Bonwapitse as he does in his home village. The headman of Bonwapitse is also a local entrepreneur, like the district councillor. He was originally from Kalamare and worked for the Department of Water Affairs in Gaborone. During this time, he opened the first bar, butchery and shop in Bonwapitse. In 1989 he decided to leave his job in Gaborone in order to manage his businesses in Bonwapitse. In 1990 he was asked by the villagers to become their headman since they were unhappy with the behaviour of the existing headman. He accepted this position and was made an official headman by the Tribal Administration in 1992 and hence began to receive a salary.

Village Development Committee

The most prominent institution in Mmutlane is the village development committee. Its main function is to coordinate all development efforts in the village. The Mmutlane VDC was formed on 1 June 1968. Elections for the VDC are held every two years. There are 10 elected members of the VDC, including the chairman. Four of the current VDC members are men, including the chairman and vice chairman, and six are women, including the secretary and treasurer. The headman, the district councillor, the agricultural demonstrator, and other civil servants are also invited to VDC meetings as ex-officio members.

Members of the VDC do not receive any salary but they do receive a small allowance of P10 for attending each of the compulsory four meetings a year. The VDC must meet four times a year, but will meet more frequently if there are things that need to be considered. Minutes of the meetings are taken by the secretary and a copy is sent to the district council. The VDC has its own bank account which is administered by the treasurer. VDC money comes from house rentals or hiring out the community hall. Drought relief money is paid directly by the council to the LBRP labourers. However, grants to the VDC go into the VDC's account but the sub-district council must be notified.

The main activities of the VDC in Mmutlane have been to coordinate and implement infrastructural projects through the drought relief programme. For example, the VDC has built homes for civil servants, the kgotla offices and the shelter for the clinic, fenced the cemetery and rubbish tip and

made a small dam at the lands. It has also built the community hall and two houses as its own project, independent of the drought relief programme.

The VDC is informed by the council when the DRP is going to start each year and is invited to submit suggestions for projects. VDC members discuss the needs of the village among themselves and with government workers in Mmutlane and draw up a list of potential projects. These suggestions are then brought to the kgotla, for the villagers to voice their opinions. As a result, the VDC may drop some projects or add others. It then sends the suggestions to the council. The council selects which of the projects it wishes to implement under DRP and calculates costs and number of labourers/days needed for each project.

The VDC informs the people of the day when labourers will be recruited and asks them to come to the kgotla on that day. The people are told which projects will be undertaken and the number of labourers required for each project. They can decide in which project they wish to participate. The number of labourers for each project are then chosen. According to DRP procedures, no household should have more than one labourer if other households have none but wish to be involved. A household can provide more labourers if numbers permit. In the latest recruitment on Monday 9 January 1995, all those who wished to join the DRP were able to do so.

Before the DRP was instituted, the VDC had to raise its own money for projects. The first project was the building of two teachers' houses - traditional rondavals - near the school. It also built two classrooms. The recently completed community hall was a community project. The villagers raised 10% of the cost of building materials among themselves, by asking each villager to contribute P5; the remaining 90% of costs were paid by the sub-district council through the LG09 programme. Subsequently, further funding for furnishing the hall was received from the American Embassy Fund and Kalahari Management Services (connected to the Breweries).

Another task of the VDC is to identify which members of the village are in desperate poverty and unable to support themselves. They may then qualify to receive some assistance through the "destitutes" programme of the district council. Normally, only people who are unable to engage in agriculture due to disability or old age qualify for assistance under this programme. In making its assessment the VDC looks at the condition of housing, ownership of cattle or goats, and remittances from children. A list of names is selected by the VDC, which is sent to the CDO in Kalamare. The CDO then interviews the people on the list to check whether they meet the council's criteria for qualifying for assistance. The VDC must then apply formally to the council for approval of funding; the signatures of the VDC chairman, the headman and the councillor are all required on the application form.

The Farmers' Committee

Farmers' committees have been established throughout Botswana by agricultural demonstrators to provide an institution for disseminating extension advice and providing opportunities to learn new farming methods. However, the farmers' committee in Mmutlane has been inactive, occasionally organising training workshops but never undertaking any projects. The committee is still elected at the kgotla every two years, but holds no regular meetings.

The Dam Committee

The dam committee was formed in response to increasing concern in the village about too many cattle from other villagers using the dam. A kgotla meeting was held at the initiative of the chief and it was decided to form a committee and elect members of the committee. This took place in 1993. The committee was given the responsibility of developing the dam, by increasing its volume and enclosing it with a fence to restrict access.

The committee meets regularly and has drawn up a constitution. It has asked all cattle owners in the village who use the dam to contribute P10. This is the membership fee for joining the dam committee. The dam committee plans to allow only dam committee members access to the dam once the dam has been fenced. The dam committee hopes to get assistance from the Ministry of Agriculture in digging out the dam, but this has not yet been forthcoming. The dam committee also asked the VDC to request funding for digging out and fencing the dam under the Drought Relief Programme, but this was rejected by the sub-district drought committee in favour of housing projects.

The Drift Fence Group

The Drift Fence Group nowadays exists largely in name only and no longer meets. It was formed in 1984. In fact there are two groups, one dealing with the fence between the gate on the Mmutlane - Mahalapye road and the Shoshong-Mahalapye road, and the other with the northwards section of the fence which goes beyond the Mmutlane-Kalamare road. The members of the Drift Fence Group were elected in 1984, although others have been added since. They do not hold elections. The drift fence itself was built in 1985 through the drought relief programme; people were paid through the LBRP to cut fence poles and the government provided the wire. The drift fence groups are responsible for maintaining the fence and the gates, although in practice this is done by individual farmers.

Donga Reclamation Committee

This was formed in 1994 on the suggestion of the village agricultural demonstrator to fill in the gulleys that had developed in the village due to soil erosion. However, the committee has not yet drawn up a constitution or taken any action.

Other Groups in Mmutlane

There are a number of other organisations in Mmutlane which are not concerned with natural resource management. Most concern specific sectors and are organised by the relevant civil servants. They are:

1. Parent Teachers' Association
2. Village Health Committee
3. Village Extension Team (VET) Committee. This committee is intended to provide an opportunity for all the civil servants in the village (teachers, local police, court clerk, agricultural demonstrator) to meet and discuss ways of helping the village. The VET committee has not met for several years.
4. Crime Prevention Committee
5. School Clubs - 4B Club, Scouts, Health
6. Churches. The following churches have congregations in the village: UCCSA - United Congregationalist Church of Southern Africa; Zionist Christian Church; Pentecostal Holiness Church; Twelve Apostles Church; St. Peter; Galatian Church.
7. Football teams: Young Stars and Real Fighters

3.3 NATURAL RESOURCE MANAGEMENT IN MMUTLANE

3.3.1 Land Management

All the land in Mahalapye sub-district is communal land, except for a small strip of freehold land to the far east on the Tuli Block. Grazing land is open for anyone to use, but arable fields are allocated to individual families by the land boards. Formerly, such allocations were made by the village headman. Fields can be inherited but not bought or sold. In Mmutlane, the lands area starts about 2 kilometres away from the village. Not all of this area has been allocated, and much of the land that has been already allocated has not yet been cleared or developed for arable cultivation.

Since arable land is allocated to individuals, each farmer is responsible for the effective management of his land. Many farmers have fenced their fields, both in order to keep livestock out, and to demarcate boundaries. Many farmers have not developed all the land they have been allocated by the land board. Each year they may open up some of this land for cultivation, or they may keep the land in reserve for their children. The land board rule, which states that if land has not been developed within five years of allocation it can be allocated to someone else, has not been enforced in Mmutlane. It is not the practice of Mmutlane villagers to apply for undeveloped land which they know has been allocated to someone else.

This in itself is an indication that land shortage is not yet a major problem in Mmutlane. However, there is an increasing awareness that the land supply is limited. Registration of land and fencing of land both reflect a concern with formally demarcating land ownership. Between 1990 and 1994, 27

villagers applied to the land board to register land which they had been using since before 1970. These applications were all granted by the land board, except for two cases that were deferred, one because the applicant was not present, and the other because the land board wanted a letter of consent from the previous owner. Fencing of undeveloped land has also increased, especially with the assistance provided under the ALDEP programme. Fencing uncleared land fixes the boundary and reduces the likelihood of future encroachment and competition.

All applications both for new arable fields and the registration of existing fields must be made to the Shoshong Subordinate Land Board. The minutes of the Shoshong SLB were examined for the period from March 1990 to September 1994. During this time, the following applications were made to the land board by Mmutlane villagers:

Table 3.14 Applications to Shoshong Subordinate Land Board by Mmutlane Villagers 1990-94

Type	Approved	Deferred	Rejected	Total
Field registration	25	2 i. applicant to attend in person ii. letter of consent from previous owner	0	27
Application for new field	33	3 i. applicant to attend in person (x2) ii. letter of consent from previous owner	0	36
Field transfer	1	0	0	1
Vegetable garden	0	0	1 i. applicant did not provide details	1
Dairy farm	1	0	0	1
Field borehole	0	0	2 i. site on unregistered land ii. applicant has no experience of vegetables	2

The above table of applications to the land board confirms villagers' perceptions that land is not yet in short supply. None of the applications for new fields, or applications to register existing fields were rejected, though three of the former and two of the latter were deferred, for the reasons given above. The dairy farm was an application by the Botswana Red Cross, based in Gaborone for a

eight hectare site. However, although this land was allocated, nothing has been heard of this since and the project never materialised. During this period, only one dispute concerning Mmutlane villagers was referred to in the minutes. This concerned a dispute over field encroachment. The land board members met the two parties on their visit to Mmutlane in February 1994, and asked them to take the dispute to the headman. They were told that if they failed to reach a settlement through the headman they could bring the matter to the land board. The lack of disputes reaching the land board also indicates that competition for land is not intense. Disputes have not been taken to the customary court instead. The court case book shows no record of any civil court cases over land since 1990. It is possible that some disputes are settled informally by ward headmen, although the latter did not mention land settlements as one of their main tasks.

The land board minutes also indicate that most applications for new fields in other villages within the land board area have been approved by the land board. For example during the same period, there were 65 applications for new fields at Kalamare, of which 62 were accepted, two deferred and one rejected, and 39 applications for field registration, of which 35 were accepted, three deferred and one disapproved.

While the land board has continued to allocate new arable fields for dryland farming, it has been far more restrictive in considering applications for new water points, or for alternative land uses to dryland farming. Any projects such as horticultural gardens, orchards and poultry farms must also be approved by the land board. Between 1990 and 1994, there were a total of 34 applications for new agricultural projects or water sources for such projects in Shoshong SLB, most of them from individuals. Of these, only 11 were approved by the land board.

These 34 applications included 17 applications for field boreholes to provide water for irrigation. Only four of these were approved by the land board. Most of those that were rejected were actually deferred until the applicant had got a letter of support from the district agricultural office or until the applicant had finished clearing and fencing the field. Four applications were rejected outright; two because the applicants had no experience of horticulture, one because the field boreholes was explicitly for watering cattle at the lands, and one because the proposed site for the borehole was on unregistered land. There were four applications for open wells at the lands to use for growing vegetables. All these were deferred, one pending a site visit and three pending letters of support for the district agricultural office.

There were nine applications for vegetable gardens or orchards. Five were approved and four rejected or deferred. There was one application for an ostrich ranch, which was referred to the Sub-District Land Use Planning Unit (DLUPU), two applications for dairy farms, one of which was approved and one of which was also referred to DLUPU, and one application for a poultry farm which was approved. The ostrich ranch was approved by DLUPU and was established, becoming the first "game" ranch within the boundaries of the Shoshong SLB. However, this proved to be an unsuccessful venture; all the ostriches died and the ranch was abandoned.

The land board has a policy that it will not allocate boreholes in the lands area for watering cattle. Its explicit reason for this is that a borehole on the lands will attract cattle and lead to increased crop damage from cattle on neighbouring fields. Cattleowners, on the other hand, who have moved their cattle to the lands, may regard a field borehole as the best means of meeting the demand for water. In order to test if an applicant is serious about drilling a field borehole for horticulture, the land board demands that the applicant has registered and cleared the field, and has a letter of support from the district agricultural office that the field is suitable for vegetables. The land board also asks the applicant whether he has any experience of growing vegetables. The administrative

officer for the Shoshong SLB felt that many of those who apply for field boreholes state they wish to grow vegetables but really want to use the borehole for cattle. If the land board allocates a field borehole and then finds out that the borehole is being used for cattle, it can charge the owner under the Tribal Land Amendment Act. Last year there were two cases in Shoshong SLB of people found watering cattle at field boreholes. They were warned, and they stopped. However, it is almost impossible for the land board to keep a continuous check on such misuses, given the huge area that it covers.

Another restriction placed on the development of horticulture by the land board is the rule that no allocations can be made within 100 metres of a river and 50 metres of a stream. This came into effect in 1994 and is a national policy for all land boards. This policy was introduced following the flood damage caused in 1989 when many people blamed the land board for allocating them land near a river. The new policy is aimed to prevent claims for compensation to the land board.

There is no institution responsible for the management of communal grazing land. This refers to all land which is outside the village and which has not been allocated for arable use. Mmutlane is surrounded by communal grazing land, except for the lands area to the east of the village. Even in the lands area there are pockets of land which have not been allocated and which are used for grazing cattle or small stock. The communal grazing land around Mmutlane is open to anyone, not just those from the village.

The only measures that the village has taken to control access has been through the construction of the drift fence. This helps keep cattle out of the lands area during the growing season. After harvest, livestock are left to feed on the crop residues at the lands. Some cattle owners do keep cattle at the lands throughout the year. In order to do this the cattle must be carefully managed to ensure they do not damage crops. The advantage of the drift fence is that if labour is in short supply, then the cattle can be kept on the far side of the drift fence and left unattended during the day with no danger to crops. One farmer described the drift fence as being an extra herd boy.

Cattleposts belonging to villagers from Mmutlane are widely distributed. Some are at Mmaphala, 30 kilometres east of Mahalapye on the Taupye river. In the nineteenth century, this area was granted to the Batalaote by the Bangwato for use as grazing land. Others have cattleposts on the Mahalapye river, about 25 kilometres north of Mmutlane. There are boreholes on the banks of both these rivers belonging to Mmutlane villagers. More recently, the sandveld area to the west of Shoshong has been opened up to cattle with the installation of boreholes. No one in Mmutlane currently owns a borehole in the sandveld, although the councillor has been allocated a borehole site. However, villagers from Mmutlane who keep cattleposts in the west have come to arrangements with borehole owners over access to water. No formal permission is needed from the government to open a cattlepost. In the past, the chief appointed *badisa*, or overseers, to control access to grazing land, but this system has now broken down. The procedure nowadays is usually to ask other people with cattleposts in the area for permission.

The government does not directly control access to grazing land, except for TGLP ranches. However, it does restrict the allocation of permission to drill boreholes, build dams and dig wells. Borehole applications must be approved by the main land board in Serowe. The Shoshong SLB makes a recommendation that it approves the application in principle; it is then the responsibility of the main land board to make a decision. Sometimes they reject the SLB's recommendation. Certificates for the borehole are issued by the SLB. All new water points must be at least 8 kilometres from existing water points although this rule does not apply to the registration of old

water points that were allocated before the 8 kilometres ruling was introduced. After a borehole site has been allocated by the land board, the owner may then drill for water. If water is found, he must then apply to the Water Apportionment Board (WAB) at the Department of Water Affairs in Gaborone for the right to use the water. All borehole owners, both government and private, must obtain water rights from the WAB. The WAB usually agrees to issue these rights if an allocation has been made by the land board. In granting someone a water right, they specify how much water can be extracted from the borehole. The main purpose of the WAB is to ensure that the DWA knows how many boreholes there are in the country and how much ground water is being extracted.

The land board will not allocate land for cultivation in designated grazing areas. The designation of such grazing areas is open to dispute. Two disputes over the designation of grazing areas are recorded in the land board minutes, although neither of them concern Mmutlane. One concerned a complaint that the land board had allocated a field at Lephalleng which was considered to be a grazing area by local people. The land board resolved to consult the headman over this. The other concerned an area called Senthane. The land board had refused to allocate land in this area because they considered it to be a grazing area. However, the applicants claimed that the area had been used for cultivation for a long time. The SLB decided to approach the district agricultural office to ask them how long they had been distributing seeds at Senthane. The Shoshong SLB is trying to regularise allocations of arable fields in order to maintain the demarcation between arable areas and grazing areas. They will now only allocate new lands if they are adjacent to other fields and will not allocate new fields in the middle of the bush, away from other fields. They will not allocate fields around cattleposts.

3.3.2 Water Management

Domestic water in Mmutlane is provided by a borehole, located near to the site of the village dam. There are several standpipes around the village, and some households have paid to have their own standpipe in their home. The domestic water supply is plentiful and of good quality. The borehole was drilled in 1967 by the government and is now maintained by the water unit of the district council. The council employs one man from Mmutlane as the borehole operator. Before the borehole was drilled, villagers depended on the wells in the hills for domestic water. There are no boreholes or taps at the lands area. There is a small dam at Maologane which holds water for domestic use during the rainy season, and in other areas of the lands there are open wells. During the dry season these sources dry up but by then most of the population have returned to the village. An alternative supply of water at the lands is to fill up water containers in the village and transport them back to the lands on donkey carts.

The main source of water for livestock is the dam. This was constructed in 1952 by the colonial government and is located about half a kilometre from the village. The dam is a shallow dam with an earth embankment. It fills up during the rainy season but dries up most years by September or October. There are alternative sources of water when the dam dries up. Either, cattle are taken to the Sepolwane wells in the hills behind Mmutlane or taken to Mmipi's borehole, near the Bonwapitse river. There is no charge for using the wells. In the past different families made their own wells in the hills as this was the only source of water for Mmutlane. However, since the construction of the dam and the provision of the village borehole and standpipes in the 1960s, the wells are of much less significance both for livestock and domestic use. Many of the small wells have fallen in and have not been maintained, but the communal well is still in use. The dam is

always preferred to the wells if it has water because it is much more accessible. The wells are situated about 2 kilometres from the village, and are reached by a steep, boulder strewn path which is difficult for cattle. Mmipi's borehole is usually preferred because of ease of access, even though livestock owners have to pay Mmipi to use the borehole. There are also small hand dug wells in the river bed of the Bonwapitse river.

The villagers from Mmutlane, who keep their cattle at cattleposts, either own or have access to a permanent water supply. This is usually a borehole, but some use hand dug wells in the river bed of the Mahalapye river.

Table 3.15 Summary of Water Points used by Mmutlane Villagers

Water Point and Location	Cost	Used for¹	Used by	Owner	Months in use	Distance (km)
Mmutlane borehole	free	D	any	district council	12	-
Mmutlane dam	free	L	any	communal	9-11	0.5
Sepolwane communal well	free	L	any	communal	12	3
Sepolwane private wells ²	free	L	permission	families	12	3
Mmipi's borehole - Bonwapitse river	charge	L,H,D	permission	Mmipi	12	12
Maologane dam	free	D	any	communal	6	3
wells at the lands ³	free	D	permission	families	6	4-8
wells on Bonwapitse river	free	L,D	permission	families in Bonwapitse	9-12	12
wells on Mahalapye river	free	L	permission	families	12	25
boreholes at cattleposts	charge	L	permission	individuals or syndicates	12	25-100
Boipelego dam	charge	L	members	dam group	12	15

¹ Key to symbols: D -domestic use; L - livestock; H - horticulture

² These are the other wells at Sepolwane which are owned by individual families.

³ These are the various small, shallow wells found around the lands area which collect rain water.

Since the dam was constructed, there has been no management or control. The dam has never been fenced and there have been no restrictions on access. This lack of control has now been recognised by the villagers as a problem. Cattle owners from neighbouring villages, notably Shoshong and Kalamare, drive their cattle to the Mmutlane dam, where their cattle can drink free of charge. As a result, the water in the dam is used up more quickly and in most years the dam dries up by September. Furthermore, the land around the dam is severely overgrazed. Another problem is that large herds from Shoshong are driven through the village on the way to the dam.

In response, a dam committee has been formed to manage and develop the dam. They plan to fence, dig out and extend the dam. Anyone wishing to use the dam will have to join the dam committee. However, although the dam committee was formed in 1993, no action had been taken in its first year of existence.

One of the reasons for the delay has been over the location of the dam. On the request of the dam committee, officials from the Veterinary Department visited the dam. They recommended that the dam should be moved, since the current site was too close to the road, the village borehole and houses to be extended. They said that they would not help with enlarging the dam if it stayed at its current site. However, most villagers were very reluctant to move the dam, while the councillor and the headman were in favour of moving the dam. The location of the dam was discussed at the kgotla, when the villagers decided in favour of the dam staying where it was, despite the objections of the councillor and headman. In making this decision, they are unlikely to get any help from the Veterinary Department. The VDC has suggested fencing the dam as a project under the drought relief programme but so far this has not been approved by the District Council.

A very different situation exists at the Boipelego dam near Bonwapitse. Mmutlane dam was built over forty years ago and there has always been open access to it. No group was established to manage it until the current dam group was formed. By contrast the Boipelego dam was constructed after the formation of the dam group and access to this dam has always been restricted to group members. The Boipelego Dam Group was formed on 20 August 1982. A former policeman from Mahalapye was part of the group and it was he who took the initiative to find out which channels should be used to seek assistance, and contacted the land board and the district agricultural office.

They selected the site of the dam because at the time, the Mahalapye-Shoshong road was under construction. The contractors were building the bridge over the Bonwapitse river and blocked up the river while they were constructing the bridge. Water then collected at this point and people started using this for their cattle. They then realised that this would be a good site for the construction of the dam. In January 1985 they were formally allocated the land by the Mahalapye Subordinate Land Board for the purpose of building a dam. The dam was constructed in 1988/9 by the district council but was paid for by the Ministry of Agriculture. The dam group contributed P1800 towards the cost of fencing wire and P600 for fencing poles.

There are now 112 members of the dam. Most of these are from Mahalapye and Shoshong, but there are a few members from both Mmutlane and Bonwapitse. Initially, it cost P10.25 to join the dam group. This was then raised to P15.25 with an annual payment of P3. As more and more people continued to join the group, they raised the fee to P20.25 in 1990. They have also asked all members to contribute P10 for fence poles and P50 for an engine to pump water to troughs outside the dam. However, not all members have contributed and they have not yet raised sufficient money to buy an engine. The dam group used to meet every month when they started but now it meets

about every 2-3 months. Caretakers for the dam have been selected but they do not visit the dam very often.

According to the government, the number of cattle using the dam should not exceed 400. However, the chairman said that there were more cattle than this using the dam and they still would allow more members to join. They have never discussed limiting the number of cattle that any one group member may use at the dam. Although access to the dam is restricted, there is still a problem of overgrazing around the dam. The dam group members themselves own in excess of 400 cattle between them, and furthermore, other cattle which have been left to roam in the grazing land to the south of the dam frequently break the fence of the dam in order to drink. This should provide a lesson to the Mmutlane Dam Committee of the difficulty of limiting numbers to 400.

Most cattleowners in Mmutlane were prepared to pay a contribution to the dam group in order to improve and fence the dam, but they did not see this as a membership fee allowing them to use the dam. Unlike the Boipelego dam, the Mmutlane dam is regarded as a communal resource for all villagers and they do not accept that the dam should only be used by group members to the exclusion of all others. Furthermore, given the close kinship and affinal ties existing among villagers it is unlikely that the dam group will be able to restrict access to dam group members only. A common view in Mmutlane is that Mmutlane villagers should be able to water their livestock at the dam without charge, but that livestock owners from other villagers should pay. It is livestock from other villagers that are blamed for both the overgrazing around the dam and the fact that the dam dries up most years. Excluding or restricting non-villagers' access to the dam is seen as the solution to these problems.

3.3.3 Government Policies and Natural Resource Use in Mmutlane

The widespread national fears about environmental degradation in Botswana have not been a matter of much public concern in Mmutlane. Low agricultural production is blamed on poor rains rather than poor natural resource management. Unallocated land for cultivation is still widely available and grazing land is considered sufficient. Overgrazing is only perceived as a problem around water points. There is a perception that the pasture in the remoter cattlepost areas, where villagers traditionally kept most of their cattle, has deteriorated due to poor rainfall, but the grazing adjacent to the arable fields and in the surrounding hills is thought to be better. As a result of this, there has been a tendency in recent years to move cattle to the lands and adopt a mixed farming system of land use in and around Mmutlane. Currently, water sources for livestock rather than pasture are seen as under most pressure and as a more limited resource. The pressure on this resource has led to an attempt to control access to the dam in order to address this problem. The plan to fence and restrict access to the dam has been initiated and a dam group has been established.

The use of natural resources in Mmutlane must be seen in the context of the opportunities provided by rapid economic growth in Botswana. Rural households in Mmutlane follow a strategy of diversified forms of income in order to meet subsistence needs. Agriculture is only one input into household livelihoods. As was discussed in Section One, rural households came to depend increasingly on remittances from labour migration during the colonial period. In contemporary Botswana, the trend is more towards permanent migration to urban centres within the country, rather than temporary migration abroad. Urban-rural interlinkages play a crucial role in sustaining the rural economy, both through direct transfers of cash and goods, and through investment in cattle and commercial enterprises by the urban salariat. The drought relief programme has made a

significant contribution to the rural economy through transfers of food to the most vulnerable groups, ploughing subsidies and income-earning opportunities through the Labour Based Relief Programme.

Urban-rural links and the drought relief programme have both contributed to the rural economy, but in doing so have undermined agricultural production. As Mazonde has shown in a recent paper (Mazonde 1995), young people in particular seek alternative sources of employment to agriculture. The three case studies he presents show a number of different strategies. In the first, a young unmarried mother leaves her child in her home village with her parents in order to work in a town, from where she sends home money and goods. In the second case, another young unmarried mother with only primary education depends on government benefits for children under five from poor families. She is not seeking work as she only expects to get low paid work and would lose her benefits. In the third case, a young man abandoned herding the extended family herd because he was not being sufficiently rewarded for his labour. His mother received a cow each year from the family as payment for his labour, but did not pass them all on to her son. The son rejected the kinship ideology that informed her decision and left the cattlepost to seek work in the village. All three cases represent a loss in youth labour from the agricultural sector through the availability of alternative opportunities for generating income.

The frequency of drought in Botswana makes arable production a high risk investment of labour. The Labour Based Relief Programme (LBRP), however, provides a secure return on the labour investment of those who participate, with wages that are more attractive than those offered to farm labourers. Farmers who take part in the LBRP have less time for undertaking arable activities. At the same time, the government is also trying to improve arable production through ploughing and planting subsidies, but this strategy is undermined by the LBRP which is more attractive than arable production. This is especially the case for poor farmers who do not own draught animals.

Those who own draught animals stand to gain more from the ploughing subsidies than the LBRP. They get 120 Pula per hectare ploughed, up to a maximum of five hectares or 600 Pula in total. Recent research in Botswana has found that on average, a farmer takes about 37 hours to plough one hectare using draught animals (Panin 1995). Ploughing is done in teams of two, one to hold the plough and the other the whip to control the draught animals. If a farmer ploughs six hours a day, which is the number of hours worked per day by labourers on the LBRP, then it will take about six days to plough one hectare. Five hectares require about 30 days in total, for which the farmer will receive 600 Pula. For such farmers, it is more profitable to invest their labour in ploughing rather than working on the LBRP. Labourers on the LBRP get 90 Pula for each 20 days worked, at an average of 4.5 Pula a day. This is much less than the 10 Pula each per a day that can be earned from the ploughing subsidies by a team of two. Many women from draught animal-owning households still work on the LBRP in order to supplement the income gained from the ploughing subsidies. If the rains are particularly bad, the soil may be too hard to do much ploughing, and farmers may be unable to earn the full ploughing subsidy. Working on the LBRP is not as well paid but is at least secure and not dependent on the rainfall.

Poorer farmers without draught power do not receive any cash transfer from the government for ploughing. They do have their field ploughed for them by a tractor owner but if they work on the LBRP, then household labour is removed from arable production. Both pre-planting activities such as clearing the bush and fencing, and post-planting activities, such as weeding, bird scaring and ensuring that cattle do not damage crops are all important for improving the yield. Many poorer households have to neglect such activities because they are in the village working on the LBRP.

Poorer farmers who depend on others to plough for them cannot guarantee that their fields will be ploughed at the most opportune time. Often they have to wait until late in the ploughing season before a tractor owner finds time to plough their fields. They are unlikely to benefit from the early rains and given the annual variability of rainfall such delays can lead to very poor crop yields compared with those who plough early. Panin (1995) also found that more labour was needed for post ploughing activities for fields ploughed by tractors than those ploughed by animals. The former are weeded and harvested manually while for the latter draught animal technology is used which is much quicker.

No household in rural Botswana can risk investing all or most of its resources in arable production. Risks need to be spread and alternative sources of income that are not rainfall dependent need to be exploited. The LBRP provides a secure investment for poorer households, even if arable production suffers as a consequence. Only wealthy farmers who have other sources of income can afford to invest substantial amounts of time and resources in agriculture. Such farmers can achieve successful returns on arable production, as the examples of Mmipi and Gabonamong in Mmutlane show, but they are only able to do so because they can rely on other sources of income if there is drought. The model for successful arable production that these farmers have established is that wealth must be first accumulated and secured from non-arable activities. It is not possible with the available data to calculate whether or not the returns that farmers like Mmipi and Gabonamong gain from investment in cultivation could be exceeded if they invested in non-arable enterprises instead. While investment in other sectors may be more profitable economically, both Mmipi and Gabonamong attach a strong cultural value to farming, even though their farming activities are supported by non-farming sources of income.

Economic growth and government programmes have encouraged extensive farming practices in which large areas are ploughed, but little labour is invested in farm management. Yields are very low but could be improved with increased investment of labour in arable production. Yet poorer households invest their labour in more secure forms of income generation. Urban employment and the LBRP offer attractive, alternative sources of income to cultivation. Ploughing subsidies have led to an increase in the area under cultivation. At the same time, there has been a trend of moving cattle from cattlepost areas to the lands. Both processes are putting increased pressure on available land. This has not reached a critical point and disputes over land are still uncommon in Mmutlane, but nevertheless the combination of low-input, extensive arable production and keeping cattle on the lands will become increasingly problematic.

The case study shows a clear link between successful arable production and other sources of income. The pattern has been labour migration, investment in cattle, and then investment in boreholes or tractors. Income from other sources must first be raised, then invested in arable production, as Mmipi and Gabonamong have done. Government programmes such as ALDEP, ARAP and the drought relief programme, have not addressed this issue. Agricultural subsidies have not helped poor farmers to engage more successfully in agriculture, but have rather increased their dependence on government transfers. They have reproduced inequalities, not reduced them. Wealthy farmers who own cattle have gained most from government programmes, followed by middle income farmers who own draught animals and have been able to buy implements through ALDEP. Poor farmers, without draught animals, have gained least. They have not received any cash transfer.

It might be assumed that Mmipi's mixed farm at the Bonwapitse river, incorporating dryland farming, horticulture and livestock, could provide a model for other farmers to follow. However, although Mmipi is the most successful farmer in Mmutlane, his farming activities conflict with

current land board policy. He has a field borehole which he uses for cattle as well as irrigation and his field is less than 100 metres from the Bonwapitse river. He has escaped these restrictions because he was allocated the borehole back in 1970 and started farming there in 1975. Current land board restrictions mean that his example could not be followed by other farmers. It is possible, however, that these restrictions might be withdrawn if there was a strong lobby in favour of developing horticulture along the Bonwapitse river.

Investment in cattle is the only way in which poor families without access to urban employment can improve their arable production. Yet the government views overstocking of the communal grazing land as the main reason for dryland degradation and has not therefore encouraged poor farmers to re-enter livestock production. Rather, government policies have favoured large cattle owners and have provided the opportunity for them to privatise the range. The government's new Agricultural Development Policy is likely to increase pressure further on the Mmutlane lands and surrounding hills. The ADP, in allowing fencing of communal grazing land, is paving the way for an increased commoditisation of communal land in Botswana. It has yet to be implemented but pilot programmes on fencing communal grazing land are under way in remote cattlepost areas of Central District, Kgalagadi and Ngamiland. If the fencing policy is applied more widely, it would have major implications for Mmutlane.

The fencing policy will first be implemented in cattlepost areas where borehole owners will be allowed to fence an area of land around their boreholes. This will have adverse effects on other people who keep cattleposts in the area and who have arrangements with the borehole owners to use the borehole water. If the borehole owner fences his land, then cattle belonging to other people will be denied access to the water. Furthermore, if there is a high concentration of borehole owners in the area who all decide to fence around their boreholes, the remaining communal grazing land will be severely restricted. With less grazing land available and no access to borehole water, keeping cattleposts in the area will become unviable and cattle will have to be transferred to the lands. The net effect, therefore, of the fencing component of ADP in cattlepost areas will be to increase the number of cattle at the lands and further increase the pressure on available pasture and water. This would take place in the context of a national trend in increasing the area of land under arable cultivation. At the same time, the land boards are refusing to allocate field boreholes at the lands for watering livestock, despite the increased demand for water at the lands.

Currently, fencing in the lands area is defensive fencing to keep cattle away from crops, rather than to enclose an area of pasture to keep cattle in. The ADP does encourage group fencing of communal land for the exclusive use of that community. This would depend on both the ability of the community to establish an organisation to manage this enclosed pasture, and on neighbouring communities reaching agreement on boundaries between them. Both are highly problematic and it is difficult to see how this could be implemented. The demarcation of boundaries is likely to be a major source of conflict between communities. For example, how will villagers in Mmutlane and Kalamare decide on which land should be enclosed as Mmutlane's grazing land and which should be enclosed by Kalamare. The ADP states that community boundaries will be established by the land boards, yet it is difficult to see how the land boards could do this. The area between Kalamare and Mmutlane is one of open access with no fixed boundary dividing Kalamare grazing land from Mmutlane grazing land. A new institution would have to be created to manage the communal, fenced grazing area, with the authority to restrict cattle numbers on the grazing area. There is no precedent for an institution to have such powers to restrict cattle numbers, and enforcement of a maximum limit is likely to be difficult. Traditional overseers or *badisa*, for example, controlled access to grazing land but did not impose restrictions on herd size for those granted access. This

appears to be a common feature of traditional institutions concerned with range management in Africa, in which access was restricted but not the numbers of livestock belonging to those with access (Knudsen 1995:71). In other words, there has been a tradition of qualitative restriction, based on social relationships, not quantitative restriction based on numbers of livestock.

Increasing pressure on land and water will make it even more difficult for poor farmers to keep cattle. If the plans for the dam at Mmutlane go ahead, water charges will be levied. Communal grazing land is still available, but for how long? The New Agricultural Development Programme will further reinforce existing inequalities. It will lead to increasing commoditisation of land and further marginalise poor farmers by making it more difficult to re-enter livestock production. Grazing at the lands will be under more pressure due to an influx of cattle from cattlepost areas. If communal fencing is established, some form of fee will be necessary to cover management costs, which will produce a further hurdle for those wishing to keep cattle again.

Government policies have had a negative impact on the equity and sustainability of agricultural production in Mmutlane. Income differentials have been increased by the ploughing subsidies, while poor farmers have become increasingly dependent on them. Productivity has not been improved, and the stability of the rural economy is dependent on continued government transfers in the form of subsidies and income earning opportunities.

3.3.4 Institutions and Resource Management

The case study from Mmutlane shows a number of key characteristics concerning local institutions and their role in natural resource management. Despite the high number of local groups concerned with village development, most are inactive. Only two groups, the VDC and the dam group, meet regularly. Many of the other groups have not held meetings for several years and have never undertaken any projects. Local groups in Mmutlane have only been activated to implement specific programmes with government funding. Their relation to the government has been mainly passive, in the sense of responding to government initiatives rather than initiating their own activities and proposals.

Village-based institutions have not played a significant role in land and water management in Mmutlane. Of the various village institutions, only the drift fence group has had a direct impact on the control of resources, although since the drift fence was built the group has been largely dormant. Two other groups, the dam committee and the donga reclamation committee have plans to engage in environmental management, but both are yet to implement any measures. Nor is there any inter-village cooperation in resource management. For example, although Mmutlane villagers complain that too many cattle from Shoshong are using their dam, there is no institutional mechanism for the leaders of each village to meet and address this problem.

Despite the high profile and respect that the VDC has achieved, it has little direct impact on the control of natural resources. Its main role has been in developing the infrastructure of the village. However, the VDC has initiated the construction of the drift fence and the small Maologane dam at the lands, through the drought relief programme. Its competent management of the drought relief programme has ensured that Mmutlane receives a large number of projects. It also initiated the formation of the drift fence group and the dam committee. VDC members also have the potential to use the organisational skills they have developed in the VDC for other village organisations with a

more direct involvement in resource management, such as the farmers' committee and the dam committee.

Apart from the churches and football teams, no independent community groups have been established in the village. All the other groups have been initiated to some extent by government agencies. The farmers' committee and drift fence group, for example, were initiated by the agricultural demonstrator, the health club by the village nurse, and the parent-teachers' association through the teaching staff at the village school. Civil society is weak, in the sense that no groups have been established by the villagers to represent their interests to the government. The kgotla remains the most important local institution in which villagers are able to voice their concerns and views, but it is still controlled by the headman and other village leaders.

The political culture is one of uncritical acceptance of the BDP and passivity to government initiatives. Government assistance programmes, especially the public works programme and ploughing subsidies provided under the drought relief programme, have been extremely popular. Support for the ruling BDP is very high and there has not been any significant opposition movement in the village. In the last local elections in 1994, the BDP candidate stood unopposed in the Mmutlane ward.

Responsibility for resource allocation has shifted from a village institution, the headman, to a local government authority, the land board. The Shoshong Subordinate Land Board has the key role in the management of land and water in Mmutlane and surrounding villages. It allocates land for cultivation and water points for cattle. Mmutlane villagers have not come into conflict with the land board, and there are few instances where the land board's decisions have been contested.

However, it must be remembered that there has not been intense competition over Mmutlane lands. Outsiders have not attempted to expand into the area, in contrast to many other places in Botswana. The arable lands at Mmutlane have not been an area upon which large cattleowners have encroached for grazing, as has happened in parts of Southern District (Gulbranson 1986). It has not been an area in which TGLP ranches have been demarcated, nor has it been an area in which commercial farmers have attempted to acquire land, as has happened on the Baralong Farms in Southern Botswana (Commaroff 1982). Also, since Mmutlane is 30 kilometres from Mahalapye and 40 kilometres by road from Shoshong, it has not been an area of peri-urban development. Competition for land between Mmutlane villagers themselves has barely manifested itself either.

This begs the question of how will the land board respond if competition for land increases? This would occur with increasing expansion of area under cultivation, increasing number of cattle on the lands, and increasing interest in following Mmipi's example in growing vegetables near the river. For example, will the land board have to relax its rule on forbidding the use of boreholes on the lands for watering livestock if numbers continue to increase? Will they allow other farmers to cultivate close to the river in what are regarded as grazing areas? In other words, will the land board adapt its policies on allocating arable land and field boreholes in response to changing local demands? The question of the accountability of land boards and representation of local interests are discussed in the next section.

4. CONCLUSIONS

4.1 CIVIL SOCIETY AND TRADITIONAL TSWANA POLITY

It is evident from the case study that Mmutlane lacks a political culture whereby interest groups have sought to challenge and influence government policy. Molutsi and Holm (1990) have argued that civil society is weak throughout Botswana. Although the government has encouraged the formation of local community groups these have become largely moribund or dependent on state finances. Their role has been restricted to implementing government policy not representing interest groups.

The role of local institutions in natural resource management depends on the political culture in which they are embedded. A distinctive Tswana political culture developed in the pre-colonial period, which was hardly modified in the colonial period, and has continued to inform the relationship between the state and civil society in the post-colonial era. Contemporary political processes in Botswana can only be understood in the context provided by the pre-colonial Tswana polity (Holm 1988, Molutsi and Holm 1990, Werbner 1993). In areas of Botswana where non-Tswana groups dominate, notably the Bakalanga in North East District and the Bayei in Ngamiland, this argument would obviously need modification, but it holds for Mmutlane and neighbouring villages whose population is predominantly from various Tswana groups.

Pre-colonial Tswana society was organised into a number of major tribal groups, eight of which resided in what is now Botswana, the rest in South Africa. Each major tribe was headed by a chief. There was no Tswana paramount chief for all Tswana tribes, and each major tribe was fully independent of all others. Traditional Tswana political organisation was highly authoritarian and dominated by the chief. He ruled from the tribal capital through a system of sub-chiefs and headmen who represented his authority at a sub-tribal level. The authority of the headmen was derived from the chief, not the people under his leadership. Schapera, the main authority on traditional Tswana social organisation, described the nature of government as follows:

The administrative system of the Tswana is founded upon the principle of delegated responsibility. At the head of the whole tribe is the Chief. He is assisted in the execution of his duties by various forms of council. Local divisions within the tribe, such as sections, districts, villages and wards, are in turn administered by their respective headmen, assisted by local divisional councils. Each petty local authority is responsible in the first place to the head of the next larger social group to which his people belong. The latter, again is directly or through some similar senior local authority responsible to the Chief....In effect, therefore, the government of the tribe is ultimately concentrated in the hands of the chief, but existing social and territorial organisation is used to delegate matters of more purely local concern to subordinate authorities. (Schapera 1938:53)

Political authority was derived from the centre, but was delegated to a more local level for the purpose of efficient government. However, any major decisions had to be referred to the chief. Headmen were appointed by the chief not by the public. They were accountable primarily to the chief and only secondarily to the people, although there were some sanctions on the authority of both headman and the chief, as is discussed below.

The chief dominated the economy through control of land, cattle and trade. All land was allocated by the chief, or via his appointed headmen and overseers. Tribute in terms of grain, and meat and skins obtained by hunting was also paid to the chief. He could also demand free labour from the age

regiments to work on his fields. Stray cattle and cattle captured in warfare were brought to the chief. The chief also received any income generated by granting licenses and concessions in his tribal area, and from charging rents to traders. This enabled the chief to accumulate vast wealth relative to his subjects. However, the chief was expected to use his wealth for the benefit of the tribe. This was done through generous hospitality, gifts and the provision of corn to his subjects in times of drought. A chief who was not perceived as generous was likely to become unpopular, which provided a sanction on his authority. This sanction did not challenge the chief's right to accumulate personal wealth but only any reluctance to share his wealth with his subjects. Molutsi (1986:14) has questioned whether the chiefs were in fact so benevolent towards their subjects, but nevertheless, the ideology of the benevolent ruler has continued to inform the relationship between the political elite and ordinary Batswana.

Although the chief had great authority, he was expected to rule by consensus, not autocracy. This was done primarily through the institution of the *kgotla*, which was the village assembly. The *kgotla* was a consultative institution in which the chief sought the approval of his subjects for decisions he and his senior relatives and headmen had already made in private. It was never an open forum in which all tribesmen participated in decision-making. The political elite used the *kgotla* to find out the views of ordinary tribesmen before implementing any key decisions. The need to maintain public support was an important sanction against the abuse of power by a chief. Without such support, a chief faced desertion, replacement or even assassination. (Schapera 1938, Molutsi and Holm 1990). Another limitation on the authority of the chief was adherence to tribal law. Tswana customary law was highly developed and both chiefs and subjects were expected to abide by the law.

Traditional Tswana political process focused on reaching consensus by the political elite prior to holding the *kgotla*. The chief would meet with his senior relatives and headmen in private in order to reach a consensus on a decision. When the chief brought the issue to the *kgotla*, he was able to draw on the support of these other leaders in influencing the tribesmen to give their consent. Political action rested on building up consensus, rather than conflict. The development of factional groups in opposition to the chief was not a general feature of Tswana society, except in extreme circumstances when the chief's position was in question. Clearly, opposition to the chief was not completely absent, but this was understated rather than an essential feature of the political process. Conflicts between the political elite took place in private, not in the public arena of the *kgotla*.

The legacy of this in contemporary Botswana is the perception among ordinary people that "policy issues relating to the larger social system are matters of concern for the political elite and not something that the average citizen can easily influence" (Holm 1988:183). Decision making was highly centralised and hierarchical, with ordinary Batswana having only a consultative rather than a participative role. Support for the political elite was maintained through this consultative process, and by generosity in times of difficulty.

The accumulation of rights to grazing land was also dominated by the elite in pre-colonial society. Communal grazing land was not open to anyone, but rather to specific groups within the tribe. The notion of open access commons was a colonial creation rather than a traditional one (Peters 1994:10-16). There was neither equal access nor equal rights to grazing lands since these were determined hierarchically. Social stratification was central to the management of the communal grazing land, a common characteristic of common property regimes (Knudsen 1995:29) The chief controlled land allocation in the remote cattlepost areas through the appointment of *badisa*. This term has been translated as "overseers", although according to Peters (1994:30) this obscures the

extent of control which they had over land. The chief granted these men patrimonies of land and water rights which could be passed on to their descendants. Werbner (1993) uses the image of heartland and hinterland to describe this process; the heartland represents the chief's capital where the tribal elite were based, and the hinterland represents the outlying areas where subordinate groups lived, including hunting and gathering bands, and in which the elite sought to expand their land holdings. Pressure on land in the heartland, where arable cultivation eroded pasture, precipitated expansion into the hinterland. This was not an unmanaged land grab, but carefully controlled by the chief through granting his relatives and senior headmen patrimonies of pasture and water sources in the hinterland, who then in turn controlled access to these resources. Control of the hinterland was therefore based on political influence at the tribal capital.

Werbner argues that this system of patrimonialism has continued to inform the expansion of elite landholding in contemporary Botswana; "elites from big villages use their political influence at the centre to command major prizes for themselves in the hinterlands" (1993:114). In other words, the politics of land in Botswana continue to be embedded in pre-colonial processes, even though responsibility for land allocation has been transferred from a traditional institution to a modern institution.

Colonial rule in Botswana did little to develop democratic procedures and at Independence its citizens had little experience of democratic processes. The British system of indirect rule through the tribal chiefs strengthened the position of the chiefs by backing them with the support of the colonial state and increased their revenue by allocating them a commission on the collection of hut tax. The Local Councils Proclamation of 1957 was the first movement in the direction of elected representatives through the institutionalisation of tribal councils at the district level (Picard 1987:62). The executive committee of these councils included both members elected at the kgotla and those nominated by the chief. The Local Government (District Councils) Act of 1965 established a system of nine district councils with elected councillors to replace the tribal councils.

The BDP was elected in the first general election of 1965, and formed the government of Botswana at Independence in 1966. The party won 80% of the votes and 28 out of the 31 parliamentary seats. The success of the BDP under Seretse Khama rested on support from four influential groups: the traditional authorities, the educated elite, cattle ranchers and the colonial civil service (Holm 1988). Khama's position as the heir to the Bangwato chieftainship, the largest tribal group in Botswana, helped ensure that the BDP received substantial support from the rural poor. In 1949, Khama had been prohibited from taking up the chieftainship by the British government because of his marriage to an Englishwoman but he remained the *de facto* chief of the Bangwato.

The BDP leadership promoted universalistic principles for the new government, not tribal politics. The traditional authorities were stripped of their former powers and were replaced by elected district councils. They continued to chair the kgotla and preside over the customary court. However, despite the fact that formal authority has been transferred from traditional to modern institutions, since Independence relations between the state and civil society have continued to be embedded in the highly centralised traditional Tswana political culture.

Key policy making in Botswana is centralised and, in the economic sphere, is dominated by the bureaucracy; in recent years, the input of cabinet ministers has increased. There has been more deconcentration of administrative authority than political devolution to elected local authorities. However, the latter have some autonomy and play a mostly minor part in planning through the district council planning officer. The latter liaises closely with the district officer (development) in

preparing the district development plan. The district commissioner, with his small staff, is expected to coordinate district level institutions (Gasper 1990). Local people are consulted through the kgotla, primarily over the implementation of government policy at a local level. They can object to policies and resist their implementation in their area, thereby providing a check on government programmes and allowing the government to test the popularity of any particular programme. This is especially important to the government in the run up to elections. As in the pre-colonial period, the kgotla is a consultative rather than a participative institution; key decisions tend to be made in private by the political elite and then taken to the kgotla for approval.

A key feature of governance in Botswana has been that the bureaucracy has dominated policy making, especially in the economic sphere. A number of factors have contributed to this (see Holm 1988, Holm and Molutsi 1992, Charlton 1991). Firstly, the first generation of politicians generally lacked the education and expertise to understand policy making and they relied on the expatriate-dominated civil service in this sphere. Localisation of the civil service, which resulted in an increasing number of Botswana becoming senior bureaucrats, did not significantly change the dominance of policy making by the civil service. Politicians tended to leave policy making to the civil servants, but overruled them when politically expedient. Since the 1980s, they have taken an increasingly interventionist role. This has mainly taken place in the cabinet, where the most serious debate about policy takes place. The role of the National Assembly in policy making is still relatively passive. It usually serves to publicise and ratify policies that have been generated by the bureaucracy and agreed upon by cabinet. On the other hand, the judiciary has retained its independence and in the 1980s four new independent newspapers emerged to compete with the one state-owned newspaper. The independent press publicised the findings of the enquiries into public sector land and housing scandals and in recent years has grown rapidly in confidence.

Nevertheless, civil society in Botswana lacks a larger non-governmental sector and the number of NGOs with clout is still very small. According to the Democracy Project's survey in the late 1980s, only two groups in Botswana maintained a permanent organisation, formulated policy and lobbied government, and publicised their position. These were the Botswana Employers Federation and the Kalahari Conservation Society, both of which are dominated by expatriates (Molutsi and Holm 1990). The Brigades movement - begun by Patrick van Rensburg at Serowe in the 1960s - and the Botswana Christian Council have also exercised some influence. International NGOs have not prioritised Botswana, given its relative wealth compared to neighbouring countries. Welfare programmes for the rural poor, such as drought relief and destitutes' programmes, which in many countries have depended on a substantial NGO input, have been established and funded by the government in Botswana.

Political parties have been the most active groups. The three main parties are the Botswana Democratic Party (BDP), the Botswana National Front (BNF) and the Botswana People's Party (BPP). Yet all these parties are characterised by the fact that policy making is made by the top party officials, not the rank and file (Molutsi and Holm 1990:333). Support for the BDP comes from certain class and ethnic groups. Its leaders are drawn primarily from the rural elite whose position derives from cattle ownership, traditional status or commercial activities. Its ethnic base is primarily from the Bangwato and Bakwena tribes in Central District and Kweneng District respectively, who perceive the BDP as representing their people. The BDP has never lost a parliamentary seat in Central District and in eight of the twelve constituencies has gained at least 90% of the vote in every parliamentary election. Opposition is much stronger in other districts. In these areas the BDP plays down its ethnic base and has ensured that government programmes are allocated equally in regional terms. Also the BDP has managed to secure a firm base among the

rural elite in Botswana, regardless of tribal group. The BNF, the main opposition party, appeals mainly to the urban working class (Holm 1988:190-193).

One of the key means by which the BDP has maintained support among the rural poor is through government welfare and service-provision programmes. The success of this policy has its roots in traditional Tswana polity. The drought relief programme can be seen as the traditional paternalism of the elite in a modern guise. In the traditional system, major inequalities between the elite and ordinary people were not contested as long as the elite was generous with its wealth.

To summarise the argument so far, the weakness of civil society in forming politicised interest groups is a legacy of elite domination of traditional Tswana society. Autonomous, informal local institutions have not been significant actors in Botswana society. The main exception has been the powerful lobby formed by large cattleowners which has had a major influence on government policies, such as opposing a cattle tax. Decentralisation from the district level downwards, with the exception of the sub-districts in the larger districts, has been minimal and has little precedent in traditional Tswana political organisation. However, in discussing decentralisation in Botswana, it is essential not only to specify what is being decentralised but also down to what level decentralisation extends. Decentralisation from national to district level has been possible and effective because of the legacy of highly centralised tribal capitals which have become the new districts.

The centralised political organisation in traditional Tswana society, focused on the tribal capital, may have, paradoxically, created a decentralising tendency in the new state. Each of the major Tswana tribes were highly independent, despite their cultural homogeneity. The creation of the new nation state at Independence introduced the new political level of national government which incorporated all the highly centralised, independent Tswana tribes. Administrative districts in Botswana were largely based on the former tribal reserves, and old tribal capitals, such as Serowe, Mochudi and Molepolole became the new district headquarters. The lack of a decentralised political structure in the traditional Tswana society led to very powerful tribal centres, which have continued to be political centres in the context of the new state; established central places in the old order became powerful counterweights to the new centre of Gaborone in the new state. Holm and Molutsi state that the fact that the government has been reluctant to grant greater powers to the local authorities may be in recognition of the potential of district councils, as tribal centres, to become powerful ethnic-based centres of opposition to the government (Holm and Molutsi 1992:89). An alternative explanation of the government's attitude towards decentralisation has been its lack of confidence in the capacity of the district councils to add significantly to their existing statutory responsibilities (Reilly and Tordoff 1991:179).

4.2 FUTURE DIRECTIONS FOR LOCAL INSTITUTIONS IN BOTSWANA

The above discussion examined the role of modern institutions in Botswana in the context of a traditional Tswana political culture which did not promote group formation nor local autonomy. A strong civil society has not developed in Botswana. Local institutions in Botswana have been largely passive in response to government policy and dependent on government funding. The government itself has not encouraged local groups to articulate their own interests, but has rather sought to mobilise them to implement government programmes. Holm (1988) has described Botswana as a "paternalist democracy" in which the BDP elite have limited the extent of the participation of the majority of Botswana in the political process while maintaining basic civil and political liberties and multi-party elections.

The centralisation of control of resources is not a new phenomena in Botswana but has a long history. In the pre-colonial and colonial period, the chief controlled land and water through a system of delegated responsibility. Overseers and headmen represented the central authority of the chief at a local level, rather than representing local people to the chief. This is an important distinction and may help to explain why there has not been a movement towards more locally accountable forms of natural resource management in Botswana. Such a movement will first depend on broader developments in civil society in general.

Molutsi and Holm (1990) have identified three established fora in which there is the potential for local interests to be voiced and which offer opportunities for an increase in local accountability over the political elite. These are the kgotla, the freedom square, and the party primary. Although the kgotla has been used by the government to mobilise support for government programmes, the community may on occasions reject government plans. As stated earlier, while the kgotla does not initiate alternative policies, it can obstruct the implementation of programmes at a village level. Without the support of the village kgotla, the legitimacy of any programme is in doubt and the government is more likely to reformulate it with respect to that village rather than disregard the opposition. The potential for the kgotla as a means of asserting local autonomy depends to a large extent on support of the community leaders, notably the headman, district councillor, and VDC chairman.

Party politics are not debated in the kgotla. Instead each village has a freedom square in which any political party can hold a political rally. The freedom square is a means by which political parties can identify with local communities. Freedom squares emerged in the 1960s in the period preceding Independence, when the traditional authorities prohibited political parties from using the kgotla for campaigning. Political rallies were held elsewhere in the village in any appropriate public area, and these came to be known as freedom squares. In the post-Independence era, freedom squares have continued to be the main forum in which party political campaigns take place. The freedom square is a very different institution from the kgotla, with none of the formality of speaking and seating arrangements that characterise the latter. Partisan speeches and heckling are common, and the ethos is one of conflict rather than consensus. Freedom squares are most popular among younger people, whereas the village elders still dominate proceedings at the kgotla.

The freedom square does allow the ruling BDP to assess if the opposition party is gaining support for a particular policy, and if so it may modify its own policies or programmes in response. For example, the cabinet decided to abandon its policy of charging parents for secondary education because it perceived that the BNF's policy of providing free secondary schooling was gaining widespread support. The freedom square does, therefore, provide a forum in which political parties compete for support and through this the BDP may be sensitive to changing unpopular policies if other parties are gaining support for opposing them.

The third local forum in which opposition can be voiced is the party primary election in which prospective party candidates compete for selection. Both the BDP and BNF hold primaries if there is more than one candidate for a particular ward or constituency. Only party members can vote in these primaries. Given lack of strong party membership among most Batswana, the party primaries mainly concern struggles between local elites.

According to Molutsi and Holm, the three different fora address different areas of conflict. The kgotla is concerned with questioning the local implementation of policy. The freedom square

concerns inter-party rivalry and is especially important in areas where opposition parties have strong support. Party primaries provide a forum for intra-party struggles. Although these fora have little impact on policy making, they do represent "autonomous bases of influence" and do provide mechanisms for establishing a degree of local accountability over the government (Molutsi and Holm 1990:337).

Due to its central position in village affairs throughout Botswana, the kgotla remains the most important local forum. However, the kgotla does not have any implementing capacity. As Fortmann (1986) has argued, the kgotla is important for conferring legitimacy on programmes, but should not be given responsibility for managing them because it does not have the capacity for this. Of the village institutions in Mmutlane, the VDC has the greatest capacity for initiating and implementing programmes. It holds regular meetings, keeps minutes and has its own bank account. The VDC itself is accountable to the other villagers through the biennial elections held at the kgotla. This combination of the legitimatising role of the kgotla and implementing capacity of the VDC has proved effective in undertaking village infrastructural projects. However, to date it has not provided a means of articulating local interests vis a vis the state, nor in taking an active role in natural resource management in the village. Further developments in the wider civil society would be necessary before these institutions could more effectively undertake these functions.

In the absence of a more vigorous civil society, local government authorities have a major institutional role in mediating between local communities and the state. They have been key players in rural development and natural resource management and they are the means by which national policies are translated into local projects. For example, in Mmutlane, villagers come into contact with council employees and the ward councillor on a daily basis. The district council operates the drought relief programme which provides an opportunity to earn cash for the poorer members of the community. It is responsible for the domestic water supply, the health clinic, primary education and the destitutes programme and it advises and assists village institutions, especially the VDC. The subordinate land board is responsible for the allocation of arable land, residential land, commercial leaseholds, and water points. The land board members make bi-monthly visits to Mmutlane in order to consider applications and one of the land board members is resident in Mmutlane. The frequent visits, the proximity of Mmutlane to the land board office in Shoshong, and the residence of a land board member in Mmutlane have all facilitated communication between the land board and the villagers.

While local authorities may effectively mediate between the state and local communities, the question of who are they accountable to must be raised? Both the land boards and the district councils are partially accountable to local communities but both are ultimately responsible to the Minister of Local Government and Lands. The process of appointment of members of the land board begins with elections in the village kgotla. However, only half the members of the land board need to be elected in this way since the Minister is permitted to appoint the other members directly. In the case of the appointment of members of the Shoshong Subordinate Land Board in 1994, the Minister accepted seven out of the eight candidates recommended by the board's selection committee on the basis of kgotla elections. The Minister also retains the right to overrule the decisions of the land board. This happened only once between 1990 and 1994 in the Shoshong Subordinate Land Board. In this case, a man's application to drill a borehole was turned down by the land board, but he appealed to the Minister who overruled the board's decision (Shoshong SLB Minutes 5 September 1994). In other areas of Botswana where land is more contested, accountability to the local communities appears to be more frequently ignored by the Minister (Grant 1994). The issue of accountability will become more acute if the new fencing policy is to be

implemented by the land boards. Local elites will seek to expand their land holdings at the expense of the poorer farmers who use the communal land. To do this they will need to gain the support of the land board.

The accountability of the district council is both to the electorate and central government. District councillors are elected every five years. The Minister of Local Government and Lands does have the authority to appoint additional members, which has been used in the past to maintain BDP control of a council despite the opposition winning more seats (Tordoff 1973). Council staff are employed by the Unified Local Government Service, a department in the MLGL, not by the district councils, which can only appoint industrial-class workers. Furthermore, district councils receive most of their income from central government.

District level planning is accountable to local people only to a limited extent; the council's planning officer draws up the council's plan and this is incorporated into the district development plan prepared by the district officer (development) and submitted to the district development committee. Other bodies concerned with district level planning are the district drought relief committee, and the district land use planning unit. These committees are largely dominated by civil servants from both central ministries and local authorities who have, on the whole, greater technical expertise than the elected representatives on these committees. The role of district councillors is to lobby for the interests of their ward within the planning and budgetary framework that is bureaucratically controlled.

One of the problems of improving local accountability of local government authorities is that there is little pressure for this coming from local communities. This has its roots in the centralised nature of Tswana polity as has been discussed. However, will this relative passivity of local communities towards both national and local government continue? With increasing pressures on resources and a reduced rate of economic growth, Botswana faces huge challenges in maintaining stable government in the face of inevitable disenchantment among both urban and rural dwellers. Much of the rural population is dependent on government welfare, in the form of the LBRP and farm subsidies, with few alternative sources of income generation. The new Agricultural Development Policy is likely to exacerbate this situation by advocating land privatisation which will ultimately result in further pressure on the remaining communal areas. It remains to be seen how both local authorities and local communities will respond to these processes.

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