

(1981) reports that the increasing scale of traffic in firearms upset the delicate ecological balance and it necessitated a greater reliance on agriculture. Game was effectively destroyed at a rate faster than that of its reproduction.

As more of the former pastoral land was cultivated, settlements spread out further in search of pasture. However, the coming of Europeans did not have the same effect on Tswana agriculture as it had in other parts of Africa where the natives acquired new crops such as cocoa, coffee, and tea on a very large scale for the market. In Bechuanaland, the people still relied mainly on their traditional products, although their yields, especially of maize, improved.

3.3 The Period after Independence

During the protectorate days (1855-1966), population increases for both human and livestock resulted in a diverse array of environmental issues in comparison to the pre-colonial period. Because of the complex nature of the issues, management strategies were then compartmentalised to focus on specific problems within Ministries and Government Departments. Below follows an account of characteristic features of conservation issues for most African countries at independence.

The 1960s saw most of the African countries gain independence and the new governments become inheritors of imperial institutions such as administrative structure, education and others such as natural resource conservation. Of all these institutions, conservation was the least understood by the new governments and the least they were prepared to take over (Lusigi 1987). The new government inherited the protected areas for wildlife and forest reserves that were established during the Protectorate/Colonial days in response to pressure and interest of the Europeans/White settlers. There had been little consultation with the local people in setting up these. The local people had a negative attitude towards these protected areas as they were set up at the cost of displacing their traditional practices. Thus, at independence (1966), most African local people were grateful thinking that the protected areas would once again be opened up and they would be allowed to hunt the old way (Lusigi 1991). Most African people preferred wild animal meat to that of the livestock (Afolayan 1980). However, the game laws passed for the protected areas during the Protectorate days and inherited by the new government, restricted local traditional hunting and the people could not understand this situation. All this hardened local attitudes towards the conservation efforts. In the African context, the protected areas had no support of the former nationalists, many of whom were now rulers, or from the local populations (Lusigi 1982). However, despite this indifference, many African states emerging into independence during the 1960s were fast to adopt the preservation of indigenous fauna and flora as a matter of prestige rather than anything else.

It is against this background that the following sketch of the main factors operating in the present situation should be read (Lusigi 1982). Mistakes in management were bound to happen and they did. The new governments in Africa had no trained personnel with both professional commitment and emotional understanding in this field of protected areas. Thus, while new personnel were being trained, the actual management was being carried out by inexperienced people to whom conservation simply meant anti-poaching. Poaching and illegal trading in game trophies and plant products became epidemic across the continent (Malik 1984). Worse still, high-ranking officials did all these anti-conservation acts rather than the local people, for whom there would have at least been the excuse of being displaced from their land and restricted for hunting. These practices continued until some animal and plant species were in danger of extinction, and it was at this point, during the early 1980s, that the international community put pressure on African governments to correct the situation.

3.4 Land Tenure Systems in Independent Botswana

Three main categories of land were created at independence: Customary (Tribal) land, State Land and Freehold Land. Land tenure is often defined as the way members of the society obtain, use and distribute rights to land (Mathuba 1998).

3.4.1 Customary Land

Customary Land is what is commonly known as communal or tribal land. This is the dominant land tenure in Botswana, covering over 70% of the land area. Before independence, the chiefs were responsible for administration of customary land. In 1968 (two years after independence), however, the government of Botswana enacted the Tribal Land Act (TLA) that provided for the establishment of Land Boards. The TLA stripped the Chiefs' powers in relation to land and transferred the powers to the Land Boards. The Land Boards hold the land in trust for the citizens of Botswana. The individuals who are allocated land do not necessarily "own" it because the ultimate "ownership" remains with the society/community (Mathuba 1998). Land is granted for different purposes and the nature of rights granted depends on the use of the land. Land allocated for residential, ploughing and business can be fenced off to exclude other land users, but communal grazing land and land that has not yet been allocated are used collectively (Mathuba 1998). Access to land resources is easy as land is distributed free of charge. However, in some areas of Botswana, there is shortage of Customary Land; for example, in the Northeast and Southeast, where the government has "tribalised" (changed to Customary Tenure) State Land and also purchased and "tribalised" some Freehold Land.

3.4.2 State Land

State land constitutes about 23% of the country and it is owned by the state. The land is found in both urban and rural areas, and is administered under

the State Land Act and the Town and Country Planning Act. The Department of Lands is responsible for allocating state land on behalf of the Minister of Lands, Housing and Environment, and ensures that the land is developed within the stipulated period. The Town and Country Planning Board and Town Councils have to regulate the development of the land in accordance with the relevant laws.

Urban centres are located on state land and individuals are granted land under what is called Fixed Period State Grants (FPSG) for different uses such as residential, commercial and industrial (Mathuba 1998). FPSG is a one-time lease, where rent is paid once on acquisition of the land and not periodically over the lifetime of the lease. The title can be registered, mortgaged, transferred or inherited. In the rural areas, state land is in the form of National Parks and Game Reserves, while some maybe leased to individuals for grazing purposes.

3.4.3 Freehold Land

Freehold land was introduced during the Protectorate days, and it presently covers about 6% of the country. This is land owned by individuals on private basis. Freehold title is created by the state permanently alienating its title to areas of land to private individuals. The title received under this tenure system does not lapse with the passage of time, and the title can be registered, mortgaged, transferred or inherited. Freehold land is mainly found in the eastern and southern boundaries of the country and in the Gantsi block in the west.

3.5 Institutions Dealing with Natural Resource Use, Planning and Control

The present conservation strategies of natural resources in Botswana are based on pieces of Environmental Policies and Legislations. Consequently, the government has given authority to some regulatory bodies to promulgate a number of laws (relating to conservation and management of resources) in the form of Legislations enacted by Parliament, bylaws and regulations (subsidiary legislation). One important assumption underlying these environmental legislations has been that they effect change. This has been true only to some extent because some laws have not been carefully oriented and combined with some specific social, political and economic forces in order for them to be truly effective. Unlike most of the southern African countries, which have environmental clauses either within the "Principle of State Policy" or within the "Bill of Rights", Botswana has no constitutional provisions regarding environmental or conservation matters. Maluwa (1998) acknowledges that even though this is desirable for Botswana, it has not been politically feasible.

Until after the adoption of the National Conservation Strategy (NCS) in 1990, environmental legislations in Botswana were not consolidated but fragmented both in substance and in terms of implementation mechanisms.

Thus different pieces of legislation often fell under different government departments and authorities. This created both gaps and overlaps in their implementations. This has also created problems for the legislations' enforcement and monitoring. Maluwa (1998) further states that implementation has not been successful partly due to a lack of public education about their existence and also because of a lack of adequate institutional and human resources.

One of the main objectives of NCS was to harmonise the fragmented legislations to a cohesive and integrated environmental administration and to conserve and develop natural resources.

By 1998, there were 25 pieces of legislations dealing with resource conservation and management issues directly or indirectly, which were administered by different ministries and departments. However, some departments like that of Water Affairs have already proposed new pieces of legislation to account for the integrated strategies of NCS.

Unlike the case with other African countries, Botswana has a Dual Legal System. There is a received or imported legal regime of Roman Dutch Common Law, which has persisted long after colonialism (even though various statutory laws enacted by parliament have supplemented it, both during and after the colonial rule). There is also the Indigenous Customary Law. Both Legal Systems affect the management and conservation of resources especially in relation to land and land use. Below follows a summary of the major Acts governing natural resource management in the country.

3.5.1 Fisheries

Fishery resources are regulated by a Fish Protection Act established in 1980. The Act aims to regulate, control, protect and improve fish and fishing in the country. A sub-section of this Act (Section 4) controls pollution of the water by prohibiting any explosives, poisonous or noxious substances that could endanger fish resources. The Act authorises the Minister to impose a wide range of regulations such as prescribing for regulation of fishing, description and form of nets to be used, boat registration, license issuing, prohibition, importation, transfer and sale of live fish and so on.

The Act, however, is outdated; it focuses only on effective utilisation of the fishery resources rather than on conservation and it has failed to protect fish in Botswana's rivers.

3.5.2 Forestry/Wood Resources

The Forest Act of 1968 manages forestry and wood resources. The original intent of the Act was to protect, administer and conserve forestry resources. Its application, however, was limited only to gazetted (i.e., State) area forest reserves, which constitute only 1% (455,000ha) of the forests in Botswana (Maluwa 1998). The Act excludes vegetation in general and any other forest

beyond the boundaries of gazetted areas such as those in tribal and private lands, which leaves them to the mercy of users. The present Forest Act, however, is undergoing internal (or intra-departmental) review and new forestry management strategies in line with NCS have been proposed.

3.5.3 *Wildlife and Wildlife Habitats*

The conservation, management and protection of wildlife are regulated by the Wildlife Conservation and National Parks Act of 1992. This Act was revised from two earlier ones: the Fauna Conservation Act and the National Parks Act. The Act emphasises National Parks, Game Reserves, Sanctuaries, Private Reserves, Wildlife Management Areas and Controlled Hunting Areas as areas for management and protection of Botswana's wildlife resources. Protection of specific species of plants and animals is also included in the Act. The Act authorises the President or Minister to control activities in and about these areas. For instance, s/he can have power to declare any extent of land s/he believes fit to be a protected area. The rights and interests of individuals whose land is declared a protected area are considered in the Minister's decision-making process. Other landowners who may lose their land in this way are recognised in the land management through a legislative provision, which allows them to establish private game reserves or ranches. However, this part of legislation excludes what are termed tribal lands, which are subject to communal traditional tenure systems of control and ownership. Maluwa (1998) notes that the orientation of most colonial era conservation legislation was based on a belief that local management and traditional ways of resource conservation led to waste and misuse of resources. Local individuals and communities have however "woken up" and are now increasingly asserting their right to use and manage the resources based on historical rights, investments through time and labour, proximity to the resources and their actual need. The establishment and implementation of the Community Based Natural Resource Management (CBNRM) programme in Wildlife Management Areas (WMAs) is an example of this.

To ensure effective management and conservation of the resources in the protected areas, the Act relies extensively on creation of criminal sanctions and on the provision of hunting licences. Game hunting and capture can be carried out only if the hunter is in possession of a hunting licence or permit issued under Section 39 or 40 of the Act. The licensing strategy also ensures that both the aims of the Act and the provisions of CITES are complied with. The Act incorporates the Convention on International Trade in Endangered Species (CITES). Section 26 of the legislation allows different types of hunting licences such as bird, single game, small game, special game and the Minister's licences.

3.5.4 *Land and Land Use*

Land and land use management is controlled by two pieces of legislation: Tribal Land Act and, Town and Country Planning Act, and the different institutions working within the boundaries of these legislations. In terms of land use and management, the Act empowers Land Boards to grant user rights to any citizen of a community to re-posses any land that has been granted for use to anybody if s/he mismanages it or fails to develop it within a specified period. Land Boards also define land use zones within their respective tribal areas.

The Town and Country Planning Act manages land by organising its use in an orderly or planned or required manner by providing a system of planning for both local and regional Master Plans. The Act ensures that development plans are in relation to the required policies that protect the natural resources. For instance, land owners can be prevented from fishing or cutting of natural vegetation such as trees or they could be required by law to re-plant some if for any reason such vegetation is degraded such as in the course of forestry or mining operations.

3.5.5 *Agricultural Resources*

Agricultural resources are managed and conserved through the Agricultural Resource Conservation Act. The resources in this sense include soil, vegetation, water and animals. The Act implements and enforces its functions through the Agricultural Resources Board (ARB). Some of the major duties of ARB are to regulate grazing through controlling livestock numbers and to protect vital agricultural resources such as soil and vegetation.

3.5.6 *Water Resources*

Botswana relies heavily on underground water resources because of its climatic conditions. Measures designed to efficiently manage and conserve the scarce water sources have been attempted. These include wastewater-recycling, rainwater harvesting through water catchments and selective water sources.

Presently, water is regulated under the Water Act. The Water Act is under revision and draft legislation for the Act's revision has already been presented for approval as the Botswana National Water Master Plan Study (1992). The Master Plan proposes two separate pieces of legislation: a draft Water Act and a draft Water Supply and Sewage Act. The new proposed Water Act Plan is more detailed with 57 provisions compared to the present Water Act of 37 Sections.

Under the present Water Act, water is managed as public or private property. Public waters are not open to private ownership but Maluwa (1998) notes that private property ownership maybe granted the right to divert, dam, store, abstract, use or discharge any affluent into public water from such a

source, in such a quality for such a period whether definite or infinite and for such purpose as may be specified in the water right. The Act, however, identifies instances in which water rights can be granted to use public waters such as when dipping or watering livestock, drinking or for domestic use. High volume water use such as when extracting/mining minerals requires special water licenses known as "Water Right" given by the Water Apportionment Board instituted under section 3 of the Water Act. Any Water Right can be lost if it is not used or misused.

4. MAJOR ENVIRONMENTAL ACTORS AND THEIR MANDATES

At present, Botswana seems to have a clear strategy with which to pursue sustainable development. Before the establishment of a National Conservation Strategy (that was approved in Parliament in 1990 but that came into effect in 1993), conservation and management of natural resources were administered through National Development Plans (NDPs). NDPs are still operational and they are six-year Plan Programmes designed to outline the country's development strategies. Through NDPs, emphasis is put on the need to guarantee a sustainable management and conservation of natural resources and the environment; this is particularly addressed as the government formulates the country's development policies.

The government and non-governmental organs that are involved directly or indirectly with environmental management and conservation in Botswana are discussed below.

4.1 Government Organs

4.1.1 *The National Conservation Strategy*

Botswana has become internationally known for its recent high economic growth owing to the country's discovery of minerals specifically diamonds. Despite the recurrent losses of fauna and flora due to drought and developmental pressures, there is evidence that the country is still endowed with a variety of natural resources. However, the major natural resource base supply, land and all its associated assets are finite, non-renewable and cannot sustain the economy indefinitely. The government of Botswana has long recognized this fact in addition to the deteriorating environment and many of its related problems and has instituted strategies and a number of activities to conserve or protect or diversify the natural resources. The National Conservation Strategy (NCS) represents one of the main government actions in response to this conservation challenge. NCS and its auxiliary bodies have the overall responsibility of coordinating and monitoring these environmental issues.

The primary goals in formulating NCS are to pursue policies and measures that increase the effectiveness with which natural resources are to be used and managed to optimise all the beneficial environmental interactions and

minimise all the harmful environmental side effects. This entails designing development to minimise all the environmental costs and to enhance its quality. It likewise requires that when “trade-offs” are made involving the use of natural resources, all full account must be taken of the environmental, social and economic costs.

Another aim of NCS was to introduce new strategic approaches to achieve the integration of conservation of natural resources in the development process. To carry out its mandates two bodies were constituted to coordinate the implementation of the NCS and its Action Plan. These are the NCS Advisory Board and the NCS (Coordinating) Agency (NCSA). In addition, the government provided for the designation of Environment Liaison Officers (ELSOs) within each of the Central and Local Government Ministries/Departments with the main responsibility of ensuring that their organs comply with the NCS Act, once promulgated and for liaising closely with NCSA.

4.1.2 Ministry of Health

The Ministry of Health (MoH) is responsible for health care development in Botswana. There are close links between health and poverty and consequently, the government has adopted an inter-sectoral approach between environment and health that includes both public and private sectors. The MoH controls and monitors the discharge of pollutants, pesticides, toxins and other related hospital and clinical waste used in the preventive components of Primary Health Care (PHC) systems. The MoH regulates and monitors the impacts of substances on ecosystems to avoid contamination of highly toxic substances to habitats, threatened, unique or economically important species.

To achieve all these tasks, the MoH intends to employ Environmental Health Impact Assessment (EHIA), which will be incorporated in conventional Environmental Impact Assessment (EIA) procedures and legislation. The EHIA provides for a more comprehensive and rigorous approach and will be used to identify, predict and appraise those environmental factors that might affect human health.

4.1.3 Ministry of Mineral Development and Water Affairs

The management of water resources is the responsibility of the Ministry of Mineral Development and Water Affairs (MMRWA) and it has three main components:

- i) The Department of Water Affairs (DWA), which has the overall responsibility of planning for water resources and supply rural areas with water;
- ii) The Water Utilities Corporation (WUC), which is responsible for the provision of water to urban areas; and

- iii) The Department of Geological Surveys (DGS), which is responsible for surveying and monitoring of ground water.

The main mandates of the MMRWA in relation to the development of water resources are summarised in DANCED (1996) as follows:

- i) To meet the basic needs of the population through a provision of a safe, reliable and affordable water supply which is available to all; and
- ii) To meet the water requirements of industrial, mining, agricultural, commercial and institutional users to achieve the major objectives of rapid economic growth and sustained development.

A National Water Master Plan (NWMP) has been adopted as an official planning document for all water sector development. NWMP includes a wide range of actions to conserve the country's water resources, to protect the resources against pollution and to control and monitor water quality. On a long-term protection of surface waters, the Department of Water Affairs has established an Aquatic Weeds Control Unit stationed at Maun Town. The Unit samples and analyses water from the area to set up baseline water quality monitoring information.

The Energy Unit of MMRWA deals with energy related issues within the Ministry. The Energy Unit works closely with other Ministries to achieve the following objectives:

- i) To diversify supplies to reduce dependency on any particular fuel or source of supply;
- ii) To develop and manage indigenous resources, which will increase self-sufficiency and sustainable development;
- iii) To maintain available traditional sources of energy in rural areas and to introduce new alternatives;
- iv) To reduce depletion of wood resources (through extraction of fuel wood); particular attention has been given to fuel wood pricing and any possible substitutes to fuel wood such as coal, paraffin, electricity; and
- v) To reduce urban and industrial pollution with combustion of liquid and solid fuels being the major pollutants.

The main strategies employed by the Energy Sector to achieve the above objectives include:

- i) Preparation of a Botswana Energy Master Plan (BEMP). The emphasis in BEMP is put on the establishment of policy, legislative and regulatory environments in which parastatals and privately owned energy supply industries could meet the energy policy objectives of the country.

- ii) Introduction of environmental costs from deforestation and pollution, which are not currently reflected in the market prices. The pricing system to be introduced will involve a commercialisation of wood collection near build-up areas where the wood depletion is most pronounced.
- iii) Informational campaigns and demonstration projects on alternatives to fuel wood in rural areas such as solar energy for heating water.

4.1.4 Ministry of Commerce and Industry (MCI)

The responsibility of wildlife management, conservation and tourism development lies under this Ministry and particularly the Department of Wildlife and National Parks (DWNP). A number of private and non-governmental sectors involved with the Ministry whereby the government plays a supportive role. The tourism industry is a major part of this Ministry because wildlife has a major economic value to the country.

The Ministry's main management policy mandates are aimed at: i) developing the capacity for effective conservation of wildlife resources and for its full utilisation by the private sector; ii) continuing to improve the capacity to administer and develop effectively the large areas under its influence.

In terms of conservation, the main activities of the Ministry involve research, management of National Parks, management of wildlife outside National Parks and Game Reserves, and promotion of conservation of natural resources.

To achieve all the above mandates, the Ministry has organized regulations, policies, laws and other strategies. For instance, it promotes joint research programmes of wildlife and veterinary departments to investigate critical aspects of wildlife-cattle relationships.

4.1.5 Ministry of Education

The Ministry of Education (MoE) bears the responsibility of empowering Batswanians at all levels to conserve their natural resources by educating and informing them about environmental issues. Environmental awareness and consciousness among the public are considered one of the basic requirements for achievement of sustainable environmental development and conservation goals. Environmental education and development have taken place in the country with increased public awareness, participation and involvement

To achieve its mandates, the MoE has obtained a more focused orientation on environmental issues in basic education by including environmental science in the curricula for primary and secondary schools. MoE has already adopted inclusion of environmental topics in all school subjects but it is not yet known how this will be implemented. However, the existing

curricula are not yet directly focused, as it should be because environmental science issues are taught as integral parts of various other subjects such as cooking, home economics, agriculture, biology, geography and developmental science.

The Ministry has also adopted non-formal and adult education programmes to enhance its effects of nature resources management and conservation. For non-formal adult education strategy, modes of reaching the attention of the adult population have been used - radio programmes, informational campaigns, demonstration projects and dramas or plays.

4.1.6 *Ministry of Lands, Housing and Environment*

Ministry of Lands, Housing and Environment (MLHE) is responsible for the formulation, direction and coordination of national policies on housing, settlement and environment. The housing and settlement sector is fragmented among the responsibility of different ministries and departments, private sectors, parastatals and local authorities. MLHE is one of the largest ministries comprising of four departments:

- i) The Department of Town and Regional Planning, which is responsible for the physical settlements of populations, districts and other regions, for the formulation of national settlement policy and for the administration of the Town Planning Act;
- ii) The Department of Surveys and Mapping, which is responsible for the production of base mapping, the spread of geodetic framework, and the supervision and maintenance of land information systems;
- iii) The Department of Lands, which is responsible for the subdivision of state land and the management of state land and property; and
- iv) The Department of Housing, which is responsible for the development and implementation of the Housing Policy and for coordinating the development of serviced land.

The Attorney General Chambers, Land Board and State Land Allocation Advisory Committee ensure equitable allocation of land and registration of title to the land. In Botswana, urban housing is dominated by Self Help Housing Agency (SHHA) and by Botswana Housing Corporation.

The mandates of MLHE and its auxiliary departments generally include the following:

- i) Protecting the urban and rural environments to maintain environmental sustainability;
- ii) Emphasising the need for careful planning to ensure effective utilisation of the resources;
- iii) Reducing land use conflicts, specifically between agricultural land and settlements;

- iv) Allocating land properly; and
- v) Preventing loss of habitats. In some occasions, people settle in areas designated to be reserved for wildlife thereby replacing the wildlife habitats.

4.1.7 Ministry of Agriculture

The responsibility for agricultural resource conservation and management is under the Ministry of Agriculture (MoA) and its supportive departments: the Department of Crop Production and Forestry (DCPF), the Department of Animal Health and Production (DAHP), the Department of Agricultural Research (DAR) and the Department of Co-operatives. The Ministry is responsible for developments within the agricultural sector. The developments are based on Botswana's rationale for food security and on a continuing significance for the country's agriculture. MoA's general mandates are to:

- i) Improve food security at both household and national levels;
- ii) Diversify the agricultural production base for more income generation opportunities;
- iii) Provide a more secure and productive environment for those engaged in agriculture; and
- iv) Conserve scarce agricultural land and resources.

The MoA also monitors small scale NGOs that carry out natural resource conservation and management projects. Thusano Lefatsheng is an example of such NGO. Thusano Lefatsheng is involved in pilot projects to develop rural communities or settlements to market their veld products. The Ministry has listed a number of environmental problems, it has also outlined its mandates but no specific appropriate steps have been taken to carry out the mandates.

4.1.8 Law, Justice and Security

The country has a substantial amount of environmental laws, scattered in a wide variety of proposed Acts and Subsidiary Legislation. The Law, Justice and Security sector is responsible for the organisational capacity and apparatus required to address new and complex threats to the environment.

4.1.9 Local Authorities

The Local Authorities play a significant role in delivery of projects, capacity building, distribution and use of resources but presently they are not represented in the system of Environmental Liaison Officers (ELO) in compliance with the National Policy on Resources Conservation and Development.

The Local Authorities' mandates include:

- i) Capacity building to improve the district's capabilities to deal with environmental management and implementation of environmental projects;
- ii) Checking Consistency between the established National Development Plans and Urban Development Plans to ensure a coordinated management of resources and the environment; and
- iii) Participation in or initiation of informational campaigns and demonstration projects especially at district level.

4.2 Non-Governmental Organizations

In acknowledgement of the poor and deteriorating conservation and management state of their environment and natural resources, various communities and individuals within the country have come together to form organizations, societies or associations to address the situation. CSO (2000) records more than fifty non-governmental organizations (NGOs) and community based organizations (CBOs) operational in the country. Some of the organizations have a full bearing on the environment; their primary activities are directed towards environmental conservation and natural resource management while others have an indirect bearing to it.

4.2.1 *Kalahari Conservation Society (KCS)*

KCS is dedicated to the conservation of Botswana's environment particularly where it benefits local communities. In terms of environmental conservation and management, KCS has the following mandates:

- i) Encourage and finance ecological research in flora and fauna, their management and conservation;
- ii) Promote environmental education and conservation;
- iii) Support conservation policies on wildlife and its habitats; and
- iv) Campaign for wildlife conservation.

KCS achieves its mandates through:

- i) Public education through newsletters, journals and other publications;
- ii) Talk shows, demonstrations, radio and television broadcasts,
- iii) Sponsoring educational trips, symposia, workshops that are mostly directed to schools and the public.

4.2.2 *Botswana Bird Club*

Botswana Bird Club is a branch of the Botswana Society that aims to encourage and promote interest in knowledge of birds and bird watching.

The Club promotes its aims through meetings and field trips. It also publishes journals that have promoted scientific research on wildlife especially avifauna.

4.2.3 *Thusano Lefatsheng*

Thusano Lefatsheng is engaged in rural development through agricultural research and extension. The organization aims at meeting the needs of rural people for alternative sources of income through sustainable utilization of wild natural products traditionally collected for domestic consumption. Ecologically sound harvesting techniques and cultivation regimes are developed and extended to client groups whose produce is then processed and marketed from the organization's base. Thusano Lefatsheng promotes rural dwellers to conserve and manage the natural resources around them by:

- i) Assisting the remote area dwellers to grow low technology cash crops for which adequate market is known to exist;
- ii) Introducing non-indigenous species to boost the local ones, which have promoted less over-use and sustainable use of the latter; and
- iii) Buying gathered wild plants with commercial value and teaching the gatherers harvesting methods that will conserve the environment.

The organization carries out most of its mandates through demonstrations and research.

4.2.4 *Forestry Association of Botswana (FAB)*

FAB is engaged in the management and promotion of forest resources through:

- i) Promotion of research and extension of forestry;
- ii) Encouragement of woodland conservation among communities; and
- iii) Education and training of the youth and the public about environmental conservation specifically through scholarships, newsletters and journals.

4.2.5 *Permaculture Trust of Botswana*

It assists local communities in relation to ecological land use management. The organisation strongly encourages and supports traditional and cultural values that relate to sustainable environment. It achieves its aims through demonstrations and media broadcasts.

4.2.6 *Co-operation for Research Development and Education*

Co-operation for Research Development and Education (CORDE) is an organization of self-managed enterprises whose member groups are

involved in community-based organizations (CBO) in various activities including:

- i) Promotion of sustainable agriculture nationally;
- ii) Training of NGOs and CBOs on management and organizational skills;
- iii) Provision of advocacy and lobbying on behalf of the groups; and
- iv) Facilitation of access to resources especially through finance.

CORDE achieves its mandates through undertaking consultancies and advisory services in organization and management of natural resources to NGOs.

4.2.7 *Forum on Sustainable Agriculture (FONSAG)*

FONSAG is a forum where the government, NGOs, farmers and other groups meet to discuss problems and possible interventions related to agricultural developments, and environment and natural resource management. Specifically, FONSAG's mandates include:

- i) Promotion of sustainable agricultural and environmental conservation;
- ii) Research and advocacy to support policy changes on sustainable agriculture, environmental conservation and proper use of natural resources;
- iii) Facilitation of information, education and communication among members of the forum; and
- iv) Capacity building among members on sustainable agricultural and environmental conservation.

FONSAG achieves its aims with a direction of a steering committee and three working groups: Extension, Policy and Research in which representatives are from government, the farming community and other NGOs.

4.2.8 *International Union for Conservation of Nature (IUCN)*

In terms of natural resource conservation and management of Botswana, IUCN has the following mandates:

- i) To promote sustainable management of natural resources and conservation of biodiversity;
- ii) To encourage and support participatory community based natural resource management;
- iii) To implement environmental projects with other NGOs, the government and the private sector; and

- iv) To give support and capacity building for national environmental NGOs.

To achieve the above mandates, IUCN uses research and public education.

4.2.9 *Somarelang Tikologo (Environmental Watch) of Botswana*

This organisation is concerned primarily with urban environmental issues. Its expressed objectives are to:

- i) Mobilise the public to monitor and protect the environment through such measures as recycling and proper waste management;
- ii) Raise awareness of the public on conservation issues; and
- iii) Campaign for environmental management.

4.2.10 *Child to Child Network of Botswana (CCNB)*

CCNB is one of the few organizations that are indirectly related to environmental conservation and management of Botswana. In terms of environmental conservation, CCNB encourages tree planting and gardening in schools especially in the more arid environments of Botswana. The organization accomplishes its aims through public broadcasts, demonstrations and research.

The responsibilities of government and non-governmental organs directly or indirectly responsible for natural resource conservation and management in Botswana have been outlined in this chapter. The general information available indicates that the environmental issues within government ministries are mostly addressed as general policy statements rather than goal-directed environmental development options. It is also clear that through these organs, a planned approach towards integration of natural resource management and development can be achieved.

5. WHY HAVE THE NATIONAL CONSERVATION PLANS NOT WORKED?

Since independence, there have been legislative attempts to control and manage the environment. The earlier environmental legislations and laws were not directly specific to environmental issues. Even though this was the case, the legislations made provisions for utilisation, management and coordination of some specified issues and matters of direct relevance to the environment. Some of the earliest legislations dealing directly or indirectly with environmental issues include Aquatic Weeds (Control) Act, Cap 34:04 of 1971; Atmospheric Pollution (Prevention) Act, Cap: 65:03 of 1971; Fish Protection, Cap: 38:05 of 1975; and Forest Act, Cap: 38:04 of 1975. At the time when all the above laws were promulgated, there was limited appreciation of environmental issues and therefore limited environmental awareness.

Successive governments have put in place a considerable amount of environmental legislation. For example, National Parks and Games Reserves have been successfully gazetted under the National Parks Act and the Fauna Conservation Act, respectively. Much effort is currently being made to improve resource planning and management through institutions (District Land Boards and District Land Use Planning Units) and through the enforcement of legislation (the Agricultural Resources Act and the 1986 Wildlife Conservation Policy). However, as in many developing countries throughout the world, the enforcement records (where they exist) have been generally poor.

To date, the government has intervened in the planning and use of natural resources through a variety of measures. These include gazetting, designation, planning procedures, laws, price incentives, and fiscal measures. The appropriateness of this intervention in contrast to the adoption of an entirely "*laissez faire*" approach is not in question. It is an approach, which in principle is relevant to the needs of Botswana. The real questions concern whether or not and how an interventionist approach can be made to work more effectively in the interests of natural resource conservation and development.

5.1 The National Conservation Strategy

The government's main legislative body (NCS and auxiliary bodies) with the overall responsibility of coordinating and monitoring all environmental issues in the country has so far achieved little of what was expected. There are various reasons for this. A decade has passed since NCS was approved and adopted and no legislation has been promulgated to give it the intended effect. Until 2001, this body has not been operating on any legislative basis. This is because NCS and its auxiliary bodies have not yet been given sufficient powers firmly grounded on legislation to enable them to effectively monitor, superintend and coordinate the environmental issues. In the absence of a legislative foundation for the institutional structures, organised under the NCS, there is no legislative backing. Another problem that has compounded the implementation of the NCS tasks is the fact that although there are a variety of legislative instruments, directly or indirectly concerned with environmental matters, the enforcement mechanism under the instruments have proved to be ineffective. Unfortunately, these are known to be the main government legislative bodies with the overall responsibility of coordinating and monitoring all environmental issues in the country.

In terms of enforcement of the environmental standards and practices, NCS has a lot of responsibilities, but it lacks powers to carry out its mandate because the decisions it makes can only be presented or regarded as recommendations of a non-obligatory nature because of lack of a legislative framework that recognises their existence. So whenever there are major developments or projects, organisations (both private and public) may

choose to or not to observe the recommendations from the NCSA. The implication has been more deterioration in the environment.

Until 1995, the conservation and development of natural resources within Botswana was undertaken in the absence of NCS. As a result, the responsibilities for legal enforcement were widely dispersed between government institutions. It is generally acknowledged, both by the government and all other interested parties, that effective implementation of Botswana's NCS will require a major effort in liaising, planning, research and analysis, coordination, monitoring, training and promotional tasks - all of which have taken a long time to be achieved.

Initially, NCS executive powers were weak because many organisations had little understanding of their environmental responsibilities, let alone a deep commitment to treat them as being of equal importance to economic development roles. Cobham (1998) states that one of the principal difficulties NCS experiences from its auxiliary bodies and the public was the low status of the Agency, which had not been compatible with its growing and changing responsibilities. The limited staff resources available to the Agency have also created a setback, especially in the early years and even more recently, when the tools and the responsibilities have both increased and widened to include human and environmental health matters in addition to serving Botswana's obligations under international conventions.

There was also an apparent lack of full appreciation, even amongst senior decision-makers about the full meaning and implications of the terms "environmental management" and "sustainable development".

Generally, the major constraints in the achievement of the National Conservation Strategy (NCS) and the intended developmental options have been:

- i) The scarcity of human resources in the National Conservation Strategy Agency;
- ii) Lack of recurrent budgets for the execution of the environmental activities - major activities in the NCSA have so far depended solely on donor funds; and
- iii) The non-transparency of the existing fragmented pieces of environmental legislation and the lack of an aggregated environmental conservation legislation.

5.2 Inherent Problems in Policies, Laws, Regulations and Implementing Mechanisms

The Botswana government's commitment to sustainable development of its resources is not in doubt. Before the establishment of NCS, there were National Development Plans. The commitments are also revealed in another

long term Plan, Vision 2016. Therefore, the problem in Botswana is not lack of environmental legislations but rather the inadequacy or weaknesses of enforcement mechanism. This factor represents a major constraint to the employment of the laws as a tool to effect change in environmental behaviour. The reasons for this are complex, they range from institutional problems and lack of adequate human resource skills to lack of political will power on the part of policy makers and those entrusted with the legislative and administrative authority.

It is obvious that environmental legislation becomes meaningless if the implementing and enforcement mechanisms are weak or non-existent.

It is widely acknowledged that environmental legislation can play an important role in both addressing most of the key issues and supporting diversification initiatives. A special review of the environmental provisions of existing legislation was undertaken on behalf of the government (NCS 1990). This confirmed that although Botswana in a general sense has a variety of environmental legislation, there are serious shortfalls in terms of enforcement, coverage, and institutional coordination. Examples of the shortfalls have been many; for instance, in the NCS (1990) report the Botswana government recognises that attempts made to contain overgrazing have so far largely been unsuccessful. The necessary administrative, educational and legislative tools exist but in general, they are neither effectively used nor enforced. A typical example is the existing borehole spacing policy that limits overgrazing, but it is not enough on its own. . It needs to be supplemented by limiting the number of livestock per borehole. In short, the establishment of the Agricultural Resources Board and the Land Boards as means of controlling the management of grazing resources has not filled the gap left, following the change in the traditional management structures previously provided by the chiefs and overseers. Furthermore, there has been a tendency for the government's limited extension services to be steered to the arable sector.

In addition, the environmental legislation (where they exist) governing most environmental sectors are outdated and in need of immediate repeal. For instance, pollution originates from a wide range of environmental factors: air pollution, liquid and solid wastes, soil erosion, mining and industrial activities. Despite this wide range, there is no comprehensive pollution control legislation. The little legislation available depends on the application of many provisions located in various pieces of legislation.

Law and legislation enforcement therefore is an item that calls for attention. This applies particularly with respect to the use of conservation and stock control orders, under the Agricultural Resources Conservation Act, and in relation to poaching of wildlife, under the Fauna Conservation and National Parks Acts. However, achieving significant improvements is known to be difficult since it involves changes in traditional values throughout Botswana's society. It is acknowledged that the deterrent effect of criminal

penalties, for example, is diluted by the general unwillingness of both Botswana community and the courts to recognise that damage to the environment constitutes a true and serious crime. The social acceptability of laws in general and of environmental laws in particular is limited by the fact that in essence they represent external values, which most indigenous/local communities have tried to resist. Public participation and access to information are important in enforcing environmental legislation: both involve environmental rights of individuals. To ensure public participation and access to information, state agencies and private legal persons have to be duty bound to provide the required information within acceptable legal limits.

5.3 Lack of Integration within Natural Conservation Sectors

For environmental management and conservation to be realised, there must be an integration of all sectors involved (biophysical or socio-economic) in development planning, biophysical or socio-economic. In addition, there is need to dispel any idea that conservation is a limited independent segment mainly concerned with wildlife bio-diversity and that ecological factors are deterrent to development, which in some cases may be overlooked and in others may be considered simply on a project-by-project basis and not as a matter of policy. There have been consequences to this in Botswana, which are summarised in the DANCED's (1996) report as follows:

- i) The ecological effects of a particular development policy are seldom anticipated and hence the policy is not adjusted in good time to avoid expensive mistakes.
- ii) Those sectors directly responsible for living resources (notably agriculture, forestry, fisheries and wildlife) are often impelled to concentrate on production at the expense of maintenance with the result that otherwise renewable resources are used thus undermining the sustainability of the resource base.
- iii) Because of the previous lack of conservation, the policies of the other sectors may be frustrated. The energy sector forecasts of the life span of a hydroelectric or coal power station, for example, maybe completely abandoned by poor watershed management.
- iv) Even when ecological factors are considered in the conservation and management process, it is seldom at the critical policy making stage when the basic pattern in policy is fixed. Consideration at the project stage, though often necessary, is no substitute for proper consideration at the policy stage because at the project stage, economic and social requirements will normally have been set so firmly that only minimal or unrealistic adjustments are possible.

- v) There is competition within the government for scarce resources and consequent pressure on all sectors to show results that can be directly related to economic performance.
- vi) While natural resource sectors such as agriculture, forestry and fisheries are measured in terms of crop, timber and fish yield and the income derived from them, economic performance can be measured in terms of Gross Domestic Product (GDP), and employment in terms of the percentage of the labour employed. While such easily measured production may be won at the expense of diminishing the natural resource base, conservation can bring real benefits by securing that resource base. The costs and benefits of the two are not easily related.
- vii) Consequently, opportunities for the joint planning and realisation of the conservation requirements of agriculture, forestry, fisheries, wildlife and other natural resources have been overlooked. Similarly, the interest of sectors not usually thought of as deriving benefits from living resource conservation have been neglected. Health is an example; conservation can advance the achievements of health objectives not only by ensuring a healthier environment (for example through the maintenance of clean air and water) but also by preserving genetic resources needed for the production of medicine. Policy makers in the health and industry sectors need to be satisfied that the genetic resource base of domestic pharmaceutical manufacturing can be secured.

In some cases, even though the basic infrastructural legislations are available, the notable shortcomings are related to implementation. For instance, with the Town and Country Planning Act, the perceived weaknesses do not lie with the legislation but with its practical implementation. It seems that as is the case in most developing countries, more emphasis has been placed on urban rather than rural areas as a focus for application of the legislation. Rural area problems (actual and potential) are normally overlooked. The government attaches great importance to the provision of both rural and urban settlement structures, which are well planned, designed and managed.

Environmental degradation in urban areas could also be explained in terms of lack of information of the Town and Country Planning Act on part of the developers. In addition to their ignorance of the law, is a general weak monitoring and enforcement capacity of the planning institutions in urban areas.

5.4 Lack of Government Commitment to Environmental Conservation Efforts

Some of the Community Based Organisations' efforts on conservation and management of the natural resources have not been given the vital and

encouraging support they require from the required sources within the government.

For instance in areas/communities where wood shortage is most serious, it could have been the responsibility of the government to provide and encourage the use of wood substitutes but this has not been the case. In the NCS (1990) report, the government made a strong commitment to solving the wood depletion problem by ensuring that all urban institutions for which it is directly responsible will be provided with coal or other substitute energy sources as soon as possible. To date, this commitment is still at "the proposal stage" within the government. The same fate has befallen the government's promise to commercialise the production, processing and marketing of veld products in rural communities. They have not been provided with the expert technical assistance from appropriate sources of the government. The communities have ended up using the very limited wood resources available to them, worsening the environmental degradation. CSO (2000) notes that throughout the early 1990s, fuel wood accounted for more than 90% of the annual energy consumption in the household sector, showing that fuel wood is the primary source of energy especially in the rural areas. This could be because of the fact that at least 50% of Botswana live in rural areas where like in many developing countries, conventional energy sources such as electricity, petroleum products and coal are not widely accessible and/or affordable. Fuel wood therefore is the only energy source used in many low-income households.

Based on international experience, the links between government institutions and NGOs almost certainly require to be strengthened, if the NCS objectives are to be achieved. Likewise, it is recognised that considerable attention will need to be paid to coordinating the institutional resources and enforcing as well as updating the environmental legislation in support of NCS and non-governmental organisations.

5.5 General Perception of the Status of Environmental Institutions

There is a general poor perception of NCS as an environmental governing body by the public and even by those directly assigned with the responsibilities of monitoring NCS's institutions or bodies. For instance, the contribution of the Environmental Liaison Officers charged with the responsibility of providing the link between NCS institutions and the government departments has been disappointing. The inadequate performance of ELOs indicates a low status attached to NCS institutions. For instance, ELOs were supposed to be identified in all government organisations that had major sustainable development and environmental responsibilities. Despite the significance attached to this role, the positions in most organisations were assigned to junior officers who seemed to have little knowledge of their responsibilities. Similarly, Cobham (1998) reports that the overall attendance rate in board meetings between 1998 and 1990 particularly within government departments was only 55%. In addition,

permanent secretaries from key ministries hardly attend Board meetings to update themselves and to discuss new environmental management strategies; they instead delegate the attendance of the Board meetings to lower-ranking officers within their ministries.

5.6 Economic Expansion and Development

Another reason for the failure of the conservation plans has been a rapid economic expansion and development of the country. At independence, Botswana was listed as one of the least developed countries of the world but since then, especially during the latter part of 1980s, the social and economic sectors of the country have widely changed. The major reason for the rapid economic growth has been the discovery of diamond deposits at Orapa, Jwaneng and Letlhakane, which resulted not only in economic growth but also in the establishment of other industries. In addition to mineral deposits, tourism (which generates 29 percent compared to industry's 18 percent) has had a significant contribution to the development. Closely related to the rapid economic expansion and development has been the establishment of major changes in environmental quality because of pollution. Natural resources especially flora, fauna and water have become depleted and polluted due to the industrial growth. In addition to industrial growth, there has been a high increase in population, which has created a direct pressure on natural resources.

CSO (2000) reports that rural to urban migration has dramatically increased from 54.3 percent in 1971 to 90.4 percent in 1991. The rapid population growth has led to an increase in urban squatter settlements most of which have no proper sanitary facilities such as waste disposal services. This has had negative impacts on environmental quality. There has been loss of habitats and degradation of rangeland pastures due to settlements and poor range management practices, unsustainable extraction of wood and veld product for both commercial and subsistence purposes, which has adversely affected the regenerative capacity of these products. More significantly, pollution of water, air, soil and vegetation resources has emerged as a major problem in the protection of the environment.

5.7 Effects of External Factors on Conservation Efforts

The failure of conservation plans in Botswana is also partly due to external factors (trade, aid, and relations). The activities of donors and trading arrangements have had a direct bearing on development and influence on the country's environmental initiatives. In general, exploitation as distinct from wise use of natural resources has increased as the level of capita income decreased. The external factors that have led to reductions in national exports and especially in rural income levels have indirectly led to deterioration in the environment.

External forces with potential harm to the environment have been minimised through the participation of Botswana in international

agreements and conventions. Through membership of the Southern African Development Community (SADC) and as a signatory to both CITES and the African Convention on the Conservation of Natural Resources, Botswana has been better placed to meet such environmental challenges.

5.8 Lack of Incentives on Natural Resources

Arntzen and Fidzani (1998) indirectly identify another reason for the failure of the conservation plans: unsustainable use of natural resources, specifically water - weak or non-existent economic incentives currently placed on water exploitation by individuals through borehole technology. Except for the drilling costs of the boreholes, running and maintenance costs, underground water is free to borehole owners. Since there are no motivating measures for a sustainable water use or management, extraction is done in an unsustainable manner. Efficient water management requires that environmental costs of extracted water be factored into comprehensive water pricing policy and practice. However, the measures designed for the implementation and monitoring of such standards have not been made possible.

Analysis of the problems as to why conservation plans have not been as effective as was expected indicates that though presently the government's major concern is policy formulation and implementation, less regard has been given to their enforcement. Although there are some external factors (such as trade or aid relationships), that have restrained the country's natural resource conservation efforts, most causes for the ineffective resource management plans could be solved through better resource conservation strategies together with more commitment on the government's part.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

The literature shows that there is a unanimously held belief that NCS objectives and mandates continue to be highly relevant with respect to the primary and detailed goals upon which the organisation is expected to focus.

Despite all its constraints resulting from the absence of resources and lack of power,, some progress has been made. This includes provision of integrated advice on all chapters of National Development Plans, the accession by Botswana to several International Conventions, the raising of public environmental awareness and the improvement of environmental education.

Natural resource conservation and management legislations in Botswana exist and their goals are achievable; the reality, however, is that the legislation does not seem to be succeeding in its task of minimising,

preventing or controlling the unsustainable resource use. There are various reasons for this state of affairs but the principal reason is the poor state of the legislation's enforcement. Maluwa (1998) summarises the reasons that stifle the resource management efficiency as ranging from lack of resources and appropriately trained and equipped enforcement personnel and machinery to lack of necessary political will among some key decision makers. Perhaps one way of investigating the reasons for the poor success/accomplishments of the conservation plans in Botswana is to examine critically the officially accepted custodians/caretakers that are charged directly or indirectly with such responsibilities and/or in relation with the laws, legislation, institutions and bodies (where they exist) that govern the conservation plans/efforts.

6.2 Recommendations

6.2.1 *Implementing Incentives/Disincentives on Natural Resources*

One of the greatest threats to natural resources in Botswana is the absence of observed control measures on their utilisation especially those in rural communities. This has evidently been apparent in harvesting of wood and non-wood (veld) products. In the absence of local control over these resources, unsustainable harvesting methods have been unconsciously accepted as the normal practice. One way of controlling this over-exploitation is imposing 'price tags' on the resources. Enforced pricing of resources such as land, water and forests and implementing of the polluters-pay principle should lead to a better allocation of financial resources amongst competing uses. Prices that reflect scarcity values will encourage managers of these resources to preserve those values for opportunities that will arise in future. Appropriate pricing improves private sector management of resources.

Actions to improve the pricing of scarce resources not only promote development and conservation but also improve the budgetary position of the government. Hence, getting prices of resources right is one aspect of conservation policy that supports sustainable resource exploitation, economic development and fiscal responsibility.

6.2.2 *Involving Local Communities in Natural Conservation Efforts*

As stated earlier, the people of Botswana have always had traditional leaders (Chiefs) who had total control in the conservation and management of natural resources. During the colonial years, the indigenous population watched helplessly as their natural resources were taken away from them because the colonial government believed then that the traditional ways of resource management were unsustainable. The colonial conservation policies sought to preserve the resources by separating them from local inhabitants. This deprived rural communities of their livelihood and were left with no choice other than to harvest natural resources illegally to

survive. This threatened the existence of the nature products especially wild fauna and flora.

Recently, however, the situation has begun to change. Through education and because of the many constraints they have faced since they could no longer rely on their environment, the communities have become confident to assert their rights to participate in resource management decision-making committees that inevitably shape their future.

Experience and research have shown that the local communities do have the capacity for successful and sustainable resource conservation (for instance, through traditional beliefs and taboos); therefore, they must be granted legal authority and technical support for that capacity building. Involving local communities in natural resource conservation is important in Botswana because one inherent characteristic of environmental laws in Botswana is their intention to regulate social behaviour as it relates to (the) sustainable use of resources and the environment. This indicates that the social norms of local communities must be a major part of the environmental laws. Public participation should be allowed to be part of the planning and natural resource management process to ensure the real assessment of social, economic and environmental costs and the benefits of the proposed development and to understand the interests of the public. The fact that environmental laws are recorded in books does not ensure the goals of their intended achievement. The people need to be motivated to accept the environmental practices. Local community involvement in conservation policy making is therefore important.

Although there may seem to be a long way to go before local communities participate fully in resource management decision-making, empowering them will create alternatives to destructive use of the natural resources. The appropriate authorities (or the government) should seek to involve rural communities in conservation and development of natural resources by returning the resources to the stewardship of the communities. Therefore, initiatives of a rural development programme with a strong element of community involvement must be explored to harmonise the needs of the rural people with those of their ecosystem.

The primary responsibility and authority should lie directly with communities themselves rather than local government institutions. A decentralised approach to decision-making should enable local communities to shape their management strategies.

One such programme - Community Based Resource Management (CBRM) - is already underway and has been successful. It has developed Botswana's rural communities by providing a legal way for the communities to harvest their natural resources on a sustainable basis thus enhancing their incomes and preserving their future. For instance, CBRM revenues have been used for much needed community development projects such as building roads,

schools and health clinics. The strengthening of joint resource management between rural communities and the government may indeed hold the best hope for the future of natural resources conservation in Botswana and other developing countries.

6.2.3 *Developing and Elevating NCS's Status*

It is possible that the NCS's low status perception by the public and its executive members is its present name or location being part of the Ministry of Lands, Housing and Environment. It is recommended that its current name be changed (for instance, Department of Sustainable Development and the Environment) to be perceived by both its members and clientele in a new light. A change of name could help towards elevating the status and activities of the organisation. The need to elevate the status of the Board commensurate to reflect their role and responsibilities should go along with their provision of statutory powers to execute those responsibilities. This is especially so since presently neither the Board nor the Agency has the essential powers to enable the mandated coordination and advisory activities to be implemented in full.

Moreover, since the Agency's functions have developed in recent years especially in representing Botswana in International issues in fulfilment of the country's obligation under a series of the Regional and International Conventions and Agreements, a change of name is important because these conventions and agreements are motivated by the need for sustainable and environmental protection/enhancement both within and beyond Botswana.

6.2.4 *Identifying External Forces of Change*

Whatever decisions made, forces of change should be anticipated. This means that special attention needs to be paid to identifying the major national and international forces, which are most likely to change the ways in which Botswana's natural resources and environmental assets are managed. One principal agent of change could be based on development.

The continuing development of Botswana's mineral and potential energy resources is likely to create a growing demand on development of the natural resources and built-up environments.

The changes have to be considered so that the natural resource conservation and management institutions become strengthened by, for example, providing a sufficient number of high calibre staff and resources to enable the institutions to predict and respond properly to any demand.

Because of a growth in the Agency's responsibilities and functions as well as other factors, there are sound reasons for considering more changes in which the management of natural resources and environment is undertaken. This is especially in line with increasing opportunities to provide genuine independent advice on important policy, planning and management matters, which will contribute to the Agency's strength and higher status.

The responsibilities and functions of the Agency have been added to and widened since it was established. The Agency is now required to address environmental management and environmental health issues as well as represent the government of Botswana in fulfilment of its obligation under International Conventions.

6.2.5 Enforcing EIAs

There is no mandated Environmental Impact Assessment (EIA) legislation yet. The EIA legislation has been under preparation since 1992 but it is still not enacted. A detailed professionally prepared and approved EIA should be a requirement to all private and public development projects to assess any probability of imposing severe impacts on the environment.

It could be important if NCS was to be mandated to advise government policy makers and planners to modify existing policies, programmes and projects where these have been shown to have harmful environmental impacts. Furthermore, it also seems essential that in the interests of both protecting and furthering the intended independent status of the NCSA(A), the statutory EIA process should provide procedures to be followed in situations where conflicts of interest occur.

6.2.6 Eliminating Overlaps within Legislation

Linkages, conflicts and overlaps have been identified to exist in some of the country's institutional mandates legislations have been identified *in/with* some areas of linkages conflicts and/or overlaps in their institutional mandates; Maluwa (1998) reviewed examples of such:

The tribal Land Act asserts that the Land Boards have authority to plan all tribal lands; on the other hand, the Agricultural Resources (Conservation) Act states that after consultation with both the Land Board and the District Council, the Agricultural Resources Board may direct the Land Board as to how much land should be used to promote conservation of natural resources.

There are also problems regarding supervisory authority over laws relating to wildlife and National Parks, land use planning and agricultural resources especially wood and non-wood product resources between the Ministry of Agriculture (Forest Unit) and the Department of Wildlife and National Parks. This indicates that there is a too narrow or too wide focus in some of the legislations and there is a need to review some of the provisions in the various pieces of legislations. The shortcomings could also be remedied by appropriate revisions of the law. It is also important to define clearly all legislation to avoid any unnecessary potential disputes or tensions and redundancy amongst individuals or groups and the government.

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