NKETOANA IDP

REVIEW 2010/2011

INTEGRATED ENVIRONMENTAL PLAN

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1. INTRODUCTION

Integrated development planning (IDP) is one of the key tools for local government to cope with its developmental role. The IDP process is meant to arrive at decisions on issues such as municipal budgets, land management, promotion of local economic development in a consultative, systematic and strategic manner. Integrated Development Plans, however, will not only inform the municipal management; they are also supposed to guide the activities of any agency from the other spheres of government, corporate service providers, NGO's and the private sector within the municipal area. IDO is an inter-sectoral, but priority focused planning process.

The Integrated Development Process (IDP) consists of five phases, namely

i) The Analysis phase,
ii) The Strategies phase,
iii) The Projects phase,
iv) The Integration phase, and
v) The Approval phase.

The Integrated Environmental Programme forms an integral part of the Integration phase, and although it is not legally required in terms of the Municipal Systems Act, it does play a very important role in capturing the environmental contributions from all the IDP projects in the context. It is a tool for mainstreaming all the environmental issues.

It can be said that an Integrated Environmental Programme demonstrates compliance with the IDP in respect of environmental policies, which helps to ensure a set of measures which is conclusive with regard to their environmental impact, and also serves as a basis for environmental monitoring. The first part of the Integrated Environmental Programme is the Environmental Analysis, where after the Environmental Programme itself are compiled.

2. ENVIRONMENTAL ANALYSIS

The purpose of the environmental analysis is to ensure that municipal development strategies and projects take existing environmental problems and threats into consideration as well as environmental assets that require protection or controlled management. The National Environmental Management Act (Act 107 of 1998), or otherwise referred to as NEMA, together with The Environmental Conservation Act (Act 73 of 1989), promote Integrated Environmental Management (IEM) in South Africa in order to promote and support sustainable development.

2.1 Environmental Management Objectives

The aim of integrated environmental management as outlined in section 23(2)(b) of NEMA is to:

"identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimize negative impacts, maximizing benefits, and promoting compliance with the principles of environmental management set out in section 2 of NEMA"

Environmental management as a process under the implementation framework thus provides for the integrated consideration of human, natural and cultural environment matters into the coordinated policy, implementation and monitoring and review frameworks of development plans. Environmental management forms an integral part of the planning and development process and provides for the sustainable utilization of available resources.

2.2 Study Area

Nketoana is situated in the north eastern parts of the Free State within the regional boundaries of the Thabo Mofutsanyana District Municipality. The local management area measures 5 598,16 km² in extent and comprises the former TLCs of Reitz, Petrus Steyn, Arlington and Lindley as well as a part of the former Riemland TRC.

Nketoana has a population of approximately 142 000 people with 76 % (118 217) residing within urban areas and 24 % (23 662) representing the rural population.

2.3 Natural Environment

The terrain morphology indicates that the Nketoana area consists of slightly undulating plains and hills and slightly irregular undulating plains and hills. The whole Nketoana area falls in the Vaal River drainage region. A number of small dams located on farms are found in the area.

The study area is characterized by a number of rivers which transverse the landscape including the Vals River (to the west) and the Liebenbergsvlei River (central).

2.4 IDP Environmental Projects

A number of workshops and discussions were held with the representatives of the Nketoana local municipality and various projects were identified for the IDP.

The table below briefly lists the relevant identified project and number. These issues will be addressed in more detail in the Integrated Environmental Programme.

Table 2.1: **The project name and number**

Project No.	Project Name
	Water storage dam for Lindley
	Water purification works – Arlington Purification works at Lindley
	Upgrading of sewernet wash - Reitz
	Upgrading of roads and Stormwater – Lindley A Streets and Stormwater in Reitz Streets and Stormwater in Petrus Steyn
	Waste management site at Petrus Steyn Waste management site for Reitz Waste management site at Lindley Waste management site at Arlington
	Oxidation dams at Lindley/Ntha Oxidation ponds in Petrus Steyn
	Water pipeline (rising main) from Liebenbergvlei to Valsriver
	Planning and development of cemeteries
	Chlorine channels at Lindley/Ntha Chlorine channels at Petrus Steyn Chlorine channels at Arlington
	Bulk electricity upgrade for Petrus Steyn Bulk electricity upgrade for Reitz High mast lighting at Ntha

	High mast lighting in Leratswana Area lighting at Petsana and Mamafubedu
	Water pressure tower in Petsana Water pressure tower in Mamafubedu Water pressure tower in Leratswana

Project No.	Project Name
	VIP toilets in Petsana and Mamafubedu Provide 500 buckets for Lindley 300 buckets for Leratswana
	Communal dumping sites in all towns
	The upgrading and maintenance of major transport routes

Other environmentally sensitive areas that were identified are areas around dams and near water resources.

3. INTEGRATED ENVIRONMENTAL PROGRAMME

The Integrated Environmental Programme's purpose is to contribute to a healthy environment by ensuring that urgent environmental issues are adequately addressed and that proposed projects have no negative impact on the natural environment.

3.1 Legislative and Policy Framework for Environmental Sustainable Development

A major component of this environmental programme is an assessment of the legal requirement necessary for sustainable development in Nketoana. This section constitutes an indication of those requirements.

- **The National Environmental Management Act principles:**

Section 2 of The National Environmental Management Act (107 of 1998), or referred to as NEMA, requires all organs of the State to implement and adhere to the principles set out in Chapter one of NEMA. All organs of State also have the responsibility to protect, promote and conserve the needs of the people. NEMA Section 2 also stipulates that the organs of State have to serve as a framework for environmental management and it is their duty to guide the implementation of this Act. It is therefore a prime requisite of the Naledi local municipality to incorporate this wider environmental analysis.

NEMA sets clear principles for guidance in the stipulation of general principles for the environmental programme (Section 2 of NEMA).

These principles are summarized below:

i) Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.

ii) Development must be sustainable socially (people), environmentally (planet) and economically (prosperity).

iii) Sustainable development requires the consideration of all the relevant factors, including the following:

- To avoid and minimize:
  - the disturbance of ecosystems and loss of biological diversity
  - the disturbance of landscapes and sites that constitute the cultural heritage
  - pollution and degradation of the environment
  - waste (re-use or recycle)
- The responsible and equitable use of renewable and non-renewable resources
- That a risk prevention approach are taken, and
- The prevention of negative impacts on the environment and on people's environmental rights
- Environmental justice must be pursued so that adverse environmental effects shall not be distributed in such a manner as to unfairly discriminate against any person.

At the core of the NEMA principles are thus primarily the needs of the people, and social, environmental and economical sustainable development. These core guidelines act as excellent indicators when measuring all potential development.

Strategic Environmental Assessment principles:

Strategic Environmental Assessment (SEA) aims to ensure that environmental issues are addressed from an early stage in the process of formulating policies, plans and programmes, and incorporated throughout this process. In The development and understanding of SEA will assist in practically implementing sustainability and moving towards a true integration of economic, social and biophysical goals.

Ten principles are proposed for SEA in South Africa. These principles are the fundamental premises underpining SEA methodologies in South Africa and provide the theoretical base for the development of local SEA processes.

The follwing is the ten principles of SEA for South Africa:

a) SEA is driven by the concept of sustainability;

b) SEA identifies the opportunities and constraints, which the environment places on the development of plans and programmes;
c) SEA sets the criteria for levels of environmental quality or limits of acceptable change;
d) SEA is a flexible process, which is adaptable to the planning and sectoral development cycle;
e) SEA is a strategic process, which begins with the conceptualization of the plan or programme;
f) SEA is part of a tiered approach to environmental assessment and management;
g) The scope of an SEA is defined within the wider context of environmental processes;
h) SEA is a participative process;
i) SEA is set within the context of alternative scenarios;
j) SEA includes the concepts of precaution and continuous improvement.

- **The Environmental Conservation Act (Act 73 of 1989)**

The MEC may, through the Environmental Conservation Act (ECA), identify those activities that will have a detrimental effect on the environment, and those activities will be prohibited. The MEC also has the right to identify areas of limited development for any activities relating to infrastructure, land use or resources. This could be areas with red-data species, wetlands or any other environmentally sensitive areas.

The following table is a summary of the environmental management functions of the different departments and the applicable legislation.

Table 3.1: **Environmental management function and applicable legislation**

RESPONSIBLE DEPARTMENT	ENVIRONMENTAL MANAGEMENT FUNCTION	APPLICABLE LEGISLATION
Department of Tourism, Economic and Environmental Affairs	Nature Conservation, game management, control of alien species.	♦ Environmental Consevation Act, No. 73 of 1989 ♦ Orange Free State Conservation Ordinance No. 8 of 1969
Department of Tourism, Economic and Environmental Affairs	Impact Assessments.	♦ Environmental Consevation Act, No. 73 of 1989 ♦ Minerals Act, No. 50 of 1991 ♦ Atmospheric Pollution Prevention Act, No. 45 of 1945 ♦ Conservation of Agricultural Resources Act, No. 43 of 1983 ♦ Hazardous Substance Act, No. 15 of 1973 ♦ Health Act, No. 63 of 1977 ♦ SABS Code of safe disposal of medical waste ♦ National Heritage Resource Act ♦ National Parks Act, No. 57 of 1976 ♦ National Road Act, No. 54 of 1971 ♦ Occupational Health and Safety Act, No. 85 of 1993 ♦ National Water Act, No. 36 of 1998 ♦ Development Facilitation Act, No. 67 of 1995 ♦ National Environmental Management Act, No. 107 of 1998
Department of Agriculture	Land Care; Soil Conservation	♦ Subdivision of Agricultural Land Act, No. 70 of 1970 ♦ Conservation of Agricultural Resources Act, No. 43 of 1983
National Department of Agriculture	Public Health; Animal Health; Veterinary sevices	♦ Pest Control Act, No. 36 of 1963 ♦ Fencing Act, No. 31 of 1963 ♦ Veld an Forest fires Act, No. 101 of 1998 ♦ Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, No. 36 of 1947

RESPONSIBLE DEPARTMENT	ENVIRONMENTAL MANAGEMENT FUNCTION	APPLICABLE LEGISLATION
Department of Health	Integrated Environmental Health; Safe food; Air pollution control	♦ National Water Act, No. 36 of 1998 ♦ Water Services Act, No. 108 of 1997 ♦ Health Act, No. 63 of 1977 ♦ Environmental Consevation Act, No. 73 of 1989 ♦ Guidelines on sewerage sludge ♦ Quality of domestic water supplies samplin guides ♦ National Sanitation policy ♦ Hazardous Substance Act, No. 15 of 1973 ♦ Food Premises Hygiene Regulations R918 of 30 July 1999
Department of Local Government and Housing	Land Use Control	♦ Development Facilitation Act, No. 67 of 1995 ♦ Township Ordinance, No. 9 of 1969 ♦ Removal of Restrictive Conditions, No. 84 of 1967 ♦ Physical Planning Act, No. 125 of 1991 ♦ Subdivision of Agricultural land Guidelines ♦ Regulations for the amendment or withdrawal of regional or urban structure plans ♦ Free State LDO regulations (PG 246 of 14 November 1997) ♦ National Heritage Resource Act of 1999 ♦ Local Government Municipal Systems Act, No. 32 of 2000 ♦ Guidelines for Human Settlement and Design
Provincial office of Department of Water Affairs and Forestry	Water Resource management; Waste management	♦ National Water Act, No. 36 of 1998 ♦ Water Services Act, No. 108 of 1997 ♦ Health Act, No. 63 of 1977 ♦ Environmental Consevation Act, No. 73 of 1989 ♦ Minerals Act, No. 50 of 1991 ♦ Mountain Catchment Areas Act, No. 63 of 1970
Provincial office of Department of Mineral and Energy Affairs	Mineral resources management; Assessing of EMP's	♦ National Water Act, No. 36 of 1998 ♦ Water Services Act, No. 108 of 1997 ♦ Health Act, No. 63 of 1977 ♦ Environmental Consevation Act, No. 73 of 1989 ♦ Minerals Act, No. 50 of 1991 ♦ Mountain Catchment Areas Act, No. 63 of 1970 ♦ Development Facilitation Act, No. 67 of 1995 ♦ National Environmental Management Act, No. 107 of 1998 ♦ Atmospheric Pollution Prevention Act, No. 45 of 1945 ♦ National Nuclear Regulator Act, 1999 ♦ Mine Health and Safety Act, 1996 ♦ Conservation of Agricultural Resources Act, No. 43 of 1983 ♦ Free State Nature Conservation Ordinance, No. 8 of 1969 ♦ National Monument Act, No. 28 of 1969 ♦ National Heritage Resource Act, 1999 ♦ Free State Township Ordinance, No. 9 of 1969

3.2 Nketoana Environmental Issues

In order to ensure that the negative impacts of the priority environmental issues are minimized there needs to be a sound understanding of the relationship between the causes and the effects of these issues.

In the following table the various environmental problems associated with the proposed projects, (set out in the analysis phase), are presented, together with the most prominent causes of these environmental problems. The various effects of these environmental problems on the people, as well as the communities/towns being affected by these problems are also presented.

Table 3.2: **The project, causes, effects and people being affected by the environmental problem**

Project No.	Project	Causes of the problem	Effect(s) of the problem on the environment	People being affected
	The construction of an additional water storage dam	▪ Population growth, thus increased demand for water ▪ Improvement of water supply ▪ Will improve the lives of the people	▪ Decrease in the water resource ▪ More waste water for disposal	Lindley
	The upgrading of water purification works	▪ Population growth, thus increased demand for sanitation systems ▪ Sanitation ponds are too small ▪ Lack of proper infrastructure	▪ When sanitation ponds are too small there is an outflow ▪ Loss in biodiversity ▪ Positive effect: An enlarged system, thus less overflow	Arlington (Leratswana) Lindley (Ntha)
	Upgrading of sewernet wash	▪ Population growth, thus increased demand for sanitation systems ▪ Contamination of underground water through the old sanitation systems	▪ Increase in water use, which leads to a decrease in the resource	Reitz
	Upgrading of streets and stormwater	▪ Poor infrastructure for stormwater	▪ Erosion ▪ Pollution	Lindley (Ntha) Reitz (Petsana) Petrus Steyn (Mamafubedu)
	The upgrading of the refuse sites	▪ Insufficient and unfenced waste disposal sites ▪ Not sufficient capacity ▪ Waste management not effective	▪ Pollution ▪ Creates an unhealthy environment	Petrus Steyn Lindley Reitz Arlington/ Leratswana

Project No.	Project	Causes of the problem	Effect(s) of the problem on the environment	People being affected
	Upgrading of oxidation dams	▪ Population growth, thus increased demand ▪ Not sufficient capacity	▪ Pollution and contamination of underground water caused by overflows ▪ Creates an unhealthy environment	Ntha Petrus Steyn
	Water pipeline from Liebenbergvlei to Valsrivier	▪ Population growth, thus increased demand for water	▪ Disturbance of natural resources: trenches will be dug, trees will be cut down ▪ Visual pollution	Lindley Ntha
	Cemetery development	▪ Shortage in capacity ▪ Increased number of deaths, due to HIV/AIDS	▪ Shortage in burial sites ▪ Creates an unhealthy environment ▪ Loss in arable land	Lindley Arlington
	The construction of chlorine channels	▪ Not on standard ▪ Not sufficient capacity	▪ Disturbance of natural resources: trenches will be dug, trees will be cut down ▪ Visual pollution	Lindley/Ntha Petrus Steyn/ Mamafubedu Arlington/ Leratswana

Project No.	Project	Causes of the problem	Effect(s) of the problem on the environment	People being affected
	High mast area lighting and bulk upgrade of electricity	▪ For improved lighting, and safety	▪ Visual pollution: Erection of towers or masts ▪ Impact on the biodiversity	Lindley/Ntha Petrus Steyn/ Mamafubedu Arlington/ Leratswana Reitz/Petsana
	Construction of water pressure towers	▪ Population growth, thus increased demand for water	▪ Visual pollution: Erection of towers or masts ▪ Impact on the biodiversity	Petsana Mamafubedu Leratswana
	Installation of VIP toilets and provision of buckets	▪ Population growth, thus increased demand ▪ Not sufficient capacity	▪ Pollution and contamination of underground water caused shortage in toilets ▪ Creates an unhealthy environment	Petsana Mamafubedu Leratswana Ntha
	Communal dumping sites in all towns	▪ Not sufficient capacity	▪ Pollution of soil ▪ Creates an unhealthy environment	Reitz Petrus Steyn Lindley Arlington
	The upgrading and maintenance of major transport routes	▪ Poor infrastructure of roads ▪ Neglect of maintenance of roads	▪ Increase in air pollution (increased amount of private vehicles on roads) ▪ Increase in accidents ▪ Damage to land alongside roads	Tweeling Steynsrus Petrus Steyn Reitz Lindley

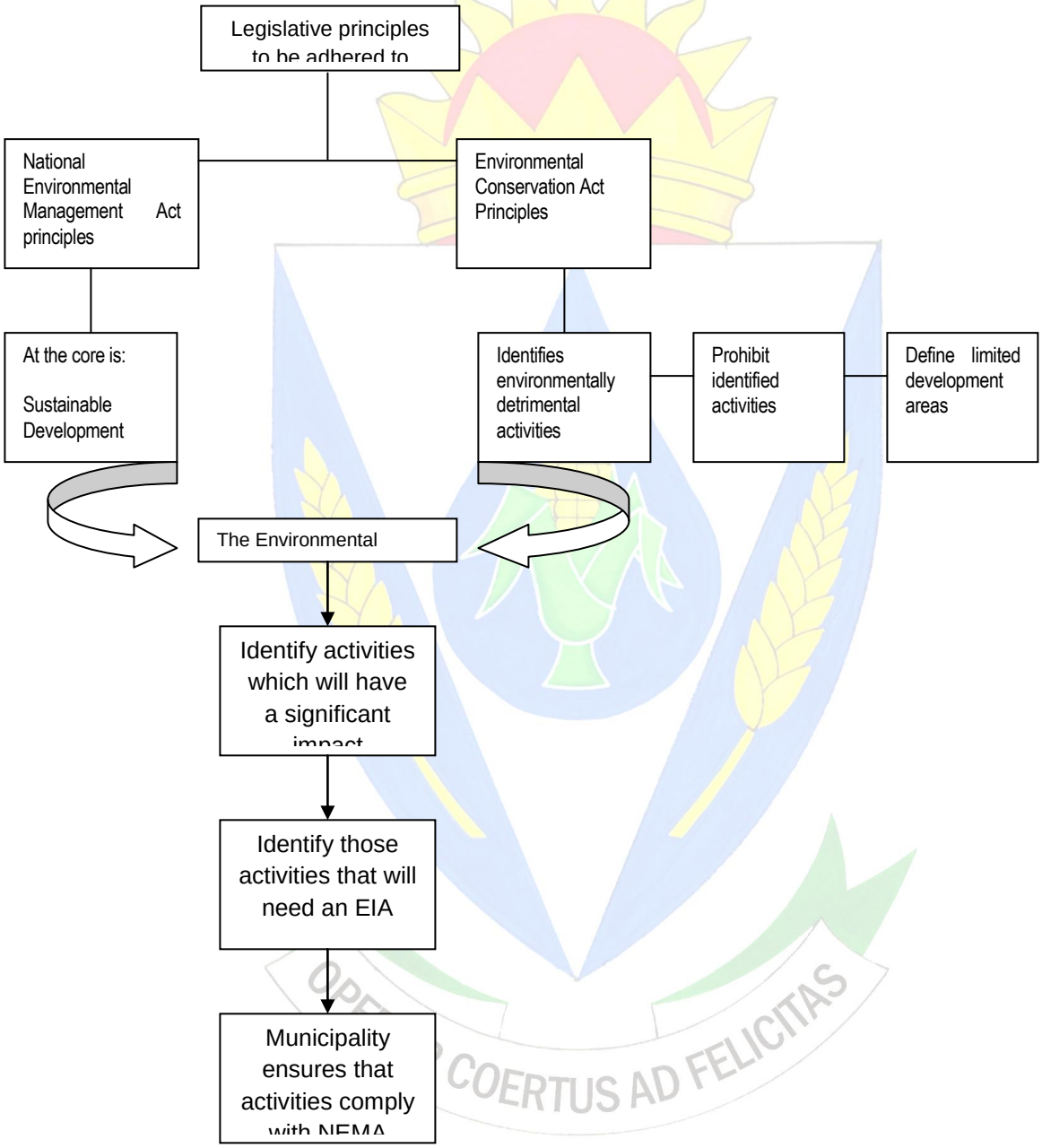
Activities/projects that will need an Environmental Impact Assessment (EIA), will be mentioned below. The additional activities not mentioned below, would all require scoping reports.

Activities, which will require an Environmental Impact Assessment (EIA), are:

- The construction of proper infrastructure for water, stormwater and sanitation services
- The new cemetery sites
- The upgrading of purification works
- The electricity infrastructure
- The construction and maintenance of new roads
- The water pipeline
- The chlorine channels
- The waste management en communal dumping sites

The following flowchart gives an indication of how the principles of the two most relevant acts, namely The National Environmental Management Act (NEMA) and The Environmental Conservation Act (ECA) influences decisionmaking regarding the proposed projects in the Integrated Environmental Programme.

Figure 3.1: **Flowchart indicating the influences of legislation on decision-making**



4. INSTITUTIONAL STRUCTURES

The following section deals with the various bodies at national, provincial and local levels of government, all of which have capacity to deal with specific tasks. From a local government perspective the strategy should be to build sufficient capacity to access these resources effectively rather than trying to undertake all tasks at local level.

4.1 External Institutional Capacity

Current institutional bodies that have environmental responsibilities include:

4.1.1 The Department of Environmental Affairs and Tourism (DEAT) (National)

DEAT is the ultimate policy making department for general environment management and for adjunction of Environmental Impact Assessments for major projects. Their focus is on issues at a national level.

4.1.2 The Department of Water Affairs and Forestry (DWAF) (National)

DWAF has major responsibilities particularly relating to the protection and management of water resources. They are divided into Forestry and Water Affairs branches.

The Forestry branch is primarily involved with development of conservation, commercial (industrial) and community forestry through policy development, regulation, facilitation and monitoring, along with the effective management of State forest timber and conservation areas.

The Water Affairs branch is primarily involved with managment and protection of water resources, the provision of water resourcs and control of water utilization, in terms of stream flow reduction allocations. Their main tool is the recent Water Act that provides far-reaching powers in terms of enforcement and management.

In implementing sevice provision under each of the core functions, community forestry adheres to three basic principles namely social development, economic development and environmental sustainability.

4.1.3 The Department of Minerals and Energy (DME) (National)

DME is divided into three branches:

- The Mineral Development Branch's purpose is to promote the orderly and continuous mining and utilization of mineral resources.
- The Mine Health and Safety Inspectorate's purpose is to ensure the safe mining of minerals under healthy working conditions.
- The Energy Branch's purpose is to promote the optimum development and utilization of energy resources.

4.1.4 The Department of Agriculture (DoA) (National)

DoA has a mandate to guide and support capacity building, sustainable resource use, production, trade and research in agriculture in order to maximise the contribution of the agricultural sector to economic growth, equity and social development in a sustainable manner.

The Department also deals with applications for the subdivision and rezoning of agricultural land.

4.1.5 Free State Department of Tourism, Economic and Environmental Affairs

The Environmental Affairs Directorate is recognized as the Provincial Environmental Authority in terms of administering the EIA regulations under the Environmental Conservation Act. In addition to undertaking adjudication of EIA's the department are also responsible for strategic level planning and management. It is the responsibility of local councils to flag projects where there are likely to be environmental or social problems, as well as projects where law requires EIA's.

4.1.6 Free State Conservation Services

Their prime role is to manage, protect and monitor the more pristine and sensitive areas of the province, including a number of game reserves. They are also the custodians of much environmental research and data for the province.

4.1.7 Local Municipality (LM)

The LM has limited in house dedicated to environmental capacity. They are however actively addressing environmental issues through planning staff and local interested parties. The LM currently tend to “buy-in” environmental expertise when they require it.

4.2 External Non-Governmental Capacity

In addition to formal institutional capacity there are numerous Non-Governmental Organizations (NGO’s) that have established to focus on specific areas or concerns. Some of the organizations that have a bearing on the environment are:

4.2.1 Wildlife and Environment Society of Southern Africa (WESSA)

WESSA’s aim is: “to contribute to the Earth’s vitality and diversity by:

- Promoting sound environmental values and sustainable lifestyles;
- Integrating conservation and development
- Generating individual and community action;
- Securing the protection and wise use of natural resources;
- Serving as environmental watchdogs;
- Promoting and participating in environmental education;
- Influencing policy and decision-making;
- Adapting to changing needs.

4.2.2 Conservancies

Conservancies defines itself, and it’s role as: the voluntary cooperative environmental management of an area, by it’s community and users, and in respect of which registration has been granted by the relevant provincial nature authority.

4.3 Internal Council Capacity

There is currently very limited environmental management capacity within Council. Current practice is for planning and technical staff to utilize consultants input as and when necessary. This is occurring in an *ad hoc* basis and is used to address the most pressing issues. It should be considered as a temporary solution as it is difficult to apply coordinated strategies in these circumstances.

5. SUMMARY

The legislation pertaining to the environment has been discussed and it can clearly be seen that NEMA and the ECA has specific principles regarding development and the environment. Various projects identified for the IDP has been highlighted and identified as having impacts on the environment. The NEMA and ECA principles act as a filtering process whereby the projects proposed to have an impact on the environment are identified for requiring either a scoping report or full Environmental Impact Assessment (EIA).

The causes and effects of the projects have been given, and based on the principles set out by NEMA, the activities of each project should be evaluated within context of the framework laid down by NEMA. This framework sets out that all development should be socially, economically and environmentally sustainable. It is thus the duty of the municipality to evaluate all the proposed projects in this manner, and to make recommendations to The Department of Environmental Affairs and Tourism, regarding the sustainability of each project, seen from a social, environmental and economical point of view.

6. RECOMMENDATIONS

Because coordinated environmental management in Nketoana is in a very early stage, a two phased approach is suggested:

Phase 1: The establishment of a Presence

This phase might last for a number of months, during which time emphasis should be placed on establishing a sound foundation for future management. This will include:

1. Organising data capture and management systems;

2. Establishing working relationships with other key departments and agencies;

3. Promoting a limited number of key projects and in particular those that do not require further research, where results can be achieved quickly and where the process will help to cement relationships with the community and other stakeholders.

Phase 2:Implementation

This phase is when emphasis will shift from enabling work to major tasks. It should commence after a review of the initial phase, as lessons learnt will influence strategy. The following is a summary of the major tasks to be embarked on:

- Attract investment to increase and strengthen business confidence in Nketoana;
- Capacity building;
- Job creation;
- Upliftment of people with economic development;
- Provide alternative means of support to rural/informal population in order to decrease dependencies on subsistence agriculture and environment;
- Ensure adequate waste disposal and waste water facilities;
- Ensure adequate electricity infrastructure to all areas;
- Improve the road network;
- Rehabilitation of existing degraded areas;
- Education on conservation of resources
- Management of development that will entail involvement in EIA's, SEA's, monitoring and rehabilitation.

Through implementation of these measures, all projects and development in Nketoana should strive to be socially, economically and environmentally sustainable.