

1 EXECUTIVE SUMMARY

1.1 INTRODUCTION

The Sustainability Unit of SRK Consulting was appointed by the Environment and Tourism Department of the Ekurhuleni Metropolitan Municipality (EMM) to produce this First Year State of the Environment Report (SoER) 2003. Ekurhuleni now joins the other five metropolitan municipalities in South Africa in completion of their SoERs.

As part of the five year IDP and SDF processes currently underway in the EMM, the EMM is required to draft and implement an Integrated Environmental Management Framework (IEMF), in order to build management capacity within the EMM. This first year SoER forms an integral part of the IEMF and is the first stage in this process. The general objective of this SoER is to establish the condition and status of the environment through the collation of available data for and description of the following themes:

- Human environment;
- Cultural heritage;
- Land and soils;
- Water resources;
- Atmosphere;
- Biodiversity and conservation; and
- Environmental management.

1.2 REPORT STRUCTURE

In accordance with the National Department of Environmental Affairs & Tourism (DEAT) guidelines for SoE reporting, Ekurhuleni has adopted the **Drivers-Pressures-State-Impact-Response (DPSIR)** reporting framework. This will allow the aggregation of information presented in this and subsequent reports to be integrated into the Gauteng provincial and the national SoE reporting initiatives. The drivers of environmental change are included as a separate chapter, while the PSIR components of the reporting framework are reported on for each theme. A monitoring section for each theme is included and highlights recommended indicators for consideration for future monitoring. The final chapter details the strategic priorities for each theme. The report contains the following chapters:

- Chapter 1: Executive Summary
- Chapter 2: A Geographical Overview of Ekurhuleni
- Chapter 3: Background and approach to State of the Environment Reporting
- Chapter 4: Driving Forces of Environmental Change
- Chapter 5: Human Environment
- Chapter 6: Cultural Heritage
- Chapter 7: Land and Soils
- Chapter 8: Water Resources

- Chapter 9: Atmosphere
- Chapter 10: Biodiversity and Conservation
- Chapter 11: Environmental Management
- Chapter 12: Way Forward: Strategic Priorities

1.3 THEMATIC ISSUES OF IMPORTANCE

The following sub-sections and points therein summarise the priority findings and issues identified for each theme:

1.3.1 Human Environment

- The population in 2003 was 2.48 million, with a literacy rate of 84 % and an unemployment rate of 40 %;
- Inequality, poverty and environmental justice with specific emphasis on the need for service provision in the former townships and squatter camps;
- The major health and safety issues are:
 - HIV/AIDS prevalence is higher than that for the Gauteng Province;
 - Although there has been a marginal decrease in crime, crime remains one of the most significant negative impactors on well-being;
 - High domestic fuel usage of fossil fuels poses a large health hazard;
 - The proximity of several residential settlements to unsuitable areas;
- Unacceptable noise in the suburbs within the flight path of aircraft traffic surrounding the Johannesburg International Airport;
- Low levels of environmental awareness;
- Urban decay is a problem in certain areas as businesses move toward the periphery.

1.3.2 Cultural Heritage

- Lack of information and data with regards to African heritage and archaeological resources;
- Archaeological sites in the Meyersdal/Klipriviersberg area are being destroyed, and the area requires formal protection

1.3.3 Land and Soils

- Approximately 43 % of the land is untransformed, while 15 % is under cultivation;
- 41 % of the EMM requires protection for exclusive agricultural use;
- Although mining contributes only approximately 2 % to the GGP, the negative legacy of mining unabated;
- There is widespread unsustainable use of land including:
 - Loss and degradation of open space;
 - Loss of moderate to high potential agricultural land;

- Illegal industry on agricultural plots and illegal dumping;
- Degradation and lack of rehabilitation of land by mining.
- All development activities need to consider environmental legislation and policy.

1.3.4 Water Resources

- Approximately 42 % of households have access to piped water inside their dwellings;
- The water quality and ecological status of the Klip River, Natalspruit and the Blesbokspruit is generally poor; all three rivers show signs of significant salt (as a result of excess minewater) and sewage loads;
- Improvement in stormwater and flood management is urgently required. Catchments of concern include the Kaalfontein, Elsburgspruit/Natalspruit, Rietspruit and Blesbokspruit catchments;
- A lack of information regarding groundwater quality exists and there is a lack of capacity of mines to continue pumping groundwater.

1.3.5 Atmosphere

- It is estimated domestic fuel use (mainly wood and coal) and industrial activities are the major contributors to air emissions with 60 % and 20 % respectively; Mine dumps and motor vehicles contribute 9 and 7 % respectively;
- Electrification and alternative energy sources for poorer areas is urgently required to address indoor and ambient air pollution and resulting health problems;
- There is a lack of monitoring data within the EMM as many sites are no longer operational;
- With the exception of 1990 in the Boksburg North Industrial area, average monthly SO₂ levels have not exceeded the DEAT monthly guidelines since 1975; Smoke levels (as measured by the soiling index) in the CBD areas has decreased since 1975, while that in industrial areas has remained relatively stable;
- PM₁₀ levels at Esther Park are relatively stable and maximum daily mean concentrations do not exceed the DEAT daily guideline level;

1.3.6 Biodiversity and Conservation

- Large proportions of populations of threatened plants occur within Ekurhuleni indicating its importance in terms of plant conservation;
- There are 8 threatened plant species, 17 threatened bird species, 1 reptile, 1 mammal, 1 amphibian and 21 priority invertebrates occurring in Ekurhuleni;
- The pans and wetlands house a large amount of diversity (for example waterbirds) and threatened species (e.g. the Giant Bullfrog) and are thus important for conservation purposes; The Blesbokspruit wetland has been declared a RAMSAR site;
- 96 % of pans surveyed are severely impacted on by human activities, while 4 % have been totally destroyed;
- Roads, housing development and alien vegetation are the major threats to pans and wetlands;

- There is a lack of data regarding alien invasive vegetation;
- 171 plant species are traded medicinally, with 10 of these being over-harvested;
- Only 0.97 % of EMM is under formal protection with 43 % of the surface area being untransformed or “natural” grassland;
- 9.79 % of the EMM has been identified as area important for conservation;

1.3.7 Environmental Management

- The Environment and Tourism Department of the EMM is dedicated to improving the management of the environment in the metro;
- The IDP does not sufficiently incorporate and consider environmental issues at this stage, but this SoER will improve this to a certain extent, if these planning processes are integrated;
- 25 businesses have certified SABS 14001 environmental management systems in place;
- The need for co-operative governance between the spheres of government and between departments within EMM needs to be urgently addressed. Capacity building in and raising awareness of environmental issues is required;
- The improvement in the management of the environmental aspects of mining need to be addressed.