

# ABOUT THIS REPORT

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State of the Environment Reporting (SoER) was developed mainly in response to the call by Agenda 21 for improved environmental information for decision-making. The Cities State of the Environment (CSoE) Report forms part of the Local Agenda 21 concept, which advocates that sustainable local environmental policy requires knowledge and easily accessible environmental information for administrators, decision makers and citizens. Local Agenda 21 facilitates sustainable development in the Integrated Development Plan (IDP) process. The purpose of the CSoE reporting is to provide information for developing and monitoring sustainable development strategies, programmes and projects. The SoER provides information on the causes and effects of environmental change and provides recommendations for responses to such change. Therefore, the information contained in this report should be used to inform all planning and decision making processes. A CSoER can be considered as a first step towards sustainable development within a council.

**Local Agenda 21 (LA 21)** is a long-term strategic that will help with economic development and employment, environmental protection, and equity and justice concerns. It seeks to reflect the needs, resources and hopes of a local community, and place these in a global context. The 1997 United Nations Special session of the General Assembly review of Agenda 21 recognised that local government, through its LA21 activities, was proving to be the most effective sphere of government in implementing Agenda 21.

*A Pathway to Sustainability, Local Agenda 21 in South Africa, 2002*

The City SoER will be beneficial to a wide range of users such as politicians and administrators through the provision of easily accessible environmental information for the development of sustainable local environmental policies and decision-making, thus improving the quality of life of city dwellers (DEAT, Feb 1999).

"Because so many of the problems and solutions being addressed by Agenda 21 have their roots in local activities, the participation and co-operation of local authorities will be a determining factor in fulfilling its objectives. Local authorities construct, operate and maintain economic, social and environmental infrastructure; oversee planning processes; establish local environmental policies and regulations and assist in implementing national and sub-national environmental policies. As the level of governance closest to the people, they play a vital role in educating, mobilising and responding to the public to promote sustainable development".

*Agenda 21, Chapter 28, 1992*

The social, economic and biophysical information contained in the SoER can be used to assist the analysis phase of the IDP process and result in more sustainable policies and projects.

The City's SoER contains information on the current state of the environment; human induced environmental impacts and management responses geared towards achieving greater sustainability. The City's SoER will serve as a building block for future

Gauteng State of the Environment Reports and eventually the National State of the Environment Report.

This report is the first SoE report for the Mogale City Local Municipality (MCLM). Mogale is the sixth city in South Africa to develop a State of Environment Report, following Pretoria, Johannesburg, Cape Town, Durban and Midrand (DEAT, 2002).

## WHAT ARE THE MAIN OBJECTIVES OF A SOER?

- To increase and provide awareness and understanding of environmental trends whilst taking into account conditions and their causes and consequences among all stakeholders;
- Providing a foundation for improved decision making at all levels, from the individual to the national governments and international organisations;
- Facilitating the measurement of progress towards sustainability;
- Making the information available on the internet allows the information to be more easily accessible to the citizens of the city and also allows city comparison at the global scale; and
- It forms the basis for Strategic Environmental Assessment.

**"Sustainable development requires** the consideration of all relevant factors including the following:

- i) "that the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied;
- ii) that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;
- iii) that the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;
- iv) that waste is avoided, or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner;
- v) that the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource;
- vi) that the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised;
- vii) that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and
- viii) that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied".

*National Environmental  
Management Act (NEMA),  
1998, Section 4(a)*

## WHAT ARE THE BENEFITS OF A SOER?

- To provide an early warning system for emerging environmental problems;
- To identify knowledge and information deficiencies impeding the understanding and interpretation of environmental conditions and trends;
- To contribute to the evaluation of societal response to environmental issues through policy and program performance assessment; and
- To encourage the incorporation of environmental considerations in the development of economic and social policies.

## WHAT REPORTING SYSTEM IS BEING USED IN THIS REPORT?

Each theme is reported in terms of cause, what the current status is and what is being done or should be done to alleviate environmental problems which impact on human health and quality of life: This approach is called Pressure – State – Response.

## Reporting System

**Pressures:** These are the pressures that are exerted on resources and ecosystems e.g. increased pollution of air, water, and soil; or depletion of natural resources such as woody biomass. These indicators provide information regarding the causes of environmental problems: depletion of natural resources by extraction or over harvesting of natural resources, releases of wastes or pollutants into the environment or transformation of natural ecosystems to other uses. Measures of the magnitude or extent of such activities provide indicators of the stress or pressure on the environment.

**State:** This assesses the state or condition of the resource or ecosystem as a result of the pressures. It describes the quality or "state" of the environment, particularly the decline in quality attributable to human activities. These include measures of urban air quality, water quality and soil and land quality.

**Response:** This relates to the societal response to improve the environment or to lessen the degradation of the environment. Response describes policy decisions and their implementation in the form of treaty agreements, budget commitments, research effort, compliance with regulations, introduction of financial incentives or voluntary behavioural changes via policies, laws, programmes, research etc. It also highlights the recommendations for additional activities to alleviate environmental problems.

**Driving Forces:** These are the underlying human activities that lead to environmental change. They may be governmental activities, such as agricultural policies, or energy subsidisation policies, corporate activities, such as irresponsible disposal of waste or inefficient use of raw materials, or they may be consumer activities, such as private vehicle use, or recreational activities.

*DEAT, National Core Set of Indicators, 2002*

## WHAT IS AN INDICATOR?

### Indicators are:

- An essential component in the overall assessment of the progress towards sustainable development; and
- Constructed, using information that is readily available, or can be obtained at a reasonable cost.

### The major functions of indicators are to:

- Assess conditions and trends in relation to goals and targets;
- Provide warning information;
- Anticipate future conditions and trends; and
- Compare across places and situations

*DEAT, National Core Set of Indicators, 2002*

## LIST OF INDICATORS

Many other sets of indicators have been developed, including sets developed by the Cities Environmental Reporting on the Internet ([CEROI](#)) Project, listed below :

The CEROI core set of indicators		
	Issue	Indicator
1	Access to drinking water	Households with access to water (%)
2	Air emissions	CO <sub>2</sub> , NO <sub>2</sub> , SO <sub>2</sub> (tonnes/capita/year)
3	Air quality	CO <sub>2</sub> , NO <sub>2</sub> , SO <sub>2</sub> (exceedence of WHO standard in days/year)
4	City product	City product per capita (USD/capita)
5	Energy consumption	Electricity use per capita (GWh/person/year)
6	Green areas	Percentage built up area (%)
7	Health care	City budget allocated to health care (%)
8	Housing price	Ratio of dwelling cost to medium household income (ratio)
9	Infant mortality	Infant mortality (male%, female %)
10	Investments in green areas	Annual investment per city product (%)
11	Investments to water supply systems	Investments to water supply (%)
12	Organisations using environment audit systems	Percentage of organizations (%)
13	Participation in decision-making	Percentage of decisions taken with public involvement (%)
14	Participation in elections	Local elections (%) and referendums (%)
15	Poor households	Households below the poverty line (%)
16	Population density	Population density (people/km <sup>2</sup> )
17	Population growth	Total number (number)
18	Presence of LA 21 process	Number of activities
19	Price of water	Price of water (USD/100 liters)
20	Quality of drinking water	Chemical, microbiological quality (%), number of days in exceedance (days), population affected (number of people)
21	Recycling	Percentage glass, metal, paper, plastic recycled
22	Rent-to-income ratio	Rent to income ratio (ratio)
23	Safety	Crimes per 1000 people (drug pushing, homicides, rapes, thefts)
24	School attendance	Public school attendance (%)
25	Transport modes	Percentage use of transport mode (bicycle, bus, foot etc.)
26	Travel times	Travel time (minutes)
27	Waste production	Total solid waste produced (tonnes/person/year and m <sup>3</sup> /person/year)
28	Wastewater treatment	Percentage BOD removed, percentage dwellings serviced, percentage of waste water treated
29	Water consumption	Average consumption of water (litres/person/day)

DEAT, *State of the Environment Guideline Document, May, 2002*  
[http://www.environment.gov.za/soer/resource/soeguide/gud\\_ww.htm](http://www.environment.gov.za/soer/resource/soeguide/gud_ww.htm)