

**MUNICIPAL ACTIVITIES FOR THE
ENVIRONMENT:
A PERSPECTIVE ON THE KGALAGADI
MUNICIPAL AREA**

CAREL J. VENTER

B. Art et Scientiae (Planning)

**Mini-dissertation submitted in partial fulfillment of the requirements
for the degree Magister Environmental Management at the
Potchefstroom Campus of the Northwest University.**

Supervisor: Dr L.A. Sandham

November 2006

Potchefstroom

ABSTRACT

MUNICIPAL ACTIVITIES FOR THE ENVIRONMENT: A PERSPECTIVE ON THE K GALAGADI MUNICIPAL AREA

Municipalities as the custodians of the environment in their areas of jurisdiction have the responsibility to care for the environment through their activities. This will ensure that the health and quality of the living of residents is protected and that residents continue to benefit from the environment in the long term. This study focuses on the environmental management activities of South African municipalities by providing a theoretical framework for environmental management, review available environmental management tools and reflect on environmental management activities by municipalities of the Kgalagadi area. Municipalities of the Kgalagadi area were analysed against the various available environmental management tools, municipal health responsibilities and powers and functions. The core finding is that most environmental management tools are developed and implemented in the Kgalagadi area. However a concern is the lack of effective utilisation of by-laws as a tool and the under-performance of the municipal health function by the District Municipality. It is recommended that municipalities should align their environmental activities to the powers and functions of local government and the performance management system of municipalities measure environmental performance as well.

Keywords: Municipal Environmental Management; Municipal Environmental Activities; Environmental Management Tools; Kgalagadi Area

SAMEVATTING

MUNISIPALE AKTIWITEITE VIR DIE OMGEWING: 'N PERSPEKTIEF OP DIE K GALAGADI MUNISIPALE GEBIED

Munisipaliteite het die verantwoordelikheid, as die bewaarders van die omgewing, om deur hul aktiwiteite na die omgewing om te sien. Dit sal verseker dat 'n gesonde en kwaliteit lewensomgewing vir inwoners beskerm word en dat hul daardeur oor die langtermyn sal aanhou om die voordele van die omgewing te geniet. Die fokus van hierdie studie is op omgewingsbestuur aktiwiteite van Suid-Afrikaanse munisipaliteite deur die daarstelling van 'n teoretiese raamwerk vir omgewingsbestuur, die hersiening van beskikbare omgewingsbestuur meganismes en te reflekteer op omgewingsbestuur aktiwiteite van munisipaliteite binne die Kgalagadi gebied. Munisipaliteite van die Kgalagadi gebied is ontleed teenoor die verskeie omgewingsbestuur meganismes, munisipale gesondheid verantwoordelikhede en magte en funksies. Die kern bevinding is dat meeste van die omgewingsbestuur meganismes ontwikkel en geïmplimenteer word in die Kgalagadi gebied. Die gebrekkige aanwending van munisipale verordeninge as 'n omgewingsbestuur meganisme en die wan-prestasie van die munisipale gesondheid funksie deur die Distriksmunisipaliteit is kommerwekend. Daar word voorgestel dat munisipaliteite hulle omgewingsbestuur aktiwiteite in lyn bring met die magte en funksies van plaaslike owerhede en dat die prestasiebestuurstelsel van munisipaliteite ook omgewingsbestuur aktiwiteite meet.

Sleutelwoorde: Munisipale Omgewingsbestuur; Munisipale Omgewings Aktiwiteite; Omgewingsbestuur Meganismes; Kgalagadi Gebied

TABLE OF CONTENTS

Abstract

Municipal Activities for the Environment: A Perspective on the Kgalagadi Municipal Area	i
--	---

Samevatting

Munisipale Aktiwiteite vir die Omgewing: 'n Perspektief op die Kgalagadi Munisipale Gebied	ii
---	----

Table of Contents

Abbreviations

Chapter 1 – General Introduction

1. Introduction and Background	1
2. Problem Statement and Substation	3
3. Research Questions	5
4. Research Aims and Objectives	6
4.1. Aim	6
4.2. Objectives	6
5. Research Methodology	6
5.1. Data Collection Methodology	7
5.2. Data Analysis and Interpretation	8
6. Key Terms Used	8
7. Chapter Division	10

Chapter 2 – Theoretical Framework for Environmental Management in the Kgalagadi area

1. Introduction	11
2. Conceptualising Environmental Management at a Municipal level	11
2.1. Sustainable Development	11
2.2. Environment	14
2.3. Municipal Health and Environmental Health	15
2.4. Environmental Health	18
3. Review of Legislation and Policy Framework	20

3.1. The Constitution of the Republic of South Africa	20
3.2. Framework Environmental Law	22
3.3. Municipal Specific Legislation	24
4. Powers and Functions of Municipalities and Co-operative Governance pertaining to Environmental Management	26
4.1. Functions of Municipalities	26
4.2. Powers of Municipalities	28
4.2.1. Executive Power	28
4.2.2. Legislative Power	30
4.3. Co-operative Governance	32
5. Conclusion	33
Chapter 3 – Review of Environmental Management Tools for Municipalities	35
1. Introduction	35
2. Organisational Management Tools	35
2.1. Integrated Development Planning	35
2.2. Local Agenda 21	36
2.3. State of Environment Report	38
2.4. Environmental Management Systems	38
2.5. Strategic Environmental Assessment	39
2.6. Spatial Development Framework (Land Use Planning)	40
2.7. Integrated Environmental Programme	40
3. Sector Specific Tools	41
3.1. Land Use Management (Development Control)	42
3.2. Disaster Management Framework and Plan	43
3.3. Waste Management Programme	44
3.4. Water Services Development Plan	45
3.5. Municipal Regulations and by-laws	46
4. Summative comparison between Environmental Tools	46
4.1. Management Tools	47
4.2. Sector specific Tools	50

5. Conclusion	51
Chapter 4 – A Reflection of Environmental Management Activities performed by Municipalities of the Kgalagadi Area	53
1. Introduction	53
2. Study Area	53
3. Environmental Management Tools in Municipalities of the Kgalagadi Area	55
3.1. Organisational management tools	56
3.2. Sector specific tools	59
4. Municipal and Environmental Health	62
5. Municipal Powers and Functions	64
6. Conclusion	67
Chapter 5 – Findings, Conclusions and Recommendations	69
1. Introduction	69
2. Findings and Conclusions	70
3. Recommendations	75
Bibliography	76
Appendices	
Annexure A: Functions, Definitions and Authorizations of Municipalities in the Kgalagadi Area	83
List of Figures	
Map 1: Municipalities of the Kgalagadi Area	54
List of Tables	
Table 1: Municipalities of the Kgalagadi Area	55
Table 2: Environmental Tools in the Kgalagadi Area	56
Table 3: Some Protection or Conservation projects as reflected in the various IDP's	66

ABBREVIATIONS

CSIR	Council for Scientific and Industrial Research
DEA&DP	Department of Environmental Affairs and Development Planning of the Western Cape
DEAT	Department of Environmental Affairs and Tourism
DM	District Municipality
DMA	District Management Area
DPLG	Department of Provincial and Local Government
EMS	Environmental Management System
ICLEI	International Council for Local Environmental Initiatives
IEP	Integrated Environmental Programme
IEMP	Integrated Environmental Management Programme
IDP	Integrated Development Planning
ISO	International Standard Organisation
ISRDP	Integrated Sustainable Rural Development Programme
KPI	Key Performance Indicator
LA21	Local Agenda 21
LM	Local Municipality
MEC	Member of Executive Council
NEMA	National Environmental Management Act
NWMS	National Waste Management Strategy
PAJA	Promotion of Access to Information Act
SANBI	South African National Biodiversity Institute
SEA	Strategic Environmental Assessment
SDF	Spatial Development Framework
SoER	State of Environment Report
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
WHO	World Health Organisation
WSDP	Water Services Development Plans
WSSD	World Summit on Sustainable Development

CHAPTER 1: GENERAL INTRODUCTION

1. INTRODUCTION AND BACKGROUND

Municipalities are the custodians of the environment of their areas of jurisdiction. The environment provides many benefits to municipalities and their residents. A beautiful environment that provides recreational opportunities attracts tourists, creating jobs for local residents and expanding opportunities for tourism business. A well-managed environment also provides a healthy and quality lifestyle for residents, protecting them from environmental health problems and enhancing the quality of life. In most municipalities in South Africa many residents also depend directly on the environment for their water and the production of food through agriculture. Less well-recognised benefits of the environment are the absorption of the impact of flooding by undeveloped open spaces and the treatment of human and industrial waste. Municipalities have a responsibility to care for the environment to ensure that the health and quality of living of residents is protected and that residents continue to benefit from the environment in the long term. At the same time they are responsible for expanding economic opportunities within their area of jurisdiction and for extending municipal services. As a result municipalities are faced with the challenge of balancing economic, social and environmental factors on a day-to-day basis with the aim of achieving sustainable development (Mckenzie, 2003: 180).

Since the new dispensation the SA democratic government has adopted a systematic and 'phased approach' to local government transformation. These phases were associated with key tasks that needed to be attended to (Department of Provincial and Local Government (DPLG), 2004:3):

a) Pre-Interim Phase (1994 - 1995)

- b) Interim Phase (1995 – 2000)
- c) Final Phase (2000 – beyond)
 - o Establishment Phase (2000 – 2002)
 - o Consolidation Phase (2002 – 2005)
 - o Sustainability Phase (2005 – beyond)

The process was expedited by the previous local government elections of 2000 whereby the powers of municipal councils were broadened, making municipalities a true government sphere on its own with specific functions and responsibilities. Transforming local government also implies moving away from a service delivery organisation to a developmental-orientated organisation. The White Paper on Local Government (1998:17) defines developmental local government as local government committed to working with citizens and groups within the community to find sustainable ways to meet their social, economic and material needs and improve the quality of their lives. This is similar to international trends underlined by the principles of Local Agenda 21 which places a strong emphasis on the creation of partnerships between local communities and local authorities as a means of accomplishing local level sustainability (Department of Environmental Affairs and Tourism, 1998: 4; United Nations Division for Sustainable Development, 2003). The Constitution (Act 108 of 1996) promotes the improvement of living environments and livelihoods of all constituents by means of the developmental approach.

Idasa (2006) states that although Schedule 4A of the Constitution lists the environment as a national and provincial function, a number of functions in Part 4B and 5B may be considered environmental in nature. These include municipal planning, regulations on air and noise pollution, and various services such as storm water management, water and sanitation, refuse and solid waste disposal, beaches, parks and other recreational facilities. Despite most municipalities having limited environmental management capacity, the National Environmental Management Act (NEMA) (Act 107 of 1998) requires that they incorporate

measures prescribed in the provincial integrated environmental plans and produce an integrated waste management plan.

The Paralegaladvice (2002) emphasises that principles articulated by NEMA cover the actions of national, provincial and *local government*. Recent international events like the Rio Earth Summit in 1992 and the World Summit on Sustainable Development (WSSD) in 2002 (Urquhart & Atkinson, 2002:15) highlighted the importance of local authorities in sustainable development, giving effect to approaches like Local Agenda- and Local Action 21. These events also promoted environmental management tools for municipalities like State of Environment Reporting, Strategic Environmental Assessments and Environmental Management Systems.

2. PROBLEM STATEMENT AND SUBSTANTIATION

The Kgalagadi area is located in the Northern Cape and consists of three Local Municipalities i.e. Gamagara, Moshaweng and Ga-Segonyana and one District Municipality, the Kgalagadi District Municipality (see Chapter 4, Map 1) (Kgalagadi District Municipality, 2006b: 6). These Municipalities experience various problems and difficulties in performing their functions and providing services to their respective communities. This is evident in the fact that the area was declared as one of thirteen 'Presidential Zones' or 'Rural Nodes' under the Integrated Sustainable Rural Development Programme (ISRDP) of national government which aims at attaining socially cohesive and stable rural communities with viable institutions, sustainable economies and universal access to social amenities, able to attract and retain skilled and knowledgeable people, who are equipped to contribute to growth and development (Department of Provincial and Local Government (DPLG), 2004: 5).

Research done by Kruger (2005) and Kotze (2003) highlights the importance of municipalities to develop and implement an Environmental Management System.

None of the Municipalities in the Kgalagadi area had developed such a system by 2006 and despite considering the suggestions for implementation made by Kotze (2003: 67) it is the opinion of the author¹ that it is unlikely for such a system to be implemented within the foreseeable future in the Kgalagadi area. This is due to an assessment that was done of the Integrated Development Plan (IDP) of Moshaweng Municipality by the United Nations Development Programme of South Africa (Luca & Venter, 2002: 85), presented at the WSSD, which concluded that there is a lack of environmental issues incorporated in the IDP. It also emphasises the key challenge of capacity constraints hindering the Municipality in dealing with environmental management. Results from the IDP Hearings, conducted in 2005 by DPLG, are making this applicable to the total District by stating that 'The District is implored to seek ways to create dedicated environmental management capacity, and should consider the establishment of shared service centres on environmental issues to serve the need of the District and Local Municipalities' (DPLG, 2005: 7). This recommendation is based on the following concerns from the Hearing Report:

- a) Insufficient understanding of the environmental threats and opportunities in the District and the lack of an overt strategy to deal systematically with environmental sustainability issues.
- b) The perceived slow pace of rehabilitation of mines and asbestos contaminated environments.
- c) The general lack of dedicated environmental management capacity in the District.
- d) The lack of air quality management plans especially in those areas where problems are experienced.
- e) The lack of a comprehensive waste management plan and mechanisms to monitor and manage and license land fill sites.

¹ The author has 5 years senior management working experience with the Kgalagadi District Municipality managing a Planning Centre that supports all municipalities in the area.

- f) Reports of manganese poisoning in the District and the perceived lack of actions by relevant departments in conjunction with the District to address the issue.

Despite these findings and concerns, Municipalities in the Kgalagadi area recently completed various environmental management strategies and tools like the Integrated Environmental Management Programme (2005), the Integrated Waste Management Programme (2004) and Spatial Development Frameworks (2003) (Kgalagadi District Municipality, 2006a: 80). This is proof that there is at least some form of understanding for environmental management or willingness to attend to environmental management.

Within the context of the afore-mentioned this research study intends to clarify the roles and responsibilities of municipalities in the Kgalagadi area in managing the environment and considering improvements by assessing current environmental activities.

3. RESEARCH QUESTIONS

The following questions guided the research process:

- What is municipal environmental management?
- What legal functions and activities do municipalities execute in performing environmental management?
- What is the current status of environmental management in the Kgalagadi Municipal area and what can be done to improve the situation?

4. RESEARCH AIMS AND OBJECTIVES

The following are the aims and objectives of the research:

4.1. Aim

The aim of the research is to determine the environmental management responsibilities of municipalities within the Kgalagadi area and assessing their current environmental activities.

4.2. Objectives

The objectives of the study include the following:

- To define environmental management at municipal level.
- To reflect on applicable legislation influencing environmental management at municipal level.
- To explore available environmental tools for municipalities.
- To determine current environmental management efforts and activities of Municipalities in the Kgalagadi area.
- To make recommendations on how to improve the efforts of Municipalities in the Kgalagadi area relating to environmental management.

5. RESEARCH METHODOLOGY

The research method followed in this study was a qualitative approach with the purpose to explore. According to Bless & Higson-Smith (1995: 42) exploratory research is to gain insight into a situation, phenomenon or person. The need for such a study could arise out of the lack of basic information on a new area of interest. Qualitative methods are specifically orientated towards exploration, discovery and inductive logic. The researcher tries to make sense of the

situation without existing expectations in respect to the phenomenon or situation studied (Kotze, 1995)(cited in Aucamp 2003: 10). The purpose of this research is to identify and assess environmental management activities within municipalities of the Kgalagadi area and make recommendations for possible improvements.

5.1. Data Collection Methodology

In this study literature searches of various sources in paper and electronic format (internet) were used as the main method of gathering data. These included recently published articles, articles presented at conferences and seminars, books, research publications, institutional sources – specifically from the four municipalities researched - legislation from the South African list of statutes and national and provincial framework documents, reports and directives.

The literature searches were supplemented by *non-scheduled, unstructured interviews* as explained by Bless & Higson-Smith (1995: 107) with officials working in the respective municipalities and government departments in order to gather data not available in literature. The following people were interviewed:

- Burger, P.; Environmental Health Officer at Gamagara Municipality through personal communication on 22 August 2006.
- Itumeleng, T.C.; Manager Community Services at Moshaweng Municipality through personnel communication on 4 September 2006.
- Rautenbach, J.; Acting Manager Community Services at Ga-Segonyana Municipality through personal communication on 16 August 2006.
- Roelofse, J.; Assistant Manager Technical Services at Kgalagadi District Municipality through personal communication on 5 September 2006.
- Roussow, J.; Chief Fire Emergency Services at Kgalagadi District Municipality through personal communication on 25 August 2006.

- Stander, D.; Deputy Director Environmental Health at Department of Health Northern Cape Province through personal communication on 22 August 2006.
- Streuders, K.; Coordinator Water Services Development Plans Northern Cape Province through personal communication on 5 September 2006.
- Swart, J.; Environmental Health Officer at Kgalagadi District Municipality through personal communication on 17 August 2006.
- Walker, J.; Manager Corporate Services at Gamagara Municipality through personnel communication on 22 August 2006.

5.2. Data Analysis and Interpretation

The term analysis means the 'resolution of a complex whole into its parts' and interpretation refers to the stage in the research process where the researcher tries to 'bring it all together', either by relating the various individual findings to an existing theory or hypothesis, or formulating a new hypothesis that would best account for the data (Mouton, 1996: 169).

In this research study the various data were analysed and interpreted to determine environmental management functions, activities and tools within municipalities. Data of the four Municipalities in the Kgalagadi area were analysed to determine their activities as far as environmental management is concerned of which the conclusions and recommendations based on the findings are reflected in Chapter 5 of this report.

6. KEY TERMS USED

Environment

The National Environmental Management Act (Act 107 of 1998) defines environment '....as the surroundings within which humans exist and that are made up of-

- (i) the land, water and atmosphere of the earth.;
- (ii) micro-organisms, plant and animal life;
- (iii) any part or combination of (i) and (ii) the interrelationships among and between them; and
- (iv) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being'

Environmental Management

Management is the execution of planned controls so as to achieve a desired outcome, and when management skills and techniques are applied to care for the earth so as to achieve goals inherent in the principles listed below we are dealing with environmental management (Fuggle, 2000: 3).

- Respect and care for the community of life
- Improve the quality of human life
- Conserve the earth's vitality and diversity
- Minimize the depletion of non-renewable resources
- Keep within the earth's carrying capacity
- Change personal attitudes and practices
- Enable communities to care for their own environments
- Provide a national framework for integrating development and conservation
- Create a global alliance

Municipality

Municipality refers to local government as elaborated on Chapter 7 of the Constitution (Act 108 of 1996) and is the local sphere of government in South Africa.

Functions of Municipalities

The functions of municipalities are those matters listed in Part B of Schedules 4 and 5 of the Constitution and discussed in section 156 of the Constitution.

7. CHAPTER DIVISION

Chapter 2 of this dissertation focus on a theoretical framework for environmental management in the Kgalagadi area, followed by Chapter 3 which reviews environmental management tools for municipalities. This is followed by Chapter 4 reflecting on environmental management activities performed by Municipalities in the Kgalagadi area. The research is concluded in Chapter 5 with findings and recommendations.

CHAPTER 2:
THEORETICAL FRAMEWORK FOR ENVIRONMENTAL MANAGEMENT IN
THE K GALAGADI AREA

1. INTRODUCTION

In this chapter a theoretical framework is given for municipal environmental management with limited reference to the Kgalagadi area. A literature perspective conceptualises environmental management at municipal level by considering sustainable development and define the concept environment and environmental management. Clarity is provided regarding municipal and environmental health within the context of municipal environmental management. The powers and functions of municipalities within the framework of environmental management are also discussed and an overview of applicable legislation is provided.

2. CONCEPTUALISING ENVIRONMENTAL MANAGEMENT AT MUNICIPAL LEVEL

The aim of this section is to conceptualise environmental management at a municipal level in order to limit possible confusion and to create an equal understanding of it within the Kgalagadi area. It will also lay a foundation for the rest of the dissertation.

2.1. Sustainable Development

The notion of 'sustainable development' is especially relevant in the Kgalagadi area since the area is part of the Integrated Sustainable Rural Development Programme (ISRDP) of national government. This programme was identified in 2001 with the vision to '....attain socially cohesive and stable rural communities with viable institutions, sustainable economies and universal access to social amenities, able to attract and retain skilled and knowledgeable people, who are

equipped to contribute to growth and development.’ (DPLG, 2004a: 3). The term ‘sustainability’ is one of the key concepts in this vision and it is further articulated by referring to it as the extent to which the strategy contributes to increased local growth and ensures that people care about its success and can access the resources needed to keep it going. DPLG (2004a: 9) emphasises that at the time the ISRDP was devised the issue of sustainability was debated and it was divided into financial sustainability and social sustainability. Financial sustainability refers to municipalities as institutions and the need to function financially independently. Social sustainability refers to the rural communities of the municipalities and the need to enhance and sustain social capital.

It should be noted that nowhere does the ISRDP make provision for the term environment in its explanation of sustainability. It does, however, identify environmental sustainability as one of six objectives with amongst others sustainable economic growth and sustainable social development. This is more in accordance with the, by now well accepted definition of sustainable development of the National Environmental Management Act (NEMA) (Act 107 of 1998) as ‘the integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that development serves the present and future generations’. Thus, sustainable development has three components, viz, economic growth, social equity and the protection of the environment. The Brundtland Commission report popularized the term sustainable development as ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs.’ (Sekhesa, 2000: 1). Agenda 21, Local Agenda 21 and the resulted Local Action 21 programme were responsible for popularising this term amongst local authorities globally.

The White Paper on Local Government (1998: 157) refers to ‘sustainable’ as activities that utilise resources and build capacity in a way which ensures that the activity can be maintained over time. Tyler Miller (2002: G14) add to this by

stating that 'sustainability' refer to 'the ability of a system to survive for some specified (finite) time'. This is complemented by Urquhart & Atkinson, (2002: 15) explaining sustainability 'as a condition or activities that can be maintained into the future without external inputs...'. These definitions, however, does not include the term 'development', although it does mention activities over time which brings it in line with the definition of the Brundtland Commission report.

Adding 'development' to this definition of 'sustainable' clarity is provided by the Local Government Municipal Systems Act (Act 32 of 2000) defining 'development' as '....sustainable development and includes integrated social, economic, environmental, spatial, infrastructure, institutional, organisational and human resource upliftment of a community aimed at-

- (a) improving the quality of life of its members with specific reference to the poor and other disadvantage sections of the community; and
- (b) ensuring that development serves present and future generations....'

More important to municipalities is that the same Act (Act 32 of 2000) defines 'environmental sustainability' in relation to municipal service as '....the provision of a municipal service in a manner aimed at ensuring that:

- (a) the risk of harm to the environment and to human health and safety is minimised to the extent reasonably possible under circumstances;
- (b) the potential benefits to the environment and to human health and safety are maximised to the extent reasonably possible under circumstances; and
- (c) legislation intended to protect the environment and human health and safety is complied with....'

The Act does, however, not provide a definition of the term 'environment', which might cause confusion amongst interpreters since it is frequently used in the Act. (Urquhart & Atkinson, 2002:15)

2.2. Environment

Rabie (2000: 83) states that 'There is no general agreement on exactly what the concept 'environment' encompasses. Curiously enough, its meaning is often simply taken for granted and many commentators and even official publications discuss environmental problems without attempting to define 'environment'. It is obvious, nevertheless, that any meaningful classification and discussion of environmental problems, as well as any advocacy of the cause of environmental management and conservation, presupposes clarity over the pivotal concept of environment. Such clarity is required also for the demarcation and analysis of environmental law, if environmental law is understood to be the law relating to the environment.'

If the previous interpretation of Rabie is accepted, defining 'environment' within the municipal context is as difficult as defining it within other sectoral fields like law, construction and conservation. It is argued that there is an *extensive approach*, which embraces a multitude of ingredients for the term environment like the natural environment, social environment, economic environment and, in context of municipalities, a health environment. On the other hand the *limited approach* refers to environment as the natural environment. This approach probably has been influenced by ecological studies, which basically have been aimed at researching the natural environment within its natural ecosystem e.g. wild animals and plants, as well as freshwater fish. From the author's experience the scenario in the Kgalagadi area is that when reference is made to 'environment' the expression is that of the limited approach whereby the term environment means the ecological or natural environment.

Rabie (2000: 88) argues that due to the sectoral approach to environmental problems in the past, legislatures were not required to define environment. This is in contrast to recent legislative developments whereby NEMA (Act 107 of

1998) defines environment '....as the surroundings within which humans exist and that are made up of-

- (i) the land, water and atmosphere of the earth.;
- (ii) micro organisms, plant and animal life;
- (iii) any part or combination of (i) and (ii) and the interrelationships among and between them; and
- (iv) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being'

This definition of NEMA is more in accordance with the extensive approach and although different from the current usage of the term in municipalities, it could provide better understanding and clarity of the term at municipal level.

2.3. Municipal Health and Environmental Health

Traditionally municipalities in the Kgalagadi area dealt with environment-related issues through those departments responsible for amongst others municipal and environmental health. This often results in confusion where any environmental-related issue is given to these Departments to deal with. To debate the correctness of this is not the aim of this research but an understanding of the difference and relationship between environmental health services and environmental management will assist in conceptualizing environmental management at municipal level.

According to the Health Systems Trust (2006), environmental health services is a cinderella programme, considered to be part of primary health care within the district health system and designated as a programme like HIV/AIDS. Environmental health services consist mostly out of municipal health services, as prescribed and defined by the Constitution, and is the responsibility of local

government. Environmental health services are a vital component of primary health care within the district health system and can improve health status.

The Demarcation Board (2006) and Hall, Haynes & Baaitjies (2006: 9) indicate Municipal Health Services as a function of district Municipalities. It goes further by defining the function as 'subject to an arrangement with the MEC's, to do the necessary authorization, or alternatively, subject to amendments of the Structures Act, municipal health services means environmental health services performed by a district municipality and includes: Air pollution; Child care facilities; Control of public nuisance; Control of undertakings that sell liquor to the public; Facilities for accommodation, care and burial of animals; Licensing and control of undertakings that sell food to the public; Licensing of dogs; Markets; Municipal abattoirs; Noise pollution and Pounds'.

The National Health Act (Act 61 of 2003) indicates that for the purpose of the Act, municipal health services include:

- Water quality monitoring
- Food control
- Waste management
- Health surveillance of premises
- Surveillance and prevention of communicable diseases, excluding immunizations
- Vector control
- Environmental pollution control
- Disposal of the dead
- Chemical safety

It is, however, important to consider the Constitution in this respect, which sets out some matters that fall within the scope of the practice of environmental health

to the extent of parts B of Schedules 4 and 5 (Department of Health, 2003:6).

Those are:

- Air pollution
- Building regulations
- Child care facilities
- Municipal airports
- Municipal planning
- Municipal public transport
- Water and sanitation limited to potable water and domestic sewage
- Beaches and amusement facilities
- Cemeteries, funeral parlors and crematoria
- Licensing and control of undertakings that sell food to the public
- Local sport facilities
- Markets
- Municipal Abattoirs
- Noise pollution
- Refuse removal, refuse dumps and solid waste disposal

Some of the above functions are not mentioned by the Demarcation Board as part of environmental health as referred to earlier in this section. However, since it is recognised by the Department of Health and stipulated in the Constitution, municipalities have to perform these functions.

In trying to conceptualise environmental management it is not only necessary to know the mentioned functions but also to understand the meaning of environmental health services. The Department of Health (2003: 7) provides clarity by stating that environmental health services include the primordial and primary prevention of environmental stimuli that exert deleterious or harmful effects on human health, and the reactive management of health risks in respect of the macro- and micro-environments by the:

- Anticipation and identification of environmental health risks or factors through inspections, investigations, research and monitoring actions and epidemiological analysis of surveillance information;
- Identification and evaluation of environmental health risks for the purpose of determining the appropriate and strategic remedial or preventative measures;
- Implementation of remedial or preventative measures;
- Monitoring and evaluation of the effectiveness and efficiency of measures taken.

It is the author's opinion that from this definition environmental health services refer to those aspects of the environment having a possible detrimental effect on human health. Municipal health services therefore have a direct impact on the environment and vice versa. It can be argued that should a municipality not apply proper environmental management within its area of jurisdiction it can put pressure on its environmental health services function. Also, dealing with environmental health services can be considered as part of environmental management at municipal level.

2.4. Environmental Management

The need for human beings to be conscious of the effects of their actions and to conduct their activities so as to optimize benefits and minimize costs has become widely accepted. Management is the execution of planned controls so as to achieve a desired outcome (Fuggle, 2000: 3), and when management skills and techniques are applied to care for the earth so as to achieve goals inherent in the principles listed below we are dealing with environmental management.

The Proposed Nine Principles for Building a Sustainable Society (Fuggle, 2000: 2):

- Respect and care for the community of life

- Improve the quality of human life
- Conserve the earth's vitality and diversity
- Minimize the depletion of non-renewable resources
- Keep within the earth's carrying capacity
- Change personal attitudes and practices
- Enable communities to care for their own environments
- Provide a national framework for integrating development and conservation
- Create a global alliance

The Ekurhuleni State of Environment Report (SoER) (Ekurhuleni Metropolitan Municipality, 2003: 296) applied this concept of Fuggle within the context of NEMA by stating that the principles associated with environmental management in South Africa are detailed in the NEMA and emphasise the concept of sustainable development. This, together with said proposed nine principles, implies that environmental management can not be seen in isolation from 'sustainability' and that it forms an integral component of environmental management and vice versa.

Fuggle (2000: 3) goes further by stating that: 'The compass of environmental management is vast. General goals and specific objectives must be formulated and this must be undertaken with due regard to ethical, social and political norms. The goals and objectives must be given operational form, hence legislation and associated regulations come into being. Economic and technical decisions must be made and alternative courses of potential action assessed. Important is that these activities span a spectrum from central government (incl. local government/municipalities) to personal decisions; they require moral, social, political, legal, scientific, technological and economic expertise and, consequently, the inputs from many disciplines'.

The role of municipalities in environmental management in South Africa expanded substantially over the last decade, mainly due to the 1992 Rio Earth

Summit, and the resulting local scale approach to sustainable development through Local Agenda 21 and the Integrated Development Planning (IDP) process. The Constitution (Act 108 of 1996) details the environmental management functions of the three spheres of government, where the environment is an area of concurrent national & provincial competence with the principle of delegation of functions to local government being established (Ekurhuleni Metropolitan Municipality, 2003: 296). These functions are listed in annexure A.

3. REVIEW OF LEGISLATION AND POLICY FRAMEWORK

Municipalities in South Africa function within a well-defined policy and legislative framework. In 1996 the Constitution laid the basis, followed by the White Paper on Local Government in 1998, which started a transformation process whereby Municipalities became more development-orientated. This was followed by various sector-specific legislation influencing the daily operations of municipalities. Recently-promulgated environmental legislation (NEMA) also requires Municipalities to perform certain functions and act accordingly. The aim of this section is to discuss this legislation and the policies that influence environmental management within municipalities in the Kgalagadi area. The intention is not to repeat research and other published material, but to provide an overview as an important component of the theoretical framework for environmental management in the Kgalagadi area.

3.1. The Constitution of the Republic of South Africa

In South Africa, environmental concerns have received significant attention in the new wave of policies and laws promulgated since 1994. The Constitution (Act 108 of 1996), which provides the point of departure for policy and law-making in this country, contains far-reaching clauses relevant to the environment. Embedded within the Bill of Rights is an environmental clause which provides

that '...everyone has the right to an environment that is not harmful to their health or well-being' (section 24). Subsection (b) of this section gives government the responsibility to take reasonable measures to ensure that the environment is protected for the benefit of present and future generations (DEAT, 2003: 9).

Nel & Le Roux (2005: 3) state that the Constitution charges local governments with the planning and development of municipal areas to attain the following objectives:

- to ensure sustainable provision of services;
- to promote social and economic development;
- to promote a safe and healthy environment;
- to give priority to the basic needs of communities; and
- to encourage involvement of communities.

The '....sustainable provision of services...and promoting a safe and healthy environment....' provide a clear mandate to municipalities to take on environmental management responsibilities.

The afore-mentioned are, however, broad objectives that do not give exact functions and responsibilities to municipalities. Schedules 4 and 5 of the Constitution are more precise in terms of specific environmental-related responsibilities for municipalities. These are:

- air pollution;
- municipal health services;
- municipal public works;
- storm water management in built-up areas;
- trading regulations;
- water and sanitation services, limited to potable water supply systems and domestic waste water and sewage disposal systems;

- amusement facilities;
- cleansing;
- control of public nuisances;
- noise pollution; and
- refuse removal, refuse dumps and solid waste disposal.

These functions are critical since this, together with the Integrated Development Plan (IDP), forms the basis for Municipalities to structure themselves accordingly, allocate appropriate resources and perform what is expected from them. The Municipal demarcation board (2006) provides definitions of these functions. This is reflected in annexure A. Also, the functions differ between category B (local) and C (district) municipalities. However, should a local municipality not be able to perform a specific function, such a function can be given to a district municipality to perform or vice versa. In the Northern Cape Province these are determined by the MEC for Local Government in the Province, by publishing a list of adjustments. Annexure A reflects the various allocated functions per Municipality in the Kgalagadi area as well as the adjustments determined by the MEC.

3.2. Framework Environmental Law

The framework that guides environmental management in South Africa is the *White Paper on Environmental Management Policy for South Africa* (SA, 1998a). The overarching goals of this policy are stated as '.... the intention to move from the previous situation of unrestrained and environmentally insensitive development to sustainable development with the aim of achieving an environmental sustainable economy in balance with ecological processes'. *The National Environmental Management Act* (NEMA) (Act 107 of 1998) gives effect to the White Paper and has far-reaching implications for environmental management. Of relevance to local government is that the 18 environmental principles articulated in NEMA apply to all organs of state. In practice these

principles need to be applied to all local government planning and decision-making activities. The environmental rights clause, as well as other provisions in the Constitution and NEMA, means that the public can take legal action against local government if they fail to adhere to these principles during the course of executing their functions.

According to Ekurhuleni Metropolitan Municipality (2003: 296) section 24 of NEMA confers a general obligation on all tiers and branches of government which have responsibility for permitting any activities which may have implications for the environment, to consider the environmental impacts of the activities and to document the findings. Importantly to municipalities is also the set of regulations (regulations 385, 386 and 387) promulgated on 21 April 2006 in terms of Chapter 5 of the Act and the accompanying schedules. These regulations identify specific activities that will require authorisation or permission by law before commencing and will have to undergo some form of environmental impact assessment as prescribed. All of these listed activities take place within the jurisdiction of municipalities and being spheres of government, municipalities are also responsible for ensuring compliance and advising developers accordingly before issuing the necessary permits and authorizations. A number of municipal activities also fall within these regulations such as water, waste, building of streets and change in land use, and are themselves subject to environmental impact assessments.

Complementing the White Paper on Environmental Management and Policy and the two Acts referred to above are numerous policies and Acts that deal with individual aspects of environmental management such as management of water resources, coastal and marine resources, forestry, waste, biodiversity air pollution, mining and exploration activities. A discussion of these does not fall within the scope of this study, but compliance by municipalities is important for effective environmental management at municipal level.

3.3. Municipal Specific Legislation

After the new dispensation, local government transformed from a service delivery organisation to one that is more developmental-orientated. The notion of 'developmental local government' was first articulated by the *White Paper on Local Government* (SA, 1998) that defines developmental local government '...as local government committed to working with citizens and groups within the community to find sustainable ways to meet their social, economic and material needs and improve the quality of their lives'. The White Paper also provides for the inclusion of environmental considerations in the Integrated Development Planning (IDP) process. Section 2.2 specifically states that '...planning for environmental sustainability is not a separate planning process, but is an integral part of the process of developing municipal Integrated Development Plans' (DEAT, 2003: 9)

Important, however, is that the White Paper was a predecessor of three key pieces of legislation which are having a major impact on municipalities. These are the Local Government: Municipal Systems Act, (Act 32 of 2000); the Local Government Municipal Structures Act, (Act 117 of 1998) and the National Demarcation Act, (Act 27 of 1998). Of these three pieces of legislation, *the Municipal Systems Act* is the most specific and appropriate pertaining to municipal environmental management. It sets out the basic principles and mechanisms to be used to achieve the vision of developmental local government. It also stipulates the development of IDP's, linking them to the White Paper on Local Government, and defines environmentally sustainable services as those where the risk of harm to the environment and to human health and safety is minimized and the potential benefits maximized as far as reasonably possible. According to DEAT (2003: 10) the Act recognises the links between environment, development and poverty, and states that it is the general duty of a municipality to provide municipal services that are both financially and environmentally sustainable.

The *Municipal Planning and Performance Management Regulations*, promulgated in 2001 in terms of the Municipal Systems Act, describe, amongst others, the content of an IDP and state that the spatial development framework reflected in the municipality's IDP must '...contain a strategic assessment of the environment of the spatial development framework....' (SA, 2001: 5). This notion is taken further by the *Land Use Management Bill* (SA, 2002: 13) which states that each municipality must compile a spatial development framework, and that one of the components of this framework must be a 'strategic environmental assessment' (SEA).

Although not only applicable to municipalities, the *Development Facilitation Act* (Act 67 of 1995) introduced extraordinary measures to facilitate and speed up the implementation of reconstruction and development programmes and projects in relation to land. In so doing the Act laid down general principles governing land development throughout the Republic of South Africa. The Act also facilitated the formulation and implementation of land development objectives, by reference to which the performance of local government bodies in achieving such objectives may be measured.

The Development Facilitation Act provides specific principles for:

- Land development and conflict resolution.
- Controls on land occupation.
- Recognition of informal land-development practices.

One of these principles, to which all laws, policies and administrative practices affecting land development should adhere, states that such laws, policies and administrative practices should '...promote development of housing and work opportunities near to each other, and encourage environmentally sustainable practices and processes....'.

Important specifically to municipalities in the Kgalagadi area is *the Northern Cape Planning and Development Act (Act 7 of 1998)*. This Act replaced the Cape Ordinance 15 of 1985 which regulated land development in all the municipalities of the Northern Cape until the mentioned Act came into effect. The intention of the Northern Cape Planning and Development Act is to provide a single set of procedures and regulations for land development in the Northern Cape Province to complement the accelerated development procedures as provided for in the Development Facilitation Act. It is also in terms of this Act that municipalities have adopted scheme regulations, assisting them with land use management which is one of the environmental management and decision-making activities for municipalities.

4. POWERS AND FUNCTIONS OF MUNICIPALITIES AND CO-OPERATIVE GOVERNANCE PERTAINING TO ENVIRONMENTAL MANAGEMENT

4.1. Functions of Municipalities

Earlier in this study it was mentioned that the Constitution details the environmental function of the three spheres of government and in terms of Schedules 4 and 5 specific competencies related to the environment are given to municipalities. These competencies within the Kgalagadi area are, together with other functions, reflected in annexure A. However, to limit environmental management responsibilities to these functions might not be adequate since municipalities are often confronted with complex decision and planning challenges when trying to perform their functions. Also if the notion that sustainability as an integral part of environmental management is accepted, as pointed out earlier, the efforts of performing environmental management become even more integral and complex.

Considering the specific legal functions given to municipalities by the Constitution and the fact that municipalities often have to perform beyond them when dealing

with environmental management, Nel and Le Roux (2005: 4) point out that municipalities have four main functions to perform:

- Firstly the *governance function* of municipalities is interpreted to involve three aspects (Meyer *et al*, 2002:5)(cited in Nel & Le Roux, 2005: 4), firstly to develop and implement by-laws (to ensure that relevant environmental aspects are governed within a legislative framework), secondly to ensure that they (also applicable to aspects such as air pollution, land use management and waste management) are enforced. Thirdly local government also has an executive function (including co-operative governance arrangements with other spheres of government).
- Another important function of municipalities is the *protection or conservation function*, since municipalities own land with potential conservation value. According to Meyer *et al* (2002)(cited in Nel & Le Roux, 2005: 5), this function also entails the provision of a generally healthy environment, conducive to a good quality of life, with access to recreational facilities, clean air and water as well as ample functional open space. Examples of conservation priorities could for instance be cultural heritage, proclaimed natural areas, town lands, air quality, water quality, biodiversity and urban greening. According to the South African National Biodiversity Institute (SANBI), the protection of biodiversity should be a priority on the local government agenda.
- However, municipalities also have *management functions*, such as the delivery of services and the management of own activities:
- Finally, the *service-delivery function* of municipalities has to do with a whole range of activities regarding administrative functions, including the provision of infrastructure, the facilitation of economic development and other 'soft' functions. Meyer *et al* (2002)(cited in Nel & Le Roux, 2005: 6) argues that these services invariably demand effective environmental management practises to mitigate and control the potential impacts associated therewith.

Consequently, municipalities employ numerous people and own or operate extensive infrastructure that needs to be managed. These own activities and assets also require an environmental risk-averse management approach.

4.2. Powers of Municipalities

Municipalities perform the said functions pointed out by Nel and Le Roux (2005, 4) by exercising certain powers. The Department of Environmental Affairs and Development Planning of the Western Cape (DEA&DP) (2003: 7) states that these powers, are either of a *legislative* or *executive* nature. In other words, they relate either to making the law or executing it.

4.2.1. Executive Power

In determining the nature of municipal executive power, it is necessary to consider two particular aspects, namely the sources of that power, and restrictions on the exercise of that power.

In terms of the Constitution, there are three *sources* of municipal executive authority.

- Firstly, a municipality has executive authority in relation to the matters set out in Parts B of Schedules 4 and 5 of the Constitution, and any other law assigned to it.
- Secondly, a municipality has the right to exercise any power concerning a matter reasonably necessary for, or incidental to, the effective performance of its functions. As mentioned these are reflected in annexure A, but must be read with the Systems Act and the Structures Act. In view of devolution of power being a fundamental feature of the Constitution, this right should be broadly interpreted. Such an interpretation is consistent with the obligation on the national and provincial spheres of government not to

compromise a municipality's ability or right to exercise its powers or perform its functions. In this regard, local authorities now have more independence in decision-making, and greater freedom to devise and carry out policy.

- Finally, the national and provincial governments are obliged to assign to local authorities the administration of any matter listed in Part A of Schedules 4 and 5 which relates to local government where that matter would be most effectively administered locally, and the municipality in question has the capacity to administer it. However, it is not clear which organ of State ultimately decides whether a matter would be most effectively administered locally, particularly where there is a difference of opinion. Practically speaking, as the national or provincial government would actually assign the power, ultimate determination would probably lie there.

DEA&DP (2003: 8) highlights the *restrictions* on the exercise of executive power. It states that laws must be administered and enforced within the framework of existing law.

- In regard to the exercise of public power (which includes any exercise of power by the municipality), the provisions of the Promotion of Administrative Justice Act (PAJA) (Act 3 of 2000), are particularly relevant.
- The constitutional values governing public administration are also relevant.
- In specific relation to environmental decision-making, the NEMA principles are relevant.

Executive power is normally exercised lawfully by organs of State such as municipalities either in terms of original legislation (e.g. by-laws) or because they have been authorised to exercise that power in terms of an assignment or delegation of power. In terms of the Systems Act, a municipality may only exercise assigned powers within its municipal area, or in another municipal area by written agreement with the relevant municipality.

4.2.2. Legislative Power

In determining the nature of a municipality's legislative power, three particular aspects must be considered, namely, the *sources of that power*, the *relationship with municipal executive power* and *restrictions on the exercise of legislative power* (DEA&DP, 2003: 8).

A municipality's power to make by-laws (i.e. its legislative competence) is derived from three *sources*. The first is section 156(2) of the Constitution, which provides that '.... [a] municipality may make and administer by-laws for the effective administration of the matters which it has the right to administer.' The second source of legislative authority is delegation of a legislative power in terms of section 238 of the Constitution, which provides that '.... [a]n executive organ of state in any sphere of government may delegate any power or function that is to be exercised or performed in terms of legislation to any other executive organ of state, provided the delegation is consistent with the legislation in terms of which the power is exercised or the function is performed'. In other words, the power to make a law could arguably be delegated to a municipality. It is argued that there is a third source of legislative authority, which flows from the obligation on national and provincial governments to assign to local authorities the administration of any matter listed in Part A of Schedules 4 and 5 which relates to local government where that matter would be most effectively administered locally, and the municipality in question has the capacity to administer it. It is contended that where the administration of legislation has been assigned to a municipality, the authority to legislate in respect of the matter follows.

Regarding the *relationship with municipal executive powers* it is argued that the legislative competence of a municipality depends on its executive powers. It seems that this is an indication that the Constitution envisages municipalities to be involved primarily in the delivery of services within the scheme of co-operative government and, accordingly, the legislative competence of municipalities must

be restrictively interpreted. This means that unless the Constitution or other legislation clearly gives a municipality the power to make by-laws relating to a particular matter, they must be presumed not to have that power. In other words, notwithstanding that at first glance local authorities appear to have broad powers to make laws, it is generally believed that these powers should be interpreted narrowly.

There are certain *restrictions on the exercise of legislative power*. In the light of the constitutional hierarchy of legislation, it should be borne in mind that a by-law may be invalid even if the local authority was empowered to make it. At the summit of the legislative hierarchy is the Constitution, which is the supreme law of South Africa. Any legislation that is in conflict with it is invalid. The next hierarchical level is primary legislation. This level includes national, provincial and local authority legislation (i.e. by-laws). The lowest level is subordinate or delegated legislation (e.g. proclamations issued or regulations made by a member of the executive arm of government, usually a national minister or provincial MEC, in terms of an Act).

Primary legislation (an Act or a by-law) generally takes precedence over delegated legislation (e.g. regulations). However, by-laws, although primary legislation, are nonetheless at the bottom of the hierarchy. It follows as a matter of logic that a by-law that conflicts with national or provincial legislation is invalid, provided that the national or provincial law does not (unreasonably) compromise or impede a municipality's ability or right to exercise its powers or perform its functions. It is noteworthy that by-laws that conflict with such legislation are invalid, not suspended or deemed inoperative.

In regard to a municipality's legislative jurisdiction, it is relevant that a municipality may exercise executive and legislative authority within its boundaries only. However a municipality, may by written agreement with another municipality and subject to Chapter 5 of the Structures Act and other applicable national

legislation, exercise executive authority in the area of that other municipality. Further restrictions on municipalities' legislative powers are imposed by the Structures Act and the Systems Act. In this regard, as was mentioned previously, the municipality is, for example, obliged to deliver municipal services in an environmentally sustainable manner.

4.3. Co-operative Governance

Central to the interaction between the spheres of government are the principles of co-operative governance, which are detailed in both the Constitution and NEMA. Due to the complicated organizational structure of government departments responsible for the environment, the 'line function' and the confusion about roles and responsibilities engendered by concurrent jurisdiction, municipalities are often confused regarding their roles and responsibilities as far as environmental management is concerned.

Ekurhuleni Metro Municipality (2003: 297) states that due to the lack of capacity of both provincial and local authorities the need for co-operative governance and performance monitoring in environmental management is further emphasised. It goes further by stating that a key principle of co-operative governance is the inclusion of civil society in the ambit of government, that is, particularly local government is required to include the public and civil organisations in its decision-making processes. An SoER is a good initiative at ensuring public involvement in environmental management governance at municipal level.

The recently promulgated Intergovernmental Relations Act (Act 13 of 2005) attends to this issue. In terms of Section 24 of this Act, The Kgalagadi District Municipality launched an Intergovernmental Relations Forum where all government departments, municipalities and state-owned enterprises are represented. This forum intends dealing with all government initiatives taking place in the Kgalagadi area, serving as a basis for government departments to

share information and try to improve service delivery. Although environmental management per se is not discussed in this forum, it is the opinion of the author that this forum could serve as a platform to promote environmental management.

It is Important that internally municipalities have to practice co-operative governance. This is due to the fact that various departments within municipalities are involved in the management of the environment and co-operation is required to adequately address the municipal and other environmental problems.

5. CONCLUSIONS

In conceptualising environmental management at municipal level, sustainable development should be understood as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development is an integral part of environmental management which is about executing planned controls so as to achieve goals inherent in the principles of NEMA. Municipalities most often use the term environment to refer to the ecology and it is suggested that the definitions of NEMA should be used as a common approach and within the context of environmental management. Environmental health services refer to those aspects of the environment having a possible detrimental effect on human health and dealing with it can be considered as part of environmental management at municipal level.

Municipalities have to always consider constituted mandated objectives and functions for them. This is taken further by the municipal-specific legislation highlighting the necessity of environmental management at municipal level. Applicable framework environmental law is NEMA with its 18 environmental principles applicable to all organs of state, including municipalities. Of relevance to the Kgalagadi area are the Northern Cape Planning and Development Act which regulates land development in the Province.

In dealing with environmental management, municipalities have four main functions, which are governance, protection or conservation, management and service delivery. Municipalities structure themselves accordingly in dealing with these functions, and in performing the mentioned functions, municipalities have executive and legislative powers, in other words they either execute the law or make it. Co-operation between municipalities and between departments within a municipality is essential for effective environmental management.

CHAPTER 3

REVIEW OF ENVIRONMENTAL MANAGEMENT TOOLS FOR MUNICIPALITIES

1. INTRODUCTION

Practicing environmental management in municipalities as it is discussed in the previous chapter relies on a number of environmental management tools. In this chapter such implementation tools are briefly discussed. Numerous tools are described in literature, however, it is not the intention of this section to provide a comprehensive listing of these tools. The purpose is rather to provide an overview of more commonly-used environmental management tools for municipalities to create awareness of these tools and to assist in setting assessment criteria for the remaining chapters. Environmental management tools are categorized into organisational management tools and sector-specific tools. A number of tools are discussed under each of these two categories which is then followed by a summative comparison between the respective tools.

2. ORGANISATIONAL MANAGEMENT TOOLS

Organisational management tools are tools developed and implemented at the highest managerial and political level in a municipality. They are characterised as crosscutting, which influence all aspects of municipalities and can either be a legislative requirement or a complementary tool. These tools directly influence the organisational systems of a municipality such as budgeting, performance management, human resources, community participation and planning.

2.1. Integrated Development Planning

Integrated Development Planning (IDP's) is a participatory planning process aimed at developing a strategic development plan to guide and inform all

planning, budgeting, management and decision-making in a municipality. It views development problems and solutions in an integrated, multi-dimensional way (DEAT, 2003: 12). The strength of the IDP is that it is a legislated plan and it supersedes all other plans that guide development. It also aims to integrate all government-led development within a municipal area and the planning process has to be linked with the budget process of municipalities.

The IDP methodology provides for environmental concerns to be included as a separate issue, or as a 'slice', in the IDP so as to ensure that specific environmental issues are addressed. DEAT (2003: 13) argues that the mentioned 'slice' is more about the natural environment rather than a broader perspective as defined by NEMA and discussed earlier in this study. However, the IDP process is heavily based on social and economic principles, therefore provision is made for such a 'special' environmental plan.

It is Important that, as an environmental tool, environmental assets of an area for which an IDP is being prepared should form the starting point for planning and decision-making, since it is the environment that provides the opportunities and constraints for development. Also, the fact that it is developed amongst senior management and councillors and a legislative requirement, linked to the budget of a municipality, makes it a very powerful tool to manage the environment.

2.2. Local Agenda 21

Agenda 21 is a long-term action plan for achieving sustainable development in the 21st century. The document was adopted by more than 178 Governments at the United Nations Conference on Environment and Development (UNCED), commonly known as the Earth Summit, in Rio de Janeiro in 1992 (DEAT, 1998b: 3; Coetzee, 2002: 3). It represents a global consensus and the highest political commitment on integration of environment and development issues. It calls for a global partnership in achieving sustainable development. Although not legally

binding, it poses strong political and moral obligations on countries that participated at Rio (Sekhesa, 2000: 4).

Important, however, is that local authorities have a key role to play, as many of the problems and solutions listed in Agenda 21 have their roots in local activities. Agenda 21 is therefore an important environmental tool for municipalities. The word 'Local', in the term 'Local Agenda 21' refers to the process used around the world to translate Agenda 21 into actions at a local level. Urquhart & Atkinson (2002: 14) provide a clearer definition by stating that '...Local Agenda 21 is a long-term, strategic process that will help local communities and local councils deal 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 United Nations Special Sessions 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.

During the Local Government Session at the WSSD in 2002, local government leaders from around the world, as well as representatives from the United Nations Development Programme (UNDP), United Nations Environmental Programme (UNEP), UN-HABITAT and the World Health Organisation (WHO), joined the International Council for Local Environmental Initiatives (ICLEI) in launching Local Action 21 as the next phase of Local Agenda 21. Local Action 21 will support local governments' ongoing efforts in response to *Agenda 21*, the *Rio Conventions*, the *Habitat Agenda* and the *Millennium Declaration* (ICLEI: 2003). Local Action 21 will serve as the motto, mandate and movement towards change grounded in action to create sustainable communities and cities while protecting the global common goods. Once a Local Agenda 21 sustainable development action plan has been agreed upon, the local authority and community must move to its implementation, shifting from agenda to action. This is what Local Action 21 addresses.

2.3. State of Environment Report

The purpose of State of Environment Reporting (SoER) is to provide data for developing and monitoring sustainable development strategies, programmes and projects. An SoER is like a report card on the condition of the environment and natural resources. It includes information on the causes and effects of environmental change and can provide recommendations for responses to such change (DEAT, 2003: 3). It gives an evaluation of the status of our natural environment and it highlights the condition of the biophysical environment. The City of Cape Town (City of Cape Town, 2001:1) indicated in their Fourth State of Environment Report that it provides a picture of what the state of Cape Town's environment was in 2001. It will also help to identify short- and long-term trends in the quality of its environment. As an environmental tool an SoER could provide information on social, economic and biophysical resources and systems to the analysis phase of the IDP process. It also provides a useful structure for presentation of information that is collected during the IDP analysis phase.

Highlighting an SoER as an environmental tool is Durban Metro (Durban Metro, 1999) by indicating that an SoER is useful in achieving the implementation of Local Agenda 21 by providing information for assessment and prioritization, policy formulation and planning and the development of environmental management systems. Also, the Durban Metro Council believes that the production of an SoER is a first step in the development of a broader environmental management strategy. State of environment reporting is also a useful tool in the assessment and prioritising of issues, and in making recommendations for policy formulation and planning.

2.4. Environmental Management Systems

An environmental management system (EMS), such as ISO 14001, is part of the overall management system (of an organisation), that includes organisational structure, planning activities, responsibilities, practices, procedures and

resources for developing, implementing, achieving, reviewing and maintaining the environmental policy (of an organisation) (Kruger, 2005: 37). DEAT (2004: 14) is more specific by saying that an EMS provides guidance on how to manage the environmental impacts of activities, products and services. It details the organisational structure, responsibilities, practices, procedures and resources for implementing and maintaining environmental management. It also consists of an environmental management policy and plan.

In his research on EMS at local authority level Kotze (2003: 72) emphasised that the implementation of an Environmental Management System (EMS) will meet the need of local authorities for planned and programmed change to support environmental management. In addition to this it will also assist local authorities to achieve what they aspire to achieve and it will avoid 'cherry picking' in the sense that it will support comprehensive environmental management within the local authority sphere. This in essence is where the strength of an EMS lies as an environmental management tool.

2.5. Strategic Environmental Assessment

According to DEAT (2004: 8) Strategic Environmental Assessment (SEA) is becoming an accepted and widely used tool for determining the environmental implications of decisions made at a policy, plan or programme level. By focusing on higher-level processes, SEA complements and provides a framework for project-level impact assessment. An SEA aims to evaluate the opportunities and constraints that the environment places on development. The Integrated Environmental Management Programme (IEMP) of Kgalagadi District Municipality (2005b: 7) emphasises the value of an SEA as a tool that addresses the area's environmental status quo, as well as planned present and future developments, and will serve as a starting point towards an SoER.

2.6. Spatial Development Framework (Land Use Planning)

In the past, environment considerations in land use planning were often limited to allowing for open space for recreational purposes. Increasingly municipalities are realising that land use planning is a tool to help ensure sustainable development of the area and that land use planning should be used to protect environmental resources and to secure environmental benefits (Mckenzie 2003: 183). Currently land use planning is realised through spatial development frameworks (SDF's)

All municipalities must in terms of the Municipal Systems Act, 2000 (Act 32 of 2000) draft and adopt a spatial development framework (SDF) as part of its IDP. In the IDP guide pack III, DPLG (2001: 94) makes it clear that the SDF is a key element in the integration of development processes, applicable to different sectors. It notes that integrated, habitable cities, towns and rural areas are achieved through policy, strategy and action. Where policies, strategies or actions identified in the IDP have a spatial dimension, these need to be accounted for in the SDF. All development that affects the way land is used, or which has an effect on the built environment, must be guided by a coherent set of policies and guidelines. The latter policies and guidelines are embodied in the SDF. An SEA is widely considered as a tool to also inform the SDF of a municipality and that an SDF in turn informs a municipal environmental management programme.

2.7. Integrated Environmental Programme

As mentioned, part of an EMS is an Environmental Management Plan (EMP) that specifies how an activity is to be managed to minimise potential impacts on the environment and enhance benefits throughout the life cycle of the activity (DEAT 2004: 14). Although not defined as such, an Integrated Environmental Programme (IEP) for municipalities as described by the IDP Guide Pack (DPLG, 2001: 96) does have some similarities to an EMP in that such a programme

identifies the impact of municipal activities on the natural environment, minimises their negative effects and addresses urgent environmental issues.

The Integrated Environmental Programme of Kgalagadi District Municipality: Phase 5 Report (Kgalagadi District Municipality, 2005a: 58) identifies objectives of an IEP, which assist in clarifying the understanding of an IEP. They are the following:

- Provide a decision support tool in terms of environmental implications.
- Contribute to a clean, healthy and safe environment.
- Serve as a tool in ensuring optimisation of environmental issues in future projects.
- Provide guidance relating to environmental legislation.
- Identify suitable environmental projects that will enhance the above-mentioned points.
- Identify further work and research in the area to improve environmental management.
- Provide information for KPI's and monitoring programmes as a starting point for an SoER.
- Guide investors in terms of environmental considerations and serve as an indicator for biological diversity conservation.

3. SECTOR SPECIFIC TOOLS

Sector specific tools are tools affecting environmental management within a specific sector of a municipality. Although the aim might be to integrate with other areas of concern, it is initiated from within a specific sector like water or waste. The development and implementation of these tools does not always necessitate top management or political involvement, but involves specialists working within that field in the municipality.

3.1. Land Use Management (Development Control)

In addition to land use planning and SDF's municipalities are responsible for the control of development within their areas of jurisdiction. A key tool for this is land use management or development control. Considering the definition of environmental management and the powers and functions of municipalities as discussed earlier, land use management could be a very effective tool for managing the environment. This is due to the direct impact of land use on the environment and it being a legislative requirement.

The Land Use Management Bill (2002: 7) defines land use management as the establishment or implementation of any measures to restrict or regulate the use of land. In the Northern Cape, this is done through Zoning Schemes, Local Development Procedures and Regulations. The Northern Cape Planning and Development Act (Act 7 of 1998) states in section 37 (2) that the purpose of Zoning Schemes, Local Development Procedures and Regulations are amongst others to allocate and define land development rights in a way which will:

- (a) enable the most effective use of existing and proposed infrastructure, in particular the integration of land use with transportation;
- (b) optimise access opportunities between places of residence, work, retail and recreation;
- (c) make available suitably located land for economic development, in particular the informal sector;
- (d) create investor confidence through the allocation of flexible, yet predictable, land development rights;
- (e) protect and enhance those parts of the city/town or rural areas which are environmentally sensitive or are of high public amenity value.

Section 37 (3) of the said Act provides for land development procedures and regulations which will enable:

- (a) land use changes from one category of use to another, as well as the granting of consent uses where provided for;
- (b) departures from prescribed land use restrictions;
- (c) the upgrading of informal housing settlements;
- (d) community and private sector involvement in the land development process;
- (e) the development or redevelopment of areas environmentally sensitive to development;
- (f) the development or redevelopment of strategic land or sites;
- (g) urban renewal; and
- (h) any other mechanisms appropriate to the realisation of the Land Development Plan.

Although municipalities have the approval authority in terms of most land use applications, in many cases new developments and alterations to existing developments also need to receive environmental authorisation from respective competent authorities (other than municipalities) stipulated in regulations 385, 386 and 387 of Chapter 5 of NEMA as discussed earlier. By applying land use and development control municipalities have to ensure compliance with the said Chapter 5 and the respective regulations and advise the public accordingly.

3.2. Disaster Management Framework and Plan

Section 53 (1) of the Disaster Management Act (Act 57 of 2002) instructs municipalities to compile a disaster management plan and in terms of Section 42 (1) each district municipality must establish a disaster management framework. The purpose of the framework is to ensure an integrated and uniform approach to disaster management in its area and it guides decision-making. It must be drawn up through a consultative process with stakeholders in the district.

The value of a disaster management plan as an environmental tool for municipalities lies in the methodology of the plan whereby risks are identified and assessed and possible measures to reduce vulnerability are emphasised. Considering that most of these risks take place within the environment as defined earlier in this study, then the implementation of a well-formulated disaster plan would directly influence the environment and contribute to environmental management of a municipality.

3.3. Waste Management Programme

Considering the powers and functions as depicted in annexure A, it is clear that municipalities have significant responsibilities for the control and management of pollution. This is usually done through the implementation, monitoring and evaluation of legislation and by-laws which place restrictions and control measures on various types of pollution and disposal of waste.

DEAT developed the National Waste Management Strategy (NWMS) (DEAT, 1999) which promotes proper waste management through amongst others Integrated Waste Management Planning and a Waste Management Information System. This is taken further by the White Paper on Integrated Pollution and Waste Management Policy (DEAT, 2000) which translates it into practice. In terms of the White Paper, municipalities will be responsible for providing waste management services, and managing waste disposal facilities. Specific functions to be carried out by municipalities include:

- Compiling and implementing general waste management plans, with assistance from provincial government.
- Implementing public awareness campaigns.
- Collecting data for the Waste Information System.
- Providing general waste collection services and managing waste disposal facilities within their areas of jurisdiction.

- Implementing and enforcing appropriate waste minimisation and recycling initiatives, such as promoting the development of voluntary partnerships with industry, including the introduction of waste minimisation clubs.
- Where possible, regional planning, establishment and management of landfill sites, especially for regionally based general waste landfills.

The IDP Guide Pack (DPLG, 2001: 89) also recommends the development of such plans. Considering the direct impact of waste management and control on the environment and the potential positive impact of proper waste management on it, a waste management programme as an environmental tool is of great value.

3.4. Water Services Development Plan

Section 13 of the Water Services Act (Act 108 of 1997) prescribes the development of water services development plans for each water authority. In the Kgalagadi area all the local municipalities are water services authorities. This implies that they are responsible for the potable water system, domestic sewage and waste water (Kgalagadi District Municipality, 2003: 4).

A water services development plan progressively ensures efficient, affordable, economical and sustainable access to water services. It is a product of the water services development planning process. It is a sectoral plan, which deals with socio-economic, technical, financial, institutional and environmental issues as they pertain to water services. It also functions as a management tool in ensuring the provision of total, effective and sustainable water services. The plan considers the provision of basic water and sanitation services, free basic water to poor consumers, water resource protection and management and water services institutional arrangements (Kgalagadi District Municipality, 2003: 3).

It is important as an environmental tool because consideration is given to environmental status in terms of water source and quality, water conservation and demand and water balance.

3.5. Municipal regulations and by-laws

This study has discussed the legislative function of municipalities. By implication it means that municipalities have the power to develop by-laws within certain limits and according to their executive functions. This can be used as a tool for environmental management whereby regulations are developed to require citizens to comply with environmental codes and activities of municipalities. Urquhart & Atkinson (2002: 94) encourage the development of by-laws for environmental management but caution municipalities not to do this in a draconic style. Some municipalities have achieved notable success by providing information to interest groups, by cultivating their support and by assisting them to work within the new regulations. The growing trend towards participative governance in South Africa has encouraged municipalities to draft regulations only after a great deal of consultation.

4. SUMMATIVE COMPARISON BETWEEN ENVIRONMENTAL TOOLS

The following section describes the comparison between the various tools as discussed in the previous sections of this chapter. The discussion is only brief with the main purpose being to strengthen the assessment base for the assessment of the four municipalities as reflected in remaining chapters. It should be interpreted with the discussions in the previous sections of this chapter.

4.1. Management Tools

Considering management tools, *IDP* is the main tool for environmental management at municipal level, being a legislated plan that supersedes all other plans that guide local development (DPLG, 2001: 6). Municipalities must comply and develop such a plan with annual reviewing. There are close similarities between the IDP and *LA21* processes which are well illustrated and discussed by DEAT (2003: 12), Coetzee (2002: 15) and Urquhart & Atkinson (2002: 40). It is important to note that although *LA21* is not a legislated process as compared to IDP, it is an internationally accepted process (accepted by almost all the countries in the world), specifically focusing on sustainable development, which makes it a very significant environmental tool, even more so than the IDP process. Considering the principles and process of *LA 21*, Urquhart & Atkinson (2002: 33) state that *LA 21* could strengthen the IDP process by:

- providing a much longer time horizon,
- providing an ecological base for development,
- providing for integration across sectors, and
- providing for improved community participation.

It is the view of the author that although the two processes are very similar, municipalities will ensure compliance by developing IDP's, rather than *LA21*. This is especially relevant in under-capacitated and poorly-resourced municipalities. Also, capacity building initiatives for municipalities which include training, resource allocation, structural support and compliance monitoring are much more focused towards IDP's than *LA21*. Stated by Coetzee (2002: 14), *LA 21* can make a value adding contribution to IDP in terms of enriching the process and is viewed as such by most municipalities.

EMS, specifically ISO 14001, compares very well with the components of the IDP process. Research done by Kotze (2003: 30) summarised this comparison by stating the following regarding IDP and EMS:

- both require one comprehensive programme,
- both have a strategic focus,
- both result in identifications of actions that are to be taken,
- both require prioritization, and
- both require verification of the existence of suitable methodology.

The said research by Kotze (2003: 62) recommends the implementation of an EMS due to its listed benefits as an environmental management tool and argues that it should be linked to the IDP process and could also assist municipalities with the implementation of LA 21.

Despite similarities, it appears that there are a number of crucial differences between the IDP and an EMS. *Firstly*, an IDP is a developmental plan which has to consider a wide range of development issues, including political, economic, environmental and social issues. An EMS is much more focused on environmental-related issues. *Secondly*, the IDP has a very strong elaborate public participation component throughout the process, emphasising the involvement of all sectors in the community, which is absent in EMS. *Thirdly*, EMS is a system focusing on the management of an institution and has to be institutionalized down to the lowest level of employees with a strong training component. IDP is also a political tool and does not necessitate training of employees although it is advisable. Considering these differences, it is clear that an IDP could not be replaced by an EMS or vice versa and each tool has a different purpose in relation to environmental management.

Regarding SoER, it is similar to EMS and LA21 in that it is not a legal requirement, but a tool that provides useful information for improved

environmental management. The major difference between SoER and other environmental tools is well-articulated in the definition of SoER as provided by Olivier (2004: 180), who emphasises SoER as a tool that provides information and data and evaluates an environmental system (like and EMS or LA21) over a period of time. It is therefore an ongoing performance management tool. An SoER is not a strategic planning process, but more a tool that could assist other strategic planning processes or systems like EMS, LA21 and IDP.

Compared to other environmental tools an SEA is similar to an SoER in that it provides environmental information rather than a strategic tool that have to be institutionalised. The type of information, however, differs from an SoER since the SEA considers an area's environmental status quo and identifies the opportunities and constraints, which the environment places on development. The Kgalagadi District Municipality (2005b: 7) states that its SEA serves as a starting point towards an SoER and as already mentioned in the previous section, it can also inform an SDF.

Comparing SDF with other environmental tools, some differences are apparent, of which the fact that it is seen as a Sector Plan to the IDP and that it forms the basis of land use management in municipalities is the most noticeable. Similar to other tools, a characteristic of SDF is the integration element, although it should be seen from a spatial perspective trying to spatially integrate development initiatives from all sectors. Different from LA21 and EMS, an SDF can be developed separately from the IDP process, although consideration of the outcomes of IDP informs the basis for any SDF.

IEP for municipalities have similarities with EMS as discussed earlier in this chapter. However, considering the description of an IEP as set out in the IDP Guide Pack III (DPLG, 2001: 96) the intention is not to replicate an EMS but rather to ensure that attention is given to the environment throughout the IDP process but with much less detail than a EMS. Similar to an SDF, it is therefore a

sector programme to the IDP which also allows for it to be developed separately (although it is advisable for it to be developed as part of the IDP process). Process wise it is very similar to an SEA but content wise it differs by assessing the impact of the proposed IDP developments on the environment. AN SEA assesses the opportunities and limitations of the environment on proposed developments.

4.2. Sector Specific Tools

Sector specific tools are different from management tools in that they are initiated from within a specific sector like water or waste and are developed separately from other plans or processes like IDP although the aim is to allow for integration.

Comparing *Disaster Management Plans*, *Waste Management Programmes* and *Water Services Development Plans* with each other as discussed earlier in this chapter it is clear that the biggest similarity lies within the process. To develop these plans the process allows for information gathering and analysis, strategy formulation and the development of suitable action plans. Similar to IDP, LA21 and EMS, it is a strategic approach. The biggest difference between these plans lies in the content, whereby each plan focuses on its specific field of interest. Although they have to consider other plans, each plan can be developed on its own.

Land use management is different from all other tools discussed. It consists of a set of by-laws (zoning schemes and land use procedures and regulations) which are developed separately from any other strategic environmental tools, although an SDF is considered as the basis for land use management. Procedurally and by content it is very difficult to compare, although in terms of implementation it has some similarities to IDP since it affects the daily operations of municipalities. *Municipal regulations and by-laws* are tools very similar to land use management since they are developed from the legislative function of a municipality. Being a

'law' it means that there is a compliance function from the side of the public and a policing function from the side of the municipality. It is by nature different from the other discussed tools, which are plans and processes focusing more on implementation and review, rather than compliance and policing.

5. CONCLUSIONS

The main conclusion that can be drawn from this chapter is that IDP is the main environmental tool for municipalities. By implementing EMS and LA21, municipalities will greatly improve their sustainable development and environmental management efforts although these should be integrated into the IDP process. The IDP should not be replaced by either LA21 or EMS or vice versa and all these tools have different roles to play in terms of environmental management. SoER is useful as a tool in the assessment and prioritisation of environmental issues, and making recommendations for policy formulation and planning. It also serves as a performance management tool. An SEA aims at evaluating the opportunities and constraints that the environment places on development and it also informs the spatial development framework of a municipality, being used to realise future land use planning in municipalities. Similar to SoER, it is a useful information source and both SoER and SEA could be used in the strategic planning processes of IDP, LA21 and EMS. An SDF forms the basis for land use management and focuses on land development. It is a sector plan and although influenced by the IDP, it can be developed separately from the IDP. An Integrated Environmental Programme identifies the impact of municipal activities on the natural environment, minimises their negative effect and addresses urgent environmental issues. Process wise it is very similar to an SEA.

Sector specific tools focus more on a specific sector within a municipality and are initiated from within such a sector. Land use management is often neglected as an environmental tool but its value should not be underestimated since it directly

influences land development and the associated environment. It is very different from other tools, although compared to municipal regulations and by-laws, similar, in that it is developed from the legislative function of the municipality. Within certain constraints through a consultative process, municipalities have the power to develop by-laws according to their executive functions. These can be used as tools for environmental management whereby regulations are developed to require citizens to comply with environmental codes and activities of municipalities. The value of a Disaster Management Framework and Plan lies in the risks being identified and its direct linkage with the environment. A Waste Management Programme and a Water Services Development Plan are similar in formulation but focus on different aspects of the environment.

CHAPTER 4
A REFLECTION OF ENVIRONMENTAL MANAGEMENT ACTIVITIES
PERFORMED BY MUNICIPALITIES OF THE KGALAGADI AREA

1. INTRODUCTION

In the previous chapters a theoretical framework for environmental management was given as well as a review of environmental management tools for municipalities. In this chapter environmental activities of the four Municipalities of the Kgalagadi area are analysed against the theory and tools discussed in the previous chapters. Special reference is made to municipal and environmental health as well as to municipal functions and powers. Municipalities are also assessed against managerial and sector-specific tools.

The purpose of the chapter is not to analyze the content or quality of the assessments, but to determine if the activities are taking place or not and to provide recommendations for improvement.

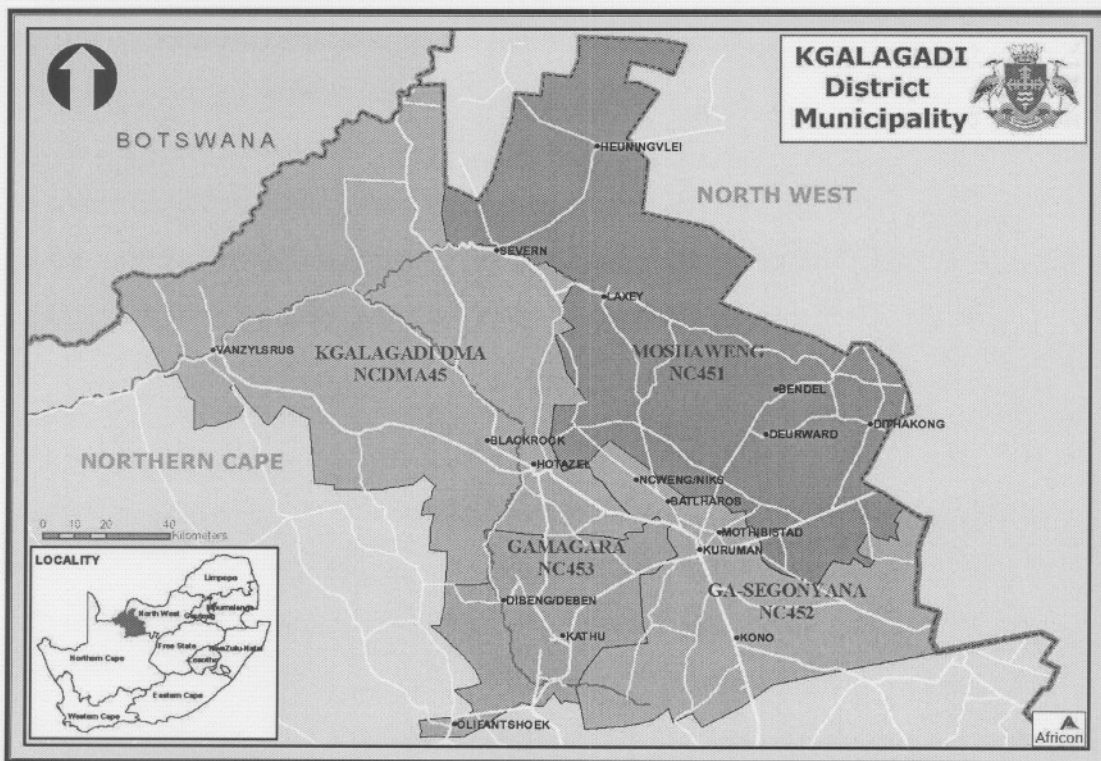
2. STUDY AREA

The Kgalagadi area is located in the Northern Cape Province between 26°07' and 27°58' South and 21°46' and 24°06' East, and borders on Botswana. Politically it consists out of three local municipalities, Ga-Segonyana-, Gamagara-, and Moshaweng Municipalities and one district municipality, Kgalagadi District Municipality. Before March 2006 the area was a cross-border municipal area which straddles between the Northern Cape Province and the North West Province. However, after re-demarcating the provincial borders the total Kgalagadi area is sited in the Northern Cape Province (Kgalagadi District Municipality, 2006b: 1; Kgalagadi District Municipality, 2005b: 1).

The northwestern part of the area is the District Management Area (DMA) and is managed by the Kgalagadi District Municipality. The DMA is like a fourth local

municipality for the area but due to the absence of a local municipality it is managed by the Kgalagadi District Municipality, therefore the term 'District Management Area'. The District Municipality does not have a 'municipal area' of its own, but is made up of the mentioned three local municipalities and the DMA. It therefore performs its constituted mandates within the jurisdictions of the local municipalities of the area (Kgalagadi District Municipality, 2006a: 13). See Map 1 for an indication of the locality of the Kgalagadi area and its municipalities within the South African context.

Map 1: Municipalities of the Kgalagadi Area (Kgalagadi District Municipality 2006b: 3)



The northeastern region is comprised principally of high-density rural and peri-urban areas while the western and southern areas are sparsely populated and consist mainly of commercial farms and mining activities. The area has a population of approximately 187 111 persons, the majority of which reside in the Moshaweng municipal area. The district consists of 186 settlements, the majority being in the Moshaweng municipal area. The main towns and villages within the

district borders are Kuruman, Kathu, Deben, Dingleton, Olifansthoek, Van Zylsrus, Bothitong, Churchill, Manyeding, Laxey, Batlharos, Mothibistad, Hotazel and Heuningvlei. The main economic activity is mining, followed by agriculture, tourism and retail. (Kgalagadi District Municipality, 2006b: 1; Kgalagadi District Municipality, 2005b: 1).

The SEA of Kgalagadi District Municipality (2005b:11) classifies the area as semi-arid (east) to arid (west) where means potential evaporation exceeds mean annual precipitation. The annual rainfall is between 200 mm in the west and 500 mm in the east. Vegetation-wise the majority of the area falls within the Griqualand West Centre of Endemism which makes it an area of global conservation significance. A number of species are Red Data Book and protected plant species.

Institutionally the Municipalities of the Kgalagadi area are constituted as depicted in table 1.

Table 1: Municipalities of the Kgalagadi Area (Kgalagadi District Municipality, 2006b: 1)

	Kgalagadi DM (DC45)	Gamagara LM (NC453)	Ga-Segonyana LM (NC452)	Moshaweng LM (NC451)	Kgalagadi DMA (NCDMA45)
No. of Councillors	17	8	18	21	-
No. of Officials	79	221	209	34	-
No. of Residents	187 111	19355	70391	91127	6238

3. ENVIRONMENTAL MANAGEMENT TOOLS IN MUNICIPALITIES OF THE KGALAGADI AREA

This section investigates environmental management within the municipalities of the Kgalagadi area against the theoretical framework and environmental tools for municipalities as discussed in the previous chapters. Table 2 provides a brief

summary of the assessment whereby each municipality is assessed against the various available tools. This is a general rather than a detailed comparison.

Table 2: Environmental Tools in the Kgalagadi Area

Environmental Management Tools	Kgalagadi DM (DC45) – Incl. DMA	Gamagara LM (NC453)	Ga-Segonyana LM (NC452)	Moshaweng LM (NC451)
Organisational Management Tools				
Integrated Development Plan	Yes	Yes	Yes	Yes
Local agenda 21	No	No	No	No
State of Environment Report	No	No	No	No
Environmental Management System	No	No	No	No
Strategic Environmental Assessment	Yes	Yes	Yes	Yes
Spatial Development Framework	No	Yes	Yes	Yes
Integrated Environmental Programme	Yes	Yes	Yes	Yes
Sector Specific Tools				
Land Use Management	Yes (Only for DMA)	Yes	Yes	No
Disaster Management Plan	No	No	No	No
Waste Management Programme	Yes	Yes	Yes	Yes
Water Services Development Plan	Yes	Yes	Yes	Yes
Municipal Regulations and By-Laws	No	Yes	Yes	No

3.1. Organisational Management Tools

All the municipalities have *Integrated Development Plans (IDP's)* in place. They have all successfully reviewed the plans and are in the process of implementing the fourth reviewed integrated development plans. Of concern is that only the

District Municipality plan was assessed during the IDP Hearing process initiative of DPLG (2005) and only the District Municipality received comments from the MEC for Local Government and Housing (Department of Housing and Local Government Northern Cape Province, 2005). The IDP Hearing Panel Report highlights and recommends a number of environmental-related issues which were subsequently taken up in the District Municipality's IDP and not the Local Municipalities. This greatly improved the IDP as an environmental tool. The lack of similar comments for the Local Municipalities IDP's resulted in Municipalities only considering their own assessment of shortfalls during the review process. There is therefore a clear difference between the IDP of the District Municipality compared to the three Local Municipalities in terms of attention being given to the environment, the latter having limited environment related projects, with the District Municipality's IDP having it as one of 10 priority issues with well-defined objectives, strategies and projects. An in-depth analysis and assessment of the IDP's focusing specifically on the budget allocations and implementation will provide more clarity on the effectiveness of the IDP's as environment tools.

Local Agenda 21 (LA21) is absent in all four Municipalities. Although the IDP process is considered as South Africa's response to Local Agenda 21 (Coetzee, 2002: 8) it does not imply that municipalities of the Kgalagadi area have to ignore the process. A case study done by Luca & Venter (2002: 69) on Moshaweng Municipality's IDP highlights the absence of LA 21, but recognises the fact that the Municipality integrates a number of sustainable criteria into the IDP design and implementation. The absence of environmental issues in the IDP was also highlighted by the case study. Although it could be argued that LA21 and IDP are closely related and IDP being the legislative process, preference should be given to the IDP process. LA 21 might assist in filling those gaps as identified by the said case study. Being an internationally recognised and acceptable tool for sustainable development some effort has to go towards either finding synergy between the IDP and LA21 processes or at least giving some form of recognition to the process at political and management level. Municipalities trying to secure

international donor funding might also find it easier should they be able to prove compliance with and implementation of LA21.

Despite all the benefits highlighted in Chapter 3, *State of Environment Reporting (SoER)* is not done in any of the municipalities. Rautenbach (pers. comm., 2006) indicated that Ga-Segonyana Municipality does not know what SoER is and the same applies to Moshaweng Municipality. Swart (pers. comm., 2006) and Burger (pers. comm., 2006) respectively indicated that Kgalagadi District Municipality and Gamagara Municipality are aware of SoER as a tool, but indicated that due to a lack of proper understanding of its benefits and budget limitations both Municipalities have not yet ventured into developing SoER and it is doubtful if they will within in the foreseeable future. Not realising the true benefits of it, it is doubtful if they will budget for it.

The same also applies to *Environmental Management Systems (EMS)* where the lack of knowledge, the absence of skills to develop and implement it and budget constraints are all contributing factors to the absence of these at Municipalities within the Kgalagadi area. Considering this, it will take a special effort to develop and implement both these tools within the Kgalagadi area. Research done by Kotze (2003: 98) indicated the absence of EMS in most municipalities in the country, making the Kgalagadi area not unique in this regard. Kotze (2003: 100) goes further by recommending some actions for implementing an EMS in Municipalities of which the proposed legislative changes (to the Systems Act) and a national strategy to facilitate the implementation of an EMS might go a long way in assisting implementation in the Kgalagadi area.

All the municipalities did well by developing *Strategic Environmental Assessments (SEA)* which were developed as part of *Integrated Environmental Programmes (IEP)* for all the Municipalities. This was done with assistance from SYKE (The Finnish Environment Institute) providing financial and technical assistance (Kgalagadi District Municipality, 2005a: 1). Being initiated by the

Municipalities, the development of the said tools is to a certain extent an indication of the commitment of the Municipalities towards environmental management and should be commended. However, implementation of these programmes is necessary to take such commitment forward and although not assessed by this research, interviewees indicated little progress in this regard, which should be an area of concern (pers. comm., Swart, 2006; pers. comm., Burger, 2006).

Spatial Development Frameworks (SDF) are in existence in all four Municipalities, although, at a district level, no SDF has been developed. The District Municipality only developed an SDF for the district Management Area focusing on the town of Vanzylsrus. (Gamagara Municipality, 2002; Ga-Segonyana Municipality, 2004; Kgalagadi District Municipality, 2002; Moshaweng Municipality, 2002) Considering them as an integral part of land use management (development control), Municipalities gave priority to the development of SDF's, ensuring a proper foundation for land use management. Due to increased development pressures all the Local Municipalities review their respective SDF's regularly which indicates to a certain degree of implementation of SDF's. It is interesting to note that despite the absence of other environmental tools and the apparent lack of implementation of some of the available tools, Municipalities give priority to SDF's by providing the necessary resources for reviewing and implementing existing SDF's. This is an indication of the high value of SDF's for the Municipalities and it being one of the more important environmental tools. A concern should be the lack of a district SDF although the District Municipality, at the time of conducting this research, started a process of developing such a Framework (Kgalagadi District Municipality, 2006c: 11).

3.2. Sector Specific Tools

Mentioned in the previous section is the emphasis municipalities of the Kgalagadi area place on *land use management and development control*. Central to land

use management and development control are Scheme Regulations. Since the promulgation of the Northern Cape Planning and Development Act (Act 7 of 1998), three of the four municipalities (Gamagara, Ga-Segonyana and Kgalagadi DMA) have developed sets of Scheme Regulations and Local Development Procedures respectively for the 'newly' amalgamated municipalities as a result of the demarcation process that took place in 2000 (Northern Cape, 2003: 3; Northern Cape, 2004a: 3; Northern Cape, 2004b: 3). All three Municipalities indicated daily implementation of the Schemes and effective utilisation as part of land use management and development control.

Moshaweng Municipality, in contrast to the other three Municipalities, has not yet developed a land use management and development control system. There are mainly two contributing reasons for this, namely, that Moshaweng Municipality is a recently-established Municipality with low levels of capacity and resources and also that it consists mainly of tribal areas with almost no private land ownership, the latter making it very difficult for the Municipality to enforce control measures (pers. comm., Itumeleng, 2006). Of concern should be the impact of this on Chapter 5 of NEMA whereby environmental authorisation is needed from the provincial authorities under certain circumstances. The absence of a land use and development control system implies Moshaweng Municipality is not able to identify developments that need environmental authorisations. Also, part of the decision-making process of development applications is to consider the impact of that development on the environment. Having no system in place, this implies that the Municipality cannot consider the potential impact of most of the developments on the environment since it is not registered with the Municipality.

As indicated in the Fourth Reviewed IDP of Kgalagadi District Municipality (2006a: 86), the Municipality is in the process of developing a *Disaster Management Plan*. At the time of conducting this research the process was at a risk assessment stage (pers. comm., Rossouw, 2006). All the municipalities did well in developing *Integrated Waste Management Plans*. Similar to the SEA and

IEP this was done through a collaborative process between all four Municipalities whereby resources were shared and all the respective plans were developed at once by one service provider (Kgalagadi District Municipality, 2004: 1). All the plans are very comprehensive, dealing with aspects like the legislative framework, status quo, gaps and needs, goals and objectives and a detailed implementation programme with priority projects. To what extent these are being implemented will of course determine the effectiveness of these plans as environmental tools.

During 2003 the Kgalagadi District Municipality developed a *Water Services Development Plan (WSDP)* which catered for all the Local Municipalities as well (Kgalagadi District Municipality, 2003: 3). However, as reflected in Chapter 3, all water authorities must develop their own plans meaning that each Local Municipality in the Kgalagadi must develop it, making the first effort legislatively obsolete. Due to this, according to Roelofse (pers. comm., 2006), all the Local Municipalities are in the process of developing WSDP's and the District Municipality for its DMA. This is an improvement on the first effort and a possible indication of ownership of these plans by the respective Municipalities – something that was lacking during the first round. Streuders (pers. comm., 2006) emphasises the importance of reviewing these plans annually and considering the scarcity of water, service backlogs in the Kgalagadi area and the increased demand for water due to development pressures, Municipalities will have to play a more active role in the development of these plans and have to secure the necessary capacity and resources for implementation. The IEP of the District Municipality emphasises the importance of water resources and recommends a number of measures to ensure sustainability (Kgalagadi District Municipality, 2005a). These have to be taken up in the newly developed WSDP and future reviews.

4. MUNICIPAL AND ENVIRONMENTAL HEALTH

It was concluded in Chapter 2 that dealing with environmental health services, which include municipal health, is considered as part of environmental management at municipal level. This section reflects the results of the research as far as municipal and environmental health activities of the Municipalities in the Kgalagadi area are concerned.

As discussed in Chapter 2, there are various municipal and environmental health activities stipulated by the Constitution, the National Health Act (Act 62 of 2003) and the Demarcation Board. Confusion currently exists amongst the four Municipalities as to which municipality is supposed to perform which activities. The confusion originated within the historical arrangements whereby the local Municipalities performed the municipal and environmental health function within the urban areas whilst the District Municipality performed the function within the rural villages and on farms. In the case of Moshaweng Municipality, the Department of Health, Northwest Province, performed the function. However, due to new 'back to back' municipal areas, which resulted from the demarcation process of 2000, the newly-demarcated Municipalities perform the function within their total areas of jurisdiction, which include urban, rural and farming areas. In the case of Moshaweng Municipality, the Department of Health, North West Province, is continuing with the function whilst the District Municipality performs the function only in the DMA (pers. comm., Swart, 2006). Contributing to the uncertainty, the Department of Health is actively promoting a process whereby the District Municipality performs the municipal and environmental health function for the total Kgalagadi area. A similar arrangement exists in the rest of the country and implies that in future no local municipality or provincial department will perform the function (Department of Health, 2003).

Despite this clear mandate for the Department of Health it is interesting to note that both Ga-Segonyana and Gamagara Municipality continue performing the

function. This is done by the respective Community Services Departments and resources are allocated annually to perform the function (pers. comm., Rautenbach, 2006; pers. comm., Burger, 2006). Moshaweng Municipality, on the other hand, indicated that the Municipality currently performs none of the functions. The Department of Health, North West Province², performs the function as indicated above and in future the District Municipality will have to do it. (pers. comm., Itumeleng, 2006).

Considering that in future the Kgalagadi District Municipality will have to perform the function it is recommended that the Municipality actively increases its efforts in ensuring a smooth transition in this regard. According to Swart (pers. comm., 2006), little has been done by the Municipality to take over this function and if it does not act fast, Municipalities run a risk of the service not being performed in certain areas. Stander (pers. comm., 2006), however, indicated that this is also a common problem in the rest of the Northern Cape Province and recommends that district municipalities undertake a Section 78 capacity assessment in terms of the Systems Act (Act 32 of 2000). Such an assessment will indicate costs involved for rendering the service, future capacity needs and the re-organisation of its administration to perform the function. It is further recommended that the District Municipality sign service level agreements with both Ga-Segonyana and Gamagara Municipalities to continue performing the function until such time that the District Municipality is in a position to do it. In the case of Moshaweng Municipality, the District Municipality might want to consider taking over the service sooner since the Municipality is in any case not performing, meaning that no personnel and funding issues are involved.

Of concern to the District Municipality are funding arrangements, arguing that its operational budget is not enough to cater for this service. However, DPLG (2006) indicated in a circular that the local government equitable share grant,

² Moshaweng Municipality was located in the North West Province until March 2006. Not all functions and responsibilities of North West Provincial Departments were transferred to the Northern Cape Provincial Departments after the re-demarcation of the provincial borders at the time of this research.

paid annually to the District Municipality, does make provision for municipal health services and is expected to continue to do so in future. This puts the Municipality under even more pressure to start performing the function.

5. MUNICIPAL POWERS AND FUNCTIONS

This section reflects the research done on the powers and functions of the Municipalities in relation to environmental management and assesses it against those discussed in Chapter 2.

Concerning the *executive powers* in relation to environmental management, none of the Municipalities have any function listed in Part A of Schedules 4 and 5 assigned to them by national or provincial government. As far as the executive authority concerning the function set out in Part B of Schedules 4 and 5 of the Constitution goes (listed in annexure A), all the Local Municipalities are exercising those functions. However, the effectiveness of this is not always measured, which could lead to a 'relaxing attitude' by Municipalities not trying to improve on their efforts. Municipalities have to consider their performance management systems in this regard and adapt them accordingly. Also, since SoER identifies key performance indicators, Municipalities might find it a useful tool to assist in measuring environment-related matters.

Although exercising most of its powers, the District Municipality (2006d: 23) indicated under performance with storm water and cleansing in Moshaweng Municipality. These were matters assigned to it by the respective MEC for Local Government due to the inability of Moshaweng Municipality to perform these functions. Should the District Municipality continue to under perform, it could result in a detrimental effect on the environment. The District Municipality will have to enter into discussions with the Moshaweng Municipality and the MEC for Local Government trying to revert the functions or alternatively improve its performance of these functions.

Concerning the *governance function* as described by Nel & Le Roux (2005: 4) and *legislative powers*, the Kgalagadi District Municipality and Moshaweng Municipality do not have any municipal by-laws relating to environmental management. In the case of Moshaweng Municipality the absence of by-laws are due to capacity constraints as discussed earlier and in the case of the District Municipality the absence of by-laws relates to its functions being different to those of the local Municipalities (pers. comm., Swart, 2006). This is, however, questionable since the DMA is managed as a local municipality by the District, implying that all local municipal functions are applicable in that area and the Integrated Environmental Programme of Kgalagadi District Municipality Phase 5 Report (2005a: 48) recommending environmental policies and by-laws for the DMA. Also, once the District Municipality starts to perform the Municipal Health function as it should, it would most probably have to develop applicable by-laws.

Gamagara and Ga-Segonyana, have taken up this legislative function as far as it relates to environmental management. Both Municipalities have inherited, developed and promulgated by-laws dealing with refuse, sanitation, prevention of public nuisances, municipal parks, cemeteries, public amenities and abattoirs (pers. comm., Walker, 2006; pers. comm., Rautenbach, 2006). All these by-laws deal with environment issues in one way or another. Some of these by-laws are, however, very old (e.g. Standard Cemetery Regulations for Kathu (Gamagara) - 1951). Considering new national and provincial legislation as well as the new dispensation, the Constitution and an always-transforming local government, these by-laws might be out-dated. Municipalities will have to reconsider some of these by-laws in terms of applicability and effectiveness. Also, although these by-laws do address some environment issues, more progressive and integrated laws are needed to effectively deal with environmental management in these municipalities. This is due to the nature of environmental management in municipalities as depicted in Chapter 2 of this research. Municipalities might also want to consider a broader approach, using the functions as discussed by Nel

and Le Roux (2005: 4), as a starting framework, rather than only applying a narrower approach focusing on specific sectors like sanitation or public open spaces. Implementation of the respective by-laws is not analysed by this research, but it remains one of the corner-stones of regulation and the Municipalities will have to attend to it continuously, together with regular reviewing.

The *protection or conservation function* of the Kgalagadi District Municipality, Ga-Segonyana and Gamagara Municipalities is well established. The function is executed by various conservation-related projects taken up in the respective IDP's and SDF's, like protection and upgrading of the Billy Duvenhage Game Park and revamping of the Moffat Mission (Ga-Segonyana Municipality, 2006: 55). See Table 3 for a list of some protection or conservation projects captured in the various IDP's.

Table 3: Some Protection or Conservation projects as reflected in the various IDP's

Name of Municipality	Name of Project
Kgalagadi District Municipality	Health awareness campaigns
	Promote and facilitate the annual clean town campaign
	Development of Kuruman eye
	Upgrading of the Billy Duvenhage Game park
	Rehabilitation of asbestos mines
Ga-Segonyana Municipality	Water provision
	Maintenance of open spaces
	Development of vacant land
	Grazing camps
	Moffat Mission improvement
Moshaweng Municipality	Development of Kiangkop and Bothithong heritage sites
	Greening of sports fields
	Upgrading of existing cemeteries
	Environmental education and awareness
Gamagara Municipality	Establishment of recreational facilities
	Eradication of invader plant species
	Cleaning of town entrances
	Clean water provision

More importantly, the function is executed on a daily basis as part of the operations of the various departments within the Municipalities. Aspects like water quality monitoring, urban greening and maintenance of open spaces and

public parks are but some of the aspects the said three Municipalities attend to on a daily basis. Moshaweng Municipality is experiencing some difficulties in this regard due to the lack of land ownership as expressed earlier. The Municipality has, however, identified some projects during the IDP process such as the development of Kiangkop, a cultural site with significant heritage value, to develop into a tourist conservation area (Moshaweng Municipality, 2006: 55).

6. CONCLUSION

The main conclusion that can be drawn from this chapter is that all the Municipalities of the Kgalagadi area do attend to environmental management by having some environmental tools and performance of their respective executive and legislative functions. All the municipalities have IDP's, SEA, Integrated Environmental Programmes, Water Services Development Plans and Integrated Waste Management Programmes. A concern, however, is the ignorance towards Local Agenda 21, which might go a long way in improving the IDP as an environmental tool, should it be implemented. The Waste Management Programmes are very comprehensive whilst Water Services Development Plans are critical due to the scarcity of water, services backlogs and an ever-increasing demand for water. A concern is the slow implementation of Integrated Environmental Management Programmes.

Of the four Municipalities, only the District Municipality does not have a spatial development framework, although it is in the process of being developed. The regular review of SDF's and resource allocation for implementation by Municipalities is an indication of the high value of SDF's for Municipalities. Moshaweng Municipality does not have a land use management and development control system in place which implies that the Municipality cannot consider the potential impact of developments on the environment.

Due to the lack of knowledge neither Moshaweng nor Ga-Segonyana Municipalities have a SoER. As a result of budgetary constraints and not understanding the benefits of SoER, Kgalagadi and Gamagara Municipalities do not have it either and it is doubtful if they will in the foreseeable future. The development of Disaster Management Programmes is in progress and is at a risk assessment stage.

The District Municipality is currently only performing the municipal and environmental health function in its DMA. This is in violation of recent legislative requirements requiring the district municipalities to perform the function within the total district, including the local municipal areas. Ga-Segonyana and Gamagara Municipality are performing the function whilst in the Moshaweng area it is done by the Department of Health, North West Province. To avoid possible future failure of service delivery, the District Municipality will have to take over the service as soon as possible. Funding for this is provided through the local government Equitable Share Grant and the Municipality might want to start the process with a section 78 (in terms of the Systems Act) assessment.

All the municipalities are exercising those matters assigned to them in terms of Part B of Schedules 4 and 5 of the Constitution, although the effectiveness of this was not researched and has to be measured by the Municipalities for continuous improvement. Moshaweng Municipality and Kgalagadi District Municipality do not have environmental-related by-laws although this is most likely to change as these Municipalities start executing their respective functions. Gamagara and Ga-Segonyana do have by-laws but will have to consider reviewing them since some of the laws might be outdated. All the municipalities are doing well in attending to their protection and conservation function through their daily operations and by identifying IDP projects related to the function.

CHAPTER 5

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

1. INTRODUCTION

The purpose of this chapter is to draw conclusions from the findings reflected in the previous chapters, and to make recommendations from the conclusions.

The aim of the research was to determine the environmental management responsibilities of municipalities within the Kgalagadi area and assessing their current environmental management activities. In order to achieve this, the research had to realise the following objectives (see Chapter 1, Heading 3.).

The first objective was to define environmental management at municipal level. This objective was achieved in Chapter 2 where environmental management at municipal level was defined through a literature survey. The second objective was to reflect on the applicable legislation which was also achieved in the literature survey of Chapter 2 (see Heading 3.). The third objective which considered available environmental tools, was realised in Chapter 3 where a number of available tools were discussed and compared with each other, also through a literature survey. Objective four was to determine current environmental management efforts and activities of municipalities in the Kgalagadi area. This was achieved through interviews and a literature survey of which the results are reflected in Chapter 4. The fifth objective was to recommend improvements for environmental management activities of municipalities in the Kgalagadi area. This was partially achieved in Chapter 4 where the results of the research as discussed under heading 3. were followed by some recommendations in the respective sections and paragraphs. Considering the purpose of this Chapter as mentioned earlier, the discussion under Section 3. of this Chapter will contribute to the realisation of the fifth objective.

2. FINDINGS AND CONCLUSIONS

The *first* main finding of this study is that environmental management at municipal level occurs when management techniques in a municipality are applied to care for the earth. The conclusion can be made that sustainable development is an integral part of environmental management and within this context 'environment' refers to an extensive approach which embraces a multitude of factors like the natural environment, social environment, economic environment and, in context of municipalities, a health environment.

Municipalities most often use the term 'environment' to refer to the ecology and it is suggested that the definitions of NEMA should be used as a common approach and within the context of environmental management. Environmental health services refer to those aspects of the environment having a possible detrimental effect on human health and dealing with it can be considered as part of environmental management at municipal level.

The *second* finding is that municipalities function within a well-defined policy and legislative framework, prescribing and effecting environmental management at municipal level. Within this legal framework the Constitution details the environmental function, and in terms of Schedules 4 and 5 specific competencies related to the environment are assigned to municipalities. Within the Kgalagadi area these functions are performed differently between the Municipalities with varying performances. The District Municipality is struggling to deal with some special matters assigned to it, which are actually the responsibility of Moshaweng Municipality. Ga-Segonyana and Gamagara Municipalities both have by-laws dealing with the environment and all four Municipalities are performing well with the protection or conservation function.

The conclusion is that the review of applicable legislative points out the importance of constituted mandated objectives and functions for municipalities.

This is taken further by the municipal specific legislation highlighting the necessity of environmental management at municipal level. Applicable framework environmental law is NEMA, with its 18 environmental principles applicable to all organs of state, including municipalities. The Northern Cape Planning and Development Act, which regulates land development in the Province is of relevance to the Kgalagadi area. All the municipalities in the Kgalagadi area are dealing with those matters assigned to them to a certain extent. The Kgalagadi District Municipality will, however, have to attend to those matters assigned to it (storm water and cleansing for the Moshaweng area) to avoid non-performance and a lack of service delivery.

It can further be concluded that both Moshaweng Municipality and the Kgalagadi District Municipality performed poorly in terms of developing and implementing by-laws relating to environmental management and have to greatly improve on their efforts. Also, although Ga-Segonyana and Gamagara Municipalities have by-laws, they are outdated and have to be reviewed with a more progressive and integrated approach.

The *third* finding is that IDP is the main environmental tool for municipalities and that LA21 and EMS can strengthen sustainability and environmental management respectively should the implementation of these be integrated in the IDP process. In the Kgalagadi area all municipalities successfully developed and reviewed IDP's, although no attention was given to LA21 and EMS.

It can be concluded that although IDP is a legislative process, LA21 does enjoy significantly more international recognition as an environmental tool. Capacity constraints in some municipalities are, however, hampering its successful implementation, resulting in the IDP process – it being a legislated process as well - receiving preference. Although EMS and IDP have commonalities, differences should be recognised implying that the two tools should not replace one another.

The *fourth* finding is that SoER and SEA are both useful management tools in providing relevant environmental information to municipalities. All the municipalities of the Kgalagadi area developed an SEA as part of their respective IEP's. None of the Municipalities have an SoER. The conclusion from this finding is that SoER is useful as a tool in the assessment and prioritisation of environmental issues, and making recommendations for policy formulation and planning. It also serves as a performance management tool. The absence of this tool amongst the four Municipalities should be a concern, although capacity constraints to develop and implement an SoER might be a critical contributing factor to the current status.

An SEA aims at evaluating the opportunities and constraints that the environment places on development and it also informs the SDF of a municipality, it being used to realise future land use planning in municipalities. Having this tool amongst the said four Municipalities is a good indication of their commitment towards developing environmental tools and it also serves as an information source to the SDF and IEP of the respective municipalities.

The *fifth* finding is that SDF is a valuable environmental management tool for municipalities compared to other tools. Three out of the four Municipalities of the Kgalagadi area developed and reviewed SDF's and the fourth municipality, Kgalagadi District Municipality, is in the process of developing an SDF, this despite the lack of other environmental tools. It can therefore be concluded that due to an SDF forming the basis for land use management and its focus on land development - one of the key functions of municipalities - priority is given to SDF by municipalities. It is also important that an SDF is influenced by the IDP, although it can be developed separately.

The *sixth* finding is that similar to SDF, land use management or development control is of high priority for municipalities in the Kgalagadi area. Three out of four Municipalities have processes and systems in place dealing with it on a daily

basis. It can be concluded that land use management could be an effective tool for environmental management due the direct impact of land use on the environment and it being a legislative requirement. Also, in many cases new developments and alterations to existing developments also need to receive environmental authorisation from the relevant competent authority in terms of regulations 385, 386 and 387 of Chapter 5 of NEMA. By applying land use and development control municipalities have to ensure compliance with the said Chapter 5 and the regulations and advise the public accordingly

The next key finding (seventh) is that environmental health services, which include municipal health services, are considered as part of environmental management at municipal level. Within the Kgalagadi area, this function is performed by three Municipalities and the Department of Health, North West Province (for the Moshaweng Municipal are), respectively. This is in contradiction to the directive from the National Department of Health (Department of Health, 2003) whereby the District Municipality should perform the function.

The conclusion from this finding is that environmental health, which includes municipal health services, and defined as those aspects of the environment having a possible detrimental effect on human health, is part of environmental management at municipal level. It is important to realise that the function should be performed by the district municipalities and regarding the Kgalagadi area, the District Municipality will have to take up this responsibility by allocating the necessary resources. The area runs the risk of the function not being performed at all, should the District Municipality fail to comply with the directive from the national Health Department.

The *eighth* finding and conclusion is that all the municipalities performed well in developing Water Services Development Plans and Waste Management Programmes and are in the process of developing Disaster Management Frameworks and Plans. All these plans are similar in formulation but focus on

different aspects of the environment. These tools received the necessary resources for development from the said four Municipalities, indicating their value as tools.

The final finding and conclusion is that on the whole, Municipalities of the Kgalagadi area do practice environmental management activities by performing their executive and legislative functions and by having and executing environmental management tools. There are however shortcomings which are either common amongst the Municipalities or specific to a Municipality. A common problem is the lack of resources and capacity to develop and implement some of the available tools. Another common concern is that priority is given to legislated processes and tools, creating the impression that compliance is one of the main criteria for deciding which tools to develop or systems to implement. Municipalities should guard against this, since compliance alone does not mean effective service delivery for the environment and does not necessarily lead to sustainable development. There has to be voluntarism involved to develop some tools, like the developed SEA and IEP, indicating a level of commitment towards environmental management.

Municipal-specific problems like the absence of by-laws in Moshaweng Municipality and the Kgalagadi District Municipality, non-performance of functions and matters assigned to it in the Kgalagadi District Municipality and the absence of a land use management system in Moshaweng Municipality are of concern and have to be attended to. The absence of these activities means poor service delivery, affecting the environment and leading to non-sustainable development.

3. RECOMMENDATIONS

The following recommendations can be made for application and further investigation:

- Municipalities should align their environmental management activities to the powers and functions of local government.
- The 18 principles of NEMA should always be considered in the execution of municipal activities.
- Local Agenda 21 could be popularised amongst municipalities as a 'need to have' environmental tool.
- The performance management system of municipalities should measure environmental management performance as well. This refer to the saying 'what gets measured gets done'.
- Resources, either internal or external, should be secured by municipalities to assist in the development, implementation and reviewing of environmental management tools.
- The Kgalagadi District Municipality should attend to those matters assigned to it, but not being performed. The District should also start to perform the environmental health function as required.
- The development of a land use management system in Moshaweng Municipality needs urgent attention.
- Municipalities should be capacitated in environmental management activities and specific tools available for such purpose.
- Future research on the implementation and reviewing of environmental management tools in the Kgalagadi area could be done. Such research could lead to improved environmental management activities.
- The capacity of municipalities to perform environmental management could also be researched. Capacity constraints seem to be the main reason for possible under-performance.

BIBLIOGRAPHY

AUCAMP, I.C. 2003. The role and place of social impact assessment in the project life cycle. Potchefstroom: NWU. (Dissertation – M(Environmental Management)). 65 p.

BLESS, C. & HIGSON-SMITH, C. 1995. Fundamentals of social research methods: An African perspective. 2nd ed. Kenwyn. : Juta & Co, Ltd. 164 p.

BURGER, P. 2006. Personal communication. Environmental Health Officer. Gamagara Municipality. Kathu.

CITY OF CAPE TOWN. 2001. Fourth State of Environment Report. [Web] <http://www.capetown.gov.za/soe> [Date of Access: 22 March 2003.].

COETZEE, M. 2002. Local pathway to sustainable development in South Africa: Summary document on the IDP-LA21 relationship. Johannesburg. : 2002 World Summit on Sustainable Development. 26 p.

CONSTITUTION **see** SOUTH AFRICA 1996.

DEPARTMENT of Environmental Affairs and Tourism (DEAT) **see** SOUTH AFRICA. Department of Environmental Affairs and Tourism.

DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND DEVELOPMENT PLANNING OF THE WESTERN CAPE PROVINCE. 2003. Guidelines for environmental decision-making by municipalities in the Western Cape. Cape Town. 56 p. (Unpublished.)

DEPARTMENT of Health **see** SOUTH AFRICA. Department of Health.

DEPARTMENT of Provincial and Local Government (DPLG) **see** SOUTH AFRICA. Department of Provincial and Local Government.

DEPARTMENT OF HOUSING AND LOCAL GOVERNMENT NORTHERN CAPE PROVINCE. 2005. MEC for Local Government and Housing's comments on the third review of the Kgalagadi District IDP for adoption in June 2005. Kimberley. 11 p. (Unpublished.)

DURBAN METRO. 1999. Durban Metro State of Environment and Development: 1999. [Web:] <http://www.ceroi.net/reports/durban> [Date of Access: 22 March 2003.].

- EKURHULENI METROPOLITAN MUNICIPALITY. 2003. Ekurhuleni State of Environment Report. [Web:] <http://www.environment.gov.za/soer/reports/ekurhuleni.html> [Date of access: 9 October 2006.].
- FUGGLE, R.F. 2000. Environmental management: An introduction. (In Fuggle, R.F. & Rabie, M.A., eds. Environmental management in South Africa. Cape Town. : Juta & Co, Ltd. 1 – 10 p.)
- GAMAGARA MUNICIPALITY. 2002. Gamagara Municipality Spatial Development Framework. Kathu. 36 p. (Unpublished.)
- GA-SEGONYANA MUNICIPALITY. 2004. Ga-Segonyana Spatial Development Framework. Kuruman. 67 p. (Unpublished.)
- GA-SEGONYANA MUNICIPALITY. 2006. Fourth reviewed Integrated Development Plan of Ga-Segonyana Municipality. Kuruman. 88 p. (Unpublished.)
- HALL, W., HAYNES, R, & BAAITJIES, R. 2006. The district health system: Place and role of local government. Local Government Bulletin, 8(2):9-11, May.
- HEALTH SYSTEMS TRUST. 2004. Summery Bulletin 11. DHS – LG discussion list. [Web:] <http://www.hst.org.za/generic/60> [Date of access: 3 March 2006.].
- ICLEI. 2003. Local Action 21: Moving from Agenda to Action. [Web:] http://www.iclei.org/ICLEI/news32/news32_specialfeature.htm [Date of Access: 1 September 2003.].
- IDASA. 2005. Budget Brief No. 153: Local Government Responsibilities. [Web:] <http://www.idasa.org.za/gbOutputFiles.asp> [Date of access: 3 April 2006.].
- ITUMELENG, T.C. 2006. Personnel communication. Manager Community Services. Moshaweng Municipality. Churchill.
- KGALAGADI DISTRICT MUNICIPALITY. 2002. Kgalagadi District Management Area Spatial Development Framework. Kuruman. 15 p. (Unpublished.)
- KGALAGADI DISTRICT MUNICIPALITY. 2003. Water Services Development Plan: Kgalagadi District Municipality. Kuruman. 181 p. (Unpublished.)
- KGALAGADI DISTRICT MUNICIPALITY. 2004. Integrated Waste Management Plan: Kgalagadi District Municipality. Kuruman. 71 p. (Unpublished.)

KGALAGADI DISTRICT MUNICIPALITY. 2005a. Strategic Environmental Assessment and Integrated Environmental Management Programme: Phase 5 Report. Kuruman. 58 p. (Unpublished.)

KGALAGADI DISTRICT MUNICIPALITY. 2005b. Strategic Environmental Assessment and Integrated Environmental Management Programme: Phase 4 Report. Kuruman. 218 p. (Unpublished.)

KGALAGADI DISTRICT MUNICIPALITY. 2006a. Fourth Reviewed Integrated Development Plan for Kgalagadi District Municipality. Kuruman. 87 p. (Unpublished.)

KGALAGADI DISTRICT MUNICIPALITY. 2006b. Status Quo Report for Kgalagadi District Municipality: Revised Edition. Kuruman. 51 p. (Unpublished.)

KGALAGADI DISTRICT MUNICIPALITY. 2006c. Bid: Spatial Development Framework for the Kgalagadi District Municipality. Kuruman. 27 p. (Unpublished.)

KGALAGADI DISTRICT MUNICIPALITY. 2006d. Top-layer Service Delivery Budget Implementation Plan. Kuruman. 42 p. (Unpublished.)

KOTZE, T.H. 2003. The implementation of formal Environmental Management Systems at local authority level in South Africa. Potchefstroom: NWU. (Dissertation – M(Environmental Management)). 90p.

KRUGER, R.A. 2005. A generic framework for promoting the implementation of Environmental Management System at local government level in South Africa. Potchefstroom: NWU. (Dissertation – M(Environmental Management)). 63p.

LUCA, D. & VENTER, C. 2002. The Kgalagadi District Municipality – North West and Northern Cape Province: An assessment of the Integrated Development Plan. (In Case studies on sustainability in local governance. Johannesburg. : 2002 World Summit on Sustainable Development. 69 - 86 p.)

MCKENZIE, M. 2003. (In Hologram horizontal learning programme. The best of Hologram 2001 – 2003: Issues and practice in South African local government. Cape Town. : Nolwazi. 180 - 187 p.)

MINISTRY OF PROVINCIAL AFFAIRS AND CONSTITUTIONAL DEVELOPMENT. 1998. The White Paper on Local Government. CTP Book Printers: Pretoria. 165 p.

MOSHAWENG MUNICIPALITY. 2002. Moshaweng Local Municipality Integrated Development Plan: Integrated Spatial Development Framework. Mothibistad. 119 p. (Unpublished.)

MOSHAWENG MUNICIPALITY. 2006. Fourth Reviewed Integrated Development Plan of Moshaweng Municipality. Churchill. 64 p. (Unpublished.)

MOUTON, J. 1996. Understanding social research. Pretoria. : Van Schaik. 272 p.

MUNICIPAL DEMARCATION BOARD. 2006. Municipal Profiles 2006. [Web:] <http://www.demarcation.org.za/municprofileonline/function.asp> [Date of access: 15 June 2006.].

NEL, J.G. & LE ROUX, E. 2005. Municipalities as the regulator and the regulated: Some thoughts on the complexity of sustainability challenges. (Paper read at the Annual National Congress of the IAIA 2005. 9 p.)

NEMA see South Africa.

NORTHERN CAPE (South Africa). Northern Cape Planning and Development Act, No. 7 of 1998. Pretoria: Government Printer.

NORTHERN CAPE (South Africa). 2003. Scheme regulations for Gamagara Municipal area. Northern Cape provincial gazette, 826, December 22.

NORTHERN CAPE (South Africa). 2004a. Scheme regulations for Ga-Segonyana Municipal area. Northern Cape provincial gazette, 898:3-69, September 27.

NORTHERN CAPE (South Africa). 200b4. Scheme regulations for Kgalagadi District Management area. Northern Cape provincial gazette extraordinary, 877:3-78, July 2.

OLIVIER, E. 2004. An approach to sustainable development in Ekurhuleni: The role of sustainable management tools. Potchefstroom: NWU. (Dissertation – M(Environmental Management)). 85 p.

PARALEGALADVICE. 2002. Paralegal manual: Chapter 4 - Environmental Law. [Web:] <http://paralegaladvice.org.za/docs/chap04.html> (Date of access: 3 April 2006.).

RABIE, M.A. 2000. Nature and scope of environmental law. (In Fuggle, R.F. & Rabie, M.A., eds. Environmental management in South Africa. Cape Town. : Juta & Co, Ltd. 83 – 98 p.

RAUTENBACH, J. 2006. Personal communication. Acting Manager Community Services. Ga-Segonyana Municipality. Kuruman.

ROELOFSE, J. 2006. Personal communication. Assistant Manager Technical Services. Kgalagadi District Municipality. Kuruman.

ROUSSOW, J. 2006. Personal communication. Chief Fire Emergency Services. Kgalagadi District Municipality. Kuruman.

SA **see** South Africa.

SEKHESA, A. 2000. Agenda 21: Background, Overview and Programme Areas: LA21 Training Programme. (Paper delivered at LA21 Training Course in Pretoria, March 2000.) Cape Town. : Environmental Evaluation Unit, University of Cape Town. 8 p.

SOUTH AFRICA. 1995. Development Facilitation Act, No. 67 of 1995. Pretoria: Government Printer.

SOUTH AFRICA. 1996. Constitution of the Republic of South Africa, Act No. 108 of 1996. Pretoria: Government Printer.

SOUTH AFRICA. 1997. Water Services Act, No. 108 of 1997. Pretoria: Government Printer.

SOUTH AFRICA. 1998. National Environmental Management Act, No. 107 of 1998. Pretoria: Government Printer.

SOUTH AFRICA. 2000. Local Government: Municipal Systems Act, No. 32 of 2000. Pretoria: Government Printer.

SOUTH AFRICA. 2001. Local Government: Municipal planning and performance management regulations. (Notice no. R. 796, 2001.). Government Gazette, 22605, Aug. 24. (Regulation Gazette No. 7146.)

SOUTH AFRICA. 2002. Disaster Management Act, No. 57 of 2002. Pretoria: Government Printer.

SOUTH AFRICA. 2003. National Health Act, No. 61 of 2003. Pretoria: Government Printer.

SOUTH AFRICA. 2005. Intergovernmental Relations Framework Act, No. 13 of 2005. Pretoria: Government Printer.

SOUTH AFRICA. Department of Environmental Affairs and Tourism. 1998a. White paper on environmental management policy for South Africa. Government notice 794 of 1998. Pretoria: Government Printer.

SOUTH AFRICA. Department of Environmental Affairs and Tourism. 1998b. Agenda 21: An Agenda for Sustainable Development into the 21st Century. Pretoria. 70 p. (Unpublished.)

SOUTH AFRICA. Department of Environmental Affairs and Tourism. 1999. National waste management strategy: Version D. Pretoria.

SOUTH AFRICA. Department of Environmental Affairs and Tourism. 2000. White paper on integrated pollution and waste management for South Africa. South Africa. Government notice 227 of 2000. Pretoria: Government Printer. 81 p.

SOUTH AFRICA. Department of Environmental Affairs and Tourism. 2003. National framework document: Strengthening environmental sustainability in the integrated development planning process. Pretoria. 69 p.

SOUTH AFRICA. Department of Environmental Affairs and Tourism. 2004. Overview of integrated environmental management: Integrated environmental management information series 0. Pretoria. 22 p. (Unpublished.)

SOUTH AFRICA. Department of Health. 2003. Framework for the transfer of Environmental Health Services from provincial government to municipalities. Pretoria. 17 p. (Unpublished.)

SOUTH AFRICA. Department of Land Affairs. 2002. Land use management bill. Pretoria: Government Printer. 49 p.

SOUTH AFRICA. Ministry for Provincial Affairs and Constitutional Development. 1998. White paper on local government. Pretoria: Government Printer. 165 p.

SOUTH AFRICA. Department of Provincial and Local Government. 2001. IDP Guide Pack. Guide III – Methodology. Government Printers. Cape town. 109 p.

SOUTH AFRICA. Department of Provincial and Local Government. 2004a. The integrated sustainable rural development programme: Programme design document. Pretoria. 57 p. (Unpublished.)

SOUTH AFRICA. Department of Provincial and Local Government. 2004b. Project Consolidate: Hands-on Local Government Support and Engagement Programme. Pretoria. 21 p. (Unpublished.)

SOUTH AFRICA. Department of Provincial and Local Government. 2005. IDP Hearings 2005 panel report Kgalagadi District (CBDC1) Northern Cape. Pretoria. 13 p. (Unpublished.)

SOUTH AFRICA. Department of Provincial and Local Government. 2006. Circular to municipalities. Equitable share allocations to local government for the 2006/07 to 2008/09 financial years. April 24. Pretoria. (Original copy in records of Kgalagadi District Municipality.)

STANDER, D. 2006. Personal communication. Deputy Director Environmental Health. Department of Health Northern Cape Province. Kimberley.

STREUDERS, K. 2006. Personal communication. Coordinator Water Services Development Plans Northern Cape Province. Department of Water Affairs Northern Cape Province. Kimberley.

SWART, J. 2006. Personal communication. Environmental Health Officer. Kgalagadi District Municipality. Kuruman.

TYLER MILLER, G. 2002. Living in the Environment. Principles, Connections and Solutions, Twelfth Edition. Belmont. : Wadsworth Group. 758p.

UNITED NATIONS DIVISION FOR SUSTAINABLE DEVELOPMENT. 2003. Agenda 21. [Web:] <http://www.un.org.esa.sustdev/documents/agenda21/english/agenda21chapter28.htm> [Date of access: 1 September 2003.].

URQUHART, P & ATKINSON, D. 2002. A Pathway to Sustainability: Local Agenda 21 in South Africa, Second Edition. Rondebosch. : Environmental Evaluation Unit, University of Cape Town. 112 p.

WALKER, J. 2006. Personal communication. Manager Corporate Services. Gamagara Municipality. Kathu.

ANNEXURE A
Functions, Definitions and Authorizations of Municipalities in the Kgalagadi Area (Municipal Demarcation Board, 2006)

FUNCTION	DEFINITION	AUTHORIZATION			
		Kgalagadi DM (DC45)	Gamagara LM (NC453)	Ga-Segonyana LM (NC452)	Moshaweng LM (NC451)
Air pollution	Any change in the quality of the air that adversely affects human health or well-being or the ecosystems useful to mankind, now or in the future.	-	Yes	Yes	Yes
Building regulations	The regulation, through by-laws, of any temporary or permanent structure attached to, or to be attached to, the soil within the area of jurisdiction of a municipality, which must at least provide for: <ul style="list-style-type: none"> ▪ Approval of building plans, ▪ Building inspections, and ▪ Control of operations and enforcement of contraventions of building regulations if not already provided for in national and provincial legislation. 	-	Yes	Yes	Yes
Child care facilities	Facilities for early childhood care and development which fall outside the competence of national and provincial government.	-	Yes	Yes	Yes
Electricity reticulation	Bulk supply of electricity, which includes for the purposes of such supply, the transmission, distribution and, where applicable, the generation of electricity, and also the regulation, control and maintenance of the electricity reticulation network, tariff policies, monitoring of the operation of the facilities for adherence to standards and registration requirements, and any other matter pertaining to the provision of electricity in the municipal areas.	-	Yes	Yes	Yes
Fire Fighting	In relation to District Municipality "Fire fighting" means: <ul style="list-style-type: none"> ▪ Planning, co-ordination and regulation of fire services; ▪ Co-ordination of the standardization of infrastructure, vehicles, equipment and procedures; ▪ Training of fire officers. <p>In relation to Local Municipality "Fire fighting" means:</p> <ul style="list-style-type: none"> ▪ Any function not included in the definition applicable to a district municipality, including fighting and extinguishing of all fires; ▪ The rescue and protection of any person, animal or property in emergency situations not covered by other legislation or powers and functions. 	Yes, Including Moshaweng (NC451)	Yes	Yes	-
Local tourism	The promotion, marketing and if applicable, the development, of any tourist attraction within the area of the municipality with a view to attract tourists; to ensure access, and municipal services to such attractions, and to regulate, structure and control the tourism industry in the municipal area subject to any provincial and national legislation, and without affecting the competencies of national/provincial government pertaining to "nature conservation", "museums", "libraries" and "provincial cultural matters".	Yes	Yes	Yes	Yes
Municipal airport	A demarcated area on land or water or a building which is used or intended to be used	Yes	Yes	Yes	Yes

	either wholly or in part, for the arrival or departure of aircraft which includes the establishment and maintenance of such facility including all infrastructure and services associated with an airport, and the regulation and control of the facility, but excludes airports falling within the competence of national and provincial governments.				
Municipal Planning	The compilation and implementation of an integrated development plan in terms of the Systems Act.	Yes	Yes	Yes	Yes
Municipal Health Services	Subject to an arrangement with MECs to do the necessary authorizations, or alternatively, subject to amendments to the Structures Act, Municipal Health Service means environmental health services performed by a district municipality and includes: <ul style="list-style-type: none"> ▪ Air pollution ▪ Child care facilities ▪ Control of public nuisances ▪ Control of undertakings that sell liquor to the public ▪ Facilities for the accommodation, care and burial of animals ▪ Licensing and control of undertakings that sell food to the public ▪ Licensing of dogs ▪ Markets ▪ Municipal abattoirs ▪ Noise pollution ▪ Pounds 	Yes	-	-	-
Municipal public transport	The regulation and control, and where applicable, the provision of: <ul style="list-style-type: none"> ▪ Services for the carriage of passengers, whether scheduled or unscheduled, operated on demand along a specific route or routes or where applicable, within a particular area ▪ Scheduled services for the carriage of passengers, owned and operated by the municipality, on specific routes 	Yes	-	Yes	-
Pontoons and ferries	Pontoons, ferries, jetties, piers and harbours, excluding the regulation of international and national shipping and matters related thereto, and matters falling within the competence of national and provincial governments.	-	Yes	Yes	Yes
Storm water	The management of systems to deal with storm water in built-up areas.	Yes. Including Moshaweng (NC451)	Yes	Yes	Yes
Trading regulations	The regulation of any area facility and/or activity related to the trading of goods and services within the municipal area not already being regulated by national and provincial legislation.	-	Yes	Yes	Yes
Water (Potable)	The establishment, operation, management and regulation of a potable water supply system, including the services and infrastructure required for the regulation of water conservation, purification, reticulation and distribution; bulk supply to local supply points, metering, tariffs setting and debt collection so as to ensure reliable supply of a quantity and quality of water to households, including informal households, to support life and personal hygiene and establishment, provision, operation, management, maintenance and regulation of a system, including infrastructure for the collection, removal, disposal and/or purification of human excreta and domestic waste-water to	-	Yes	Yes	Yes

	ensure minimum standard of services necessary for safe hygienic households.				
Sanitation	The establishment, provision, operation, management, maintenance and regulation of a system, including infrastructure for the collection, removal, disposal and/or purification of human excreta and domestic waste water to ensure minimum standard of service.	-	Yes	Yes	Yes
Beaches and Amusement facilities	The area for recreational opportunities and facilities along the sea shore available for public use and any other aspect in this regard which falls outside the competence of the national and provincial government.	-	Yes	Yes	Yes
Billboards and the display of advertisements in public places	The display of written or visual descriptive material, any sign or symbol or light that is not intended solely for illumination or as a warning against danger which: <ul style="list-style-type: none"> Promotes the sale and/or encourages the use of goods and services found in: streets, roads, thoroughfares, sanitary passages, squares or open spaces and / or, private property. 	-	Yes	Yes	Yes
Cemeteries, funeral parlours and crematoria	The establishment, conduct and control of facilities for the purpose of disposing of human and animal remains.	Yes	Yes	Yes	Yes
Cleansing	The cleaning of public streets, roads, and other public spaces either manually or mechanically.	Yes, Including Moshaweng (NC451)	Yes	Yes	-
Control of public nuisance	The regulation, control and monitoring of any activity, condition or thing that may adversely affect a person or a community.	-	Yes	Yes	Yes
Control of undertakings that sell liquor to the public	The control of undertakings that sell liquor to the public that are permitted to do so in terms of provincial legislation, regulation and licenses, and includes an inspection service to monitor liquor outlets for compliance to license requirements in as far as such control and regulation are not covered by provincial legislation.	-	Yes	Yes	Yes
Facilities for the accommodation, care and burial of animals	The provision of and/or the regulation, control and monitoring of facilities which provide accommodation and care for well or sick animals and the burial or cremation of animals, including monitoring of adherence to any standards and registration requirements and/or compliance with any environmental health standards and regulations.	-	Yes	Yes	Yes
Fencing and fences	The provision and maintenance and/or regulation of any boundary or deterrents to animals and pedestrians along streets or roads.	-	Yes	Yes	Yes
Licensing of dogs	The control over the number and health status of dogs through a licensing mechanism.	-	Yes	Yes	Yes
Licensing and control of undertaking and selling food to the public	Ensuring the quality and the maintenance of environmental health standards through regulation, a licensing mechanism and monitoring of any place that renders in the course of any commercial transaction, the supply of refreshments or meals for consumption on or to be taken away from the premise at which such refreshments or meals are supplied. Implement policy and regulations.	Yes, Including Moshaweng (NC451)	Yes	Yes	-
Local amenities	The provision, management, preserving and maintenance of any municipal place, land, and building reserved for the protection of places or objects of scenic, natural, historical and cultural value or interest and the provision and control of any such or other facility for public use but excludes such places, land or buildings falling within competencies of national and provincial governments.	-	Yes	Yes	Yes
Local sport facilities	The provision, management and/or control of any sport facility within the municipal area.	-	Yes	Yes	Yes

Markets	The establishment, operation, management, conduct, regulation and/or control of markets other than fresh produce markets including market permits, location, times, conduct etc.	Yes	Yes	Yes	Yes
Municipal abattoirs	The establishment, conduct and/or control of facilities for the slaughtering of livestock.	Yes	Yes	Yes	Yes
Municipal parks and recreation	The provision, management, control and maintenance of any land, gardens or facility set aside for recreation, sightseeing and/or tourism and includes playgrounds but excludes sport facilities.	-	Yes	Yes	Yes
Municipal roads	The construction, maintenance, and control of a road which the public has the right to and includes, in addition to the roadway the land of which the road consists or over which the road extends and anything on that land forming part of, connected with, or belonging to the road, and also, for purposes of a local municipality, includes a street in a built-up areas.	Yes	Yes	Yes	Yes
Noise pollution	The control and monitoring of any noise that adversely affects human health or well-being or the ecosystems useful to mankind, now or in the future.	-	Yes	Yes	Yes
Pounds	The provision, management, maintenance and control of any area or facility set aside by the municipality for the securing of any animal or object confiscated by the municipality in terms of its by laws.	-	Yes	Yes	Yes
Public places	The management, maintenance and control of any land or facility owned by the municipality for public use.	-	Yes	Yes	Yes
Refuse removal, refuse dumps and solid waste disposal	The removal of any household or other waste and the disposal of such waste in an area, space or facility established for such purpose, and includes the provision, maintenance and control of any infrastructure or facility to ensure a clean and healthy environment for the inhabitants of a municipality.	Yes	Yes	Yes	Yes
Street trading	The control, regulation and monitoring of the selling of goods and services along a public pavement or road reserve.	Yes	Yes	Yes	Yes
Street lighting	The provision and maintenance of lighting for the illuminating of streets.	-	Yes	Yes	Yes
Traffic and parking	The management and regulation of traffic and parking within the area of the municipality including, but not limited to, the control over operating speed of vehicles on municipal roads.	-	Yes	Yes	Yes
Municipal public works	Any supporting infrastructure or service to empower a municipality to perform its function.	-	Yes	Yes	Yes