


**The implications of recent planning and
environmental reform for the South African
planning profession**

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ABSTRACT

Recent literature suggests that the environment is crucial to achieve urban sustainability (Anderson & Elmqvist, 2012:269). Environmental considerations have in this sense become an integral part of developmental thinking and decision-making and there is now an expanded scientific understanding that environmental management is substantially beneficial to urban communities and should be included as part of broader spatial planning approaches (Llausàs & Roe, 2012:644; Surma, 2015:4; Thomas & Littlewood, 2010:212; Wright, 2011:1008). But despite efforts such as policy and legislative development directives by South African authorities to mainstream environmental consideration into broader land-use decision-making, there are concerns over inadequate integration of environmental considerations in planning (Wilhelm-Rechmann & Cowling, 2012:4-5). It has also been noted that planners have uncertainties on the processes and requirements for enhancing such environmental consideration (Wilhelm-Rechmann & Cowling, 2012:4-5). This includes proficiency (awareness and knowledge) of land-use decision-makers to employ municipal planning and environmental management instruments such as environmental management frameworks (EMFs), conservation plans (C-plans), strategic environmental assessments (SEAs) and environmental authorisation (EA). As environmental management instruments identify environmental significant areas such as open spaces, critical biodiversity areas and high potential agricultural land, planners can use this environmental information to spatially integrate environmental objectives and land-use planning and management. However, municipal planning and environmental management are mandates of different spheres of government. The current reality suggests that there are silo planning approaches for municipal planning and environmental management as they are considered as separated functions (Cilliers, 2009:1; Turpie, 2009:54-56). This research calls for a more aligned and integrated planning process and considers the implications of the recent planning and environmental law reform for the South African planning profession in terms of the alignment of environmental management and municipal planning. Moreover, this research claims that environmental management is informative to land-use planning and management. Therefore, alignment between municipal planning and environmental management is crucial to capitalize on the benefits of integrated planning and to integrate environmental consideration in land-use planning and management. Some of the major implications of the recent planning and environmental law reform are the directive principles and requirements to consider environmental management instruments in land-use planning and management and “restriction of environmentally harmful behaviour” through land-use planning and management (Nel et al., 2015a:48). While the recent planning and environmental law reform have several implications on the planning profession, limited research exists on planning practitioners’ proficiency in the use of municipal planning instruments to restrict behaviour that can have a detrimental impact

on the environment (Nel et al., 2015a:48) and planning practitioners' perspectives and use of environmental instruments during decision-making. Furthermore, limited practice guidelines exist on how to integrate environmental consideration into land-use planning and management. In an attempt to provide insight on the current challenges this research followed a multi-method approach, which included considering two important case studies, questionnaires and expert interviews. Research findings concluded on planning practitioners' proficiency with municipal planning instruments, including development controls to protect environmental attributes and significant areas and the professional views with regard to the planning reality and challenges relating to integrated planning. The survey results suggest that participants' proficiency on the use of servitudes could improve. The lack of common terminologies, resource constraints and inadequate consideration of land-use planning and management in environmental management plans were identified as possible areas for intervention. This research also proposed a schematic representation for municipal planning interface with environmental management to improve land-use decision-making in practice. The schematic representation aims to balance environmental protection and development needs by integrating environmental consideration in land-use planning and management through leveraging information environmental instruments have to offer. Synergies between environmental management and spatial planning will ultimately promote effective and responsible planning and land-use management. Lastly, recommendations are made for further research.

Key words: Planning, environmental management, reform, alignment, environmental consideration

OPSOMMING

Onlangse literatuur dui daarop dat die omgewing noodsaaklik is vir die volhoubaarheid van stede (Anderson & Elmqvist, 2012: 269). Omgewingsoorwegings het 'n integrale deel van ontwikkelingsdenke en besluitneming geword. Daar is dus 'n uitgebreide wetenskaplike begrip dat omgewingsbestuur wesenlik en voordelig vir stedelike gemeenskappe is. Daarom moet omgewingsoorwegings deel van breër ruimtelike beplanning benaderings wees (Llausàs & Roe, 2012: 644; Surma, 2015: 4; Thomas & Littlewood, 2010: 212; Wright, 2011: 1008). Ten spyte van die pogings deur Suid-Afrikaanse owerhede, soos beleids- en wetgewende ontwikkelingsriglyne, heers daar kommer oor die onvoldoende integrasie van omgewingsoorwegings in beplanning (Wilhelm-Rechmann & Cowling, 2012: 4-5). Daar is ook onsekerheid onder beplanners oor die prosesse en vereistes om omgewingsoorwegings in beplanning te verbeter (Wilhelm-Rechmann & Cowling, 2012: 4-5). Dit sluit in bekwaamdheid (bewustheid en kennis) van grondgebruikbesluitnemers in om ruimtelike-ontwikkelingsraamwerke en omgewingsbestuursinstrumente soos omgewingsbestuursraamwerke (OBRs), bewaringsplanne (B-planne), strategiese omgewingsevaluerings (SEBs) en omgewingsmagtiging (EA) te gebruik. Aangesien omgewingsbestuursinstrumente belangrike omgewings areas soos oop ruimtes, kritiese biodiversiteitsgebiede en hoë-potensiaal landbougrond aandui kan beplanners hierdie omgewingsinligting gebruik om omgewingsdoelwitte ruimtelik in grondgebruiksbeplanning-en bestuur te integreer. Munisipale beplanning en omgewingsbestuur is egter mandate van verskillende regeringsfere. Die huidige realiteit is dat daar silo beplanningbenaderings gevolg word tussen munisipale beplanning en omgewingsbestuur aangesien dit as aparte funksies beskou word (Cilliers, 2009:1; Turpie, 2009:54-56). Hierdie navorsing stel voor dat daar 'n meer belynde en geïntegreerde beplanningsproses gevolg moet word en oorweeg die gevolge van die onlangse beplanning en omgewingsreghervorming vir die Suid-Afrikaanse beplanningsprofessie. Dit sluit in die gevolge vir die belyning van omgewingsbestuur en munisipale beplanning. Daarbenewens beweer hierdie navorsing dat omgewingsbestuur informatief is vir grondgebruiksbeplanning-en bestuur. Daarom is belyning tussen munisipale beplanning en omgewingsbestuur noodsaaklik om die voordele van geïntegreerde beplanning en die integrering van omgewingsoorweging in grondgebruiksbeplanning-en bestuur te benut. Van die belangrikste gevolge van die onlangse beplanning en omgewingsreg hervorming is die ontwikkelings voorskriftelike beginsels en vereistes wat verseker dat omgewingsinstrumente in grondgebruikbeplanning-en bestuur oorweeg word en die voorkoming van omgewingskadelike aktiwiteite deur grondgebruiksbeplanning-en bestuur. Terwyl die onlangse beplanning en omgewings hervorming verskeie implikasies op die beplanningsprofessie het, bestaan beperkte navorsing oor beplanningspraktisyns se vaardigheid (bewustheid en kennis) met munisipale

beplanningsinstrumente, insluitend om omgewingskadelike gedrag te verhoed (Nel et al., 2015a: 48). Beplanningspraktisyns se perspektief en gebruik van omgewingsinstrumente tydens besluitneming is ook onbekend. Daarbenewens bestaan daar ook beperkte riglyne oor hoe om omgewingsoorweging in grondgebruiksbeplanning-en bestuur te integreer. In 'n poging om meer insig oor die huidige uitdagings te verkry, volg hierdie navorsing 'n multi-metode wat twee belangrike gevallestudies wat munisipale beplanning in regspraak, vraelyste en onderhoude met kundiges insluit. Die bevindinge sluit 'n gevolgtrekking in van die beplanningspraktisyns se vaardigheid met munisipale beplanningsinstrumente asook ontwikkelingsbeheermaatreëls om omgewingskenmerke en belangrike gebiede te beskerm. Die resultate van opnames dui daarop dat deelnemers se vaardigheid oor die gebruik van serwitute kan verbeter. 'n Gebrek aan algemene terminologieë, beperkte hulpbronne en onvoldoende oorweging van grondgebruiksbeplanning-en bestuur in omgewingsbestuursplanne is geïdentifiseer as areas waarop moontlik verbeter kan word. Bevindinge uit die deskundige onderhoude sluit in dat daar 'n enkele ruimtelike instrument ontwikkel moet word wat ooreenstem met omgewingsbestuursinstrumente en wat ondersteun moet word deur 'n munisipale beleid. Hierdie navorsing het ook 'n skematiese voorstelling gemaak van moontlike koppelvlakke tussen omgewingsbestuur en munisipale beplanning met die doel om besluitneming oor grondgebruik te verbeter. Die skematiese voorstelling het ten doel om omgewingsbeskerming en ontwikkelingsbehoefte te balanseer deur omgewingsoorweging in grondgebruiksbeplanning- en bestuur te integreer om effektiewe en verantwoordelike beplanning-en grondgebruiksbestuur te bevorder. Laastens word voorstelle gemaak vir verdere navorsing.

Sleuteltermes: Beplanning, omgewingsbestuur, hervorm, belyning, omgewingsoorweging

TABLE OF ACRONYMS

CBA	Critical Biodiversity Areas
C-plan	Conservation Plan
C-planning	Conservation Planning
DFA	Development Facilitation Act, 67 of 1995
D-MOSS	Durban Municipal Open Space System
EA	Environmental Authorisation
ECA	Environmental Conservation Act, 73 of 1989
EM	Environmental Management
EMF	Environmental management Framework
ESAs	Ecological Support Areas
FAR	Floor-Area-Ratio
GIS	Geographic Information Systems
IDP	Integrated Development Plan
LA 21	Local Agenda 21
LM SDF	Local Municipal Spatial Development Framework
LUMS	Land-Use Management Schemes
LUPOs	Land-Use Planning Ordinances
MOSS	Municipal Open Space Systems
NEMA	National Environmental Management Act, 107 of 1998 as Amended
NWU	North-West University
NWU-CEM	North-West University Centre for Environmental Management
P-D-C-A	Plan-Do-Check and Act
RDP	Reconstruction and Development Programmes
SANBI	South African National Biodiversity Institute
SDF	Spatial Development Framework
SPLUMA	The Spatial Planning and Land Use Management Act, 16 of 2013
SEA	Strategic Environmental Assessment
TPO	Town Planning Ordinance
TPS	Town Planning Scheme

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CHAPTER 1: INTRODUCTION

1.1 Points of departure

Cities of today are complex urban systems with a multitude of activities and functions. Cities serve as the heart of economic production (Pacione, 2005:285). However, urban areas have to deal with land-use change while also considering the environment (Claassen, 2009:921-922; Cilliers et al., 2014:264-266; Kidd, 2011:209-210). Those responsible for land-use have to deal with development pressures as well as environmental protection including conservation of open spaces and valued agricultural land (Cilliers, 2009:1). Environmental consideration has become an integral part of land-use planning and management (Llausàs & Roe, 2012:644; Surma, 2015:4; Thomas & Littlewood, 2010:212; Wright, 2011:1008). Central to land-use planning and management lies integrated planning approaches which were introduced more than twenty years ago in South Africa. However, the current reality of continued urban sprawl, urban fragmentation and challenges in land-use decision processes, questions the approaches to land-use planning and management (Cilliers, 2009:1; Cilliers et al., 2014:261; Retief & Cilliers, 2015a:167). Environmental management and municipal planning (encompassing land-use planning and management on a local government level) are currently considered separated functions (Cilliers, 2009:1; Turpie, 2009:54-56). However, planning in South Africa is described as “interdisciplinary in nature” (van Wyk, 2012a:96) and has certain linkages to environmental management (Claassen, 2009; Kidd, 2011; van Wyk, 2012a:96).

In the South African context, open spaces and areas of environmental significance are often sacrificed for development (Cilliers, 2009:1). But, as urban areas are increasing along with development pressures, it is pivotal to include environmental considerations within municipal planning (Cilliers, 2015:1; Snijman & Petterson, 2015:291) based on the objectives of sustainable development (Retief & Cilliers, 2015a:169). Environmental management includes spatial information on environmental attributes and sensitive areas (Claassen, 2009:921-923, Turpie, 2009:54-56). It is argued that the alignment between environmental management and municipal planning is crucial to enhance integrative planning and broader sustainable development as environmental management is informative to municipal planning and will foster the integration of environmental consideration into municipal planning. As such, this research considers the implications of recent planning and environmental law reform for the South African planning profession including the promulgation and partial implementation of the Spatial Planning and Land Use Management Act, 16 of 2013 in 2015 along with two critical case studies of eThekweni (Durban) and the City of Cape Town (municipal planning in case law) (van Wyk, 2012b:299-301; Nel et al., 2015a:48-49). Accordingly the research title *‘The implications of the recent planning and environmental reform for the planning profession’* was chosen as our understanding of what the recent planning and environmental law reform entails and the

implications thereof are lacking. Moreover, it is unclear if the recent reform did contribute to integrated planning. The recent planning and environmental law reform and the need for aligning municipal planning (land-use planning and management) and environmental management are accentuated. This research also considered the interface options within the context of recent reform, and identified possibilities for municipalities to solidify their planning practices and enhance the alignment between environmental management and municipal planning.

1.2 Problem statement

Development often occurs at the expense of environmental significant and high potential agricultural land (Claassen, 2009:921-922; Cilliers et al., 2014:261,265; Cilliers, 2009:1-2). The disciplines of environmental management and municipal planning are considered separated functions as they are the mandates of different spheres of government (Cilliers, 2009:1; Turpie, 2009:54-56). This silo-planning approach often leads to a lack of alignment between the objectives of environmental management and municipal planning. Therefore, there is a need to identify suitable interfaces to align municipal planning and environmental management in an attempt to address concerns which have been raised on planning practitioners' proficiency (awareness and knowledge) to integrate environmental consideration into land-use planning and management (Wilhelm-Rechmann & Cowling, 2012:4-5). The availability of environmental management tools on a local level (also referred to as municipal level or city scale) is fundamental to mainstream environmental consideration within municipal planning practices. According to Retief and Cilliers (2015b:576), more than 75% of South Africa is covered by spatial planning tools and therefore are regarded as readily available. However, the extent to which these tools are available on a municipal level or city scale is scarce in provinces such as the Free State, Limpopo and the Northern Cape. The land-use planning and management system has experienced significant changes as a result of the recent planning and environmental reform (Freedman, 2014:585; Nel et al., 2015a:47-49; van Wyk, 2012a: 4-25; van Wyk, 2012b: 288). However, the implications of the recent planning and environmental law reform on the South African planning profession are unclear.

1.3 Aim and objectives

Based on the problem statement the aim of this research is:

'To consider the implications of the recent planning and environmental law reform for the South African planning profession in terms of the alignment between environmental management and municipal planning'.

This research considers the recent planning law reform and claims that environmental management is informative to land-use planning and management. Therefore the notion is that

alignment between environmental management and municipal planning will foster the integration of environmental consideration into municipal planning.

The objectives of this research include:

- To consider the legal framework which shaped the planning profession?
- To consider the current planning reality in South Africa.
- To consider the possible interface between environmental management and municipal planning.
- To consider recent planning reform in South Africa.
- To identify professional views with regard to the planning reality and challenges relating to integrated planning.
- To conclude on the implications of the recent planning and environmental law reform and how it impacts on the South African planning profession.

1.4 Primary research questions

In order to achieve research aim and objectives, six research questions were formulated. These research questions guided this research and the research methodology employed. The primary research questions addressed in the research includes:

- How did the legal framework shaped the planning profession?
- What is the current planning and legislative reality in South Africa?
- Is an interface between environmental management and municipal planning possible?
- What entails recent planning and environmental law reform in South Africa?
- What are the professional views regarding the planning reality and challenges relating to integrated planning?
- What are the implications of the recent planning and environmental law reform and how did it impact on the South African planning profession?

For more on the research questions and the related design refer to Table 1-1

Table 1-1: and Table 1-6.

1.5 Research design and methodology

In the light of the research aim, objectives and questions described in the previous sections it is evident that this research requires an approach that considers both theory and practise relating to recent planning and environmental reform. The research design should ensure that data is collected, analysed and interpreted to answer the stated research questions (Bryman, 2012:45; Yin, 2009:24). The research design is based on the primary research questions and discussed in

Table 1-1 which is followed by a more detailed discussion of the literature review, research design and methodology.

Table 1-1: Primary research questions and methods

Primary research question	Method/ technique	Description of method	Associated chapter(s)
How did the legal framework shaped the planning profession?	Literature review	An extensive review of literature on the origins (historical developments), value, objectives, the cross-cutting application of planning and the need for statutory planning	Chapters 2
What is the current planning and legislative reality in South Africa?	Literature review	An extensive review of literature on the South African reality including the policy and legislative framework	Chapter 3-4
Is an interface between environmental management and municipal planning possible?	Literature review	An extensive review of literature on the alignment between municipal planning (land-use planning and management) and environmental management to determine if an interface can be established	Chapter 4
What entails recent planning and environmental law reform in South Africa?	Case study research method and legislation review: <ul style="list-style-type: none"> • Analysis and review of documents • A critical review and discussion of practiced-based examples (case law content) • Identifying legislation directives and review of legislation provisions 	Considering the recent planning reform which includes: <ul style="list-style-type: none"> • The Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA) including key legislative directives and changes. • Review of two purposefully selected South African case studies of municipal planning in case law, including document reviews on the practice based examples. 	Chapter 5 - 6
What are the professional views regarding the planning reality and challenges relating to integrated planning?	Surveys- questionnaires Expert interviews	Questionnaire surveys to determine: <ul style="list-style-type: none"> • the proficiency (awareness and knowledge) of planning practitioners of recent developments in the fields of planning and environmental management. • planning practitioners' awareness on the use of municipal planning for environmental management purpose. Expert interviews to determine current challenges. Also to offer guidance for the alignment of environmental management and municipal planning.	Chapter 7
What are the implications of the recent planning and environmental law reform and how did it impact on the South African planning profession?		To consider the implications of the recent planning and environmental law reform and if the reform contributed towards integrated planning.	Chapter 8

1.5.1 Literature review

The literature investigation forms the theoretical basis of this research into municipal planning practices. This baseline of knowledge consists of a review of existing literature, including former a complicated historic policy development related to the Industrial Revolution and apartheid era planning, current legal and policy frameworks on municipal planning as well as preceding events leading up to the current format of the South African municipal planning reality. The

purpose with the literature review was to gain understanding on how the legal framework shaped the planning profession and what municipal planning entails.

The literature investigation included:

- A review of literature and explanation on the origins (historical developments) of the legal framework that shaped the planning profession (Chapter 2);
- A discussion and explanation of the current planning and legislative reality in South Africa (Chapter 3);
- To determine whether an interface can be established between environmental management and municipal planning (land-use planning and management) (Chapter 4);
- To consider the recently enacted and partial implemented legislation the Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA) as part of the recent planning reforms (Chapter 5) and the implications thereof on the planning profession.

To understand the implications of the recent planning reform on the profession and the interconnection between municipal planning (land-use planning and management) and environmental management both qualitative and quantitative methods were used that allows for a more comprehensive analysis of the research situations. Accordingly the empirical investigation is discussed.

1.5.2. Part A of the empirical investigation- case study research

Different research methods and techniques may be combined to collect data (Bryman, 2012:45). As such, multi-method research techniques were suitable and included A) case studies and B) questionnaires and expert interviews. Part A of the empirical investigation employed a case study approach. A case study approach offers valuable qualitative content and involves investigating a “contemporary phenomenon within its real life context using multiple sources of evidence” (Robson, 2002:178).

The objective of Part A of the empirical investigation is to present purposefully selected case studies, as part of the recent planning law reform, and was selected based on municipal planning in case law. The two case studies, as identified by literature review, are successful examples in practice to restrict potential environmental harmful behaviour through land-use planning and management (van Wyk, 2012b:299-301; Nel et al., 2015a:48-49). Case law, as a source in law, can be defined as legal decisions that may act as precedents and guidance for future decisions (Cilliers, 2016:58; Hague, 2014:32; Humby et al., 2015:144-145). In context of this research the case studies and associated case law entitles identifying lessons from these case studies on the functional competence of municipalities to use municipal planning as a tool in support of environmental management. Accordingly the case studies research design and

approach (Section 1.5.2.1 Research design and approach for case studies); case study selection (Section 1.5.2.2 Selection of case studies) and the method for case study investigation (Section 1.5.2.3 Methodology for case study review and summary) are discussed.

1.5.2.1 Research design and approach for case studies

Part A of the empirical investigation is based on two case studies following a qualitative research approach. Case studies allow for in-depth content analysis considering variables, circumstances and factors in context (Robson, 2002:205; Steenkamp, 2009:6). However, Patton (1990:162) (*in Marshall and Rossman, 1999:42*) notes that “there are no perfect research designs. There are always trade-offs”. Accordingly the selection of the two purposefully selected case studies is discussed.

1.5.2.2 Selection of case studies

The research focused on municipal planning in the South African context. The two case studies of eThekweni (Durban) and the City of Cape Town were purposefully selected based on two important aspects as justified in

Table 1-3: Justification for case studies selection namely: a) the case studies are pioneers and as best examples in practice and b) municipal planning in recent case law (van Wyk, 2012b:299-301; Mosdell, 2015:969; Nel et al., 2015a:48-49; Snijman & Petterson, 2015:291). Refer to Table 1-2 for more information regarding the two purposefully selected case studies and the location of the case studies. The relevant case studies form part of the enabling developments in planning and environmental reform by which municipal planning plays a supporting role to environmental management through the use of municipal planning instruments.

Table 1-2: Selected cases

Case	Name	Municipality	Province	Relevant case law
1	eThekwini (Durban) Case study	eThekwini (Metropolitan)	KwaZulu-Natal	Le Sueur and Another v eThekwini Municipality and Others (9714/11) [2013] ZAKZPHC 6
2	City of Cape Town Case Study	City of Cape Town (Metropolitan)	Western Cape Province	Maccsand (Pty) Ltd v City of Cape Town and others 2012 (4) SA 181 (CC)

Source: Mosdell (2015:969); Snijman and Petterson (2015:291)

The case study research informed the local South African approach to planning and served as a precedent for future orientation in the innovative use of planning instruments in South Africa. As such, research findings are not limited to specific locations but assumed to be applicable to all other municipalities in South Africa considering the enforcement of development controls and land-use management mechanisms as part of the functional competence of municipalities in terms of municipal planning.

Table 1-3: Justification for case studies selection

Description	Value
Pioneers on the innovative use of municipal planning as a tool for environmental management on a municipal level.	Provide insight and perspective on the innovative use of municipal planning instruments by which the case studies (practised based examples) serve as a precedent for other municipalities on the application of municipal planning to successfully prevent potential environmentally harmful behaviour by restricting and controlling land-use
Municipal planning in recent case law	Confirmation of municipalities' abilities to regulate land-use through land-use planning and management mechanisms. Moreover, the case studies contributed towards the recent planning and environmental law reform, whereby municipal planning (land-use planning and management) can be used to restrict "behaviour that can have a detrimental effect on the environment" (Nel et al., 2015a:48).

1.5.2.3 Methodology for case study review and summary

Case studies as an "empirical inquiry" contain certain basic components (Yin, 1994:1). These components include focus, procedural characteristics and different types of case studies, case study design and methods used. The components and the general characteristics of the purposefully selected case studies are shown in Table 1-4.

Table 1-4: Characteristics of the two purposefully selected case studies

Component	Case studies characteristics
Focus	Practised based examples of municipal planning, in case law, providing innovative and precedent examples of the application of municipal planning to restrict potentially environmental harmful land-uses.
Procedural characteristics	Multiple literature sources and academic writings
Case study type	Explanatory
Case study design	Multiple-case studies
Methods used	Qualitative

Based on a qualitative research method, the two explanatory case studies were summarised to identify key learning points (lessons learned) with a discussion as part of the empirical enquiry. This entitled documentation review of published academic work and official documents and policies. The case study discussion of the case studies is performed in terms of:

- The context behind the application of municipal planning instruments for environmental purposes;
- The instruments used within the case studies as part of the functions of municipal planning;
- A swot-analysis.

Considering the research approach and objectives; Part B of the empirical investigation employed qualitative and quantitative research to draw on the current planning realities by making use of a survey method through questionnaires and semi-structured expert interviews.

1.5.3 Part B of the empirical investigation- questionnaires

Questionnaires are widely used for data-collection and surveys to provide deeper insight into practice (Babbie & Mouton 2008:239). In the second part of the multi-method approach to the empirical investigation, a questionnaires survey was conducted with purposefully selected planning practitioners to obtain insight into planning practitioners' experiences, views and proficiency (awareness and knowledge) in terms of municipal planning instruments, environmental management and recent planning and environmental management reform. As mentioned by Rattray and Jones (2007:234) questionnaire development and design need to follow logical, systematic and a structural approach. In this research, the questionnaires were developed according to the research objectives, literature findings and recent planning and environmental law reform. The questionnaires were also developed in line with ethics requirements and the content to cover refined with the help of academics in the planning field. The questions were also statistically considered as the questions "must elicit data that are appropriate for the analysis" (Wagner et al., 2012:104).

1.5.3.1 Objectives and design

Questionnaire surveys offered insight into the professional views of planning practitioners employed in the two provinces of Gauteng and North-West in terms of a purposeful sample method and a selection criteria based on experience, the availability of instruments, and exposure to municipal planning instruments and environmental factors (refer to Table 1-5 for more on the purposefully selected planning practitioners). The questionnaire consisted of three parts. The first part consisted of general information on respondents' biographical information. The second part focused on locational information of participants and municipalities. The third part focused on legislative aspects and municipal planning instruments.

Questionnaires made use of pre-formulated closed questions (Sekaran & Bougie, 2016:146-147). This is ideal for a geographically spread targeted group (Welman et al., 2005). For purposes of this research two different Likert scales were used to which participants responded. The first scale consisting of a five-point Likert scale ranging from 1) rarely or never to 5) very often or always. The second scale is a six-point Likert scale ranging from 1) strongly disagree to 6) strongly agree. The questionnaire was designed to:

- Determine planning practitioners' proficiency (awareness and knowledge) with municipal planning instruments to integrate environmental consideration into land-use planning and management processes;
- Consider planning practitioners' views on the current planning reality and challenges relating to integrated planning;

- Consider planning practitioners' knowledge of recent planning and environmental law reform.

1.5.3.2 Research participants

Questionnaires were distributed to planning practitioners working in both the private and public sector within the two provinces of Gauteng and North-West. Participants were selected based on a selection criterion, justified in Table 1-5 below.

Table 1-5: Selection criteria for participants

Description	Justification
Research participants must conduct work in the provinces of Gauteng and the North-West Province.	These provinces are regarded as well-resourced provinces in terms of the availability of environmental and spatial instruments (Retief & Cilliers, 2015b; Cilliers, 2015:67). This includes the finalisation and implementation of environmental management instruments.
The participant should hold an employment position with adequate exposure to a range of municipal planning instruments and environmental factors.	Participants should have the necessary exposure to processes of potential and different influential factors to land-use applications and township establishments.
Participants were selected with the assumption that they would have at least two years of experience based on the position they held. For example interns and juniors were excluded.	The experience of participants will ensure the credibility of data and correlation as a representation of planning in practice and planning practitioners.

A total number of 45 questionnaires were distributed to practising planners, either by hand or electronically (internet) questionnaire using Survey Monkey. The questionnaire yielded 21 responses with a 46.7% response rate. Data from one participant was excluded from the study, as the participant only completed the biographical section (Section A). This brings the total number of valid responses to 20 of which 15 was from the private sector and 5 from the public sector. Moreover, one participant was included (valid response) that did not meet criterion 3 (experience) for the selection of participants.

1.5.3.3 Data collection procedure, recording and ethical considerations

The sequence of steps followed is classified into three main steps.

- Step 1: A preliminary questionnaire was designed for the survey for planning practitioners both in the private and public sector.
- Step 2: Pilot study conducted for premature results
- Step 3: All completed questionnaires were collected and captured in a Microsoft Excel spreadsheet, combining electronic and hard copy data. The data within excel was transfer to SPSS 25 (2017) for further analysis.

With regard to ethical consideration, participants were informed prior to starting the questionnaires of all research ethics. Participants were informed that the study is voluntary and

they have the right to limit their participation or withdraw from the study at any time. Participant's responses are confidential, as participants have a right to privacy and anonymity, including that all personal information was therefore withheld from this research report.

Refer to Chapter 7.2.1 '*findings and discussion*' for the results and findings as captured from the completed questionnaires.

1.5.4 Part B of the empirical investigation- expert interviews

The second part of the empirical investigation further included semi-structured expert interviews. Interviewing allows a researcher to capture a participant's understanding, experiences, views and opinions on a specific topic for qualitative data collection (Maree, 2016:92-93; Simons, 2009:43). Different types of interviewing exist which ranges from less-structured interviews such as open-ended interviews to more structured interviews such as survey interviews with detailed standardised questions that are developed in advance (Maree, 2016:93).

This research employed a semi-structured interview following a phenomenological approach (Wagner et al., 2012:22, 132) focused on the interviewee's understanding, experiences and views on the alignment of municipal planning and environmental management in practice. Moreover, expert interviews also included proposals made by expert interviews as recommendations to integrate environmental consideration into land-use planning and management decision-making. Semi-structured interviews were intentionally used to guide, but not limit the conversation. Two questions were intentionally used as guidance for the expert interviews and therefore the interviews were not open-ended. Refer to Section 1.5.3.2 and Chapter 7.3 for more on expert interview findings.

Qualitative data was interpreted by coding, transcription and projection of the semi-structured interviews. The interview-phase expanded the scope of knowledge relating to municipal planning practices and the interface with environmental management in terms of depth and width. The intention was to obtain personal insight and experiences of experts with the aim to draw on challenges in practice and provide guidance for the alignment of environmental management and municipal planning to integrate environmental consideration into land-use planning and management. The interviewees included municipal officials, consultants and planning practitioners from the private sector employed in the provinces of Gauteng and North-West based on a purposeful sampling for selecting the interviewees and a selection criterion (Refer to Table 1-5). Their experiences were based on the current statutory municipal planning framework.

Interviews can be time consuming (Maree, 2016:94-97) and should be carefully prepared to be conducted in a meticulous manner (Maree, 2016:95). Interviews were discontinued when

saturation was achieved. This is a point when listening to what interviewees say suggests that “new data no longer offer insight” (Bryman, 2012:421), new dimensions or appropriate data (Bryman, 2012:421; Wagner et al., 2012:89) and is a recognised method of sampling in qualitative research (Wagner et al., 2012:89).

1.5.4.1 Research participants

Semi-structured interviews were conducted with purposefully selected planners in practice with questions mentioned in the previous section used as guidance. These ‘experts’ were chosen based on their experiences within land-use planning and management decision-making including strategic planning as well as academic qualifications relating to environmental management and municipal planning. Expert interviewees were purposefully selected with experience in the planning profession in the provinces of Gauteng and North-West. The fields focused on and included municipal planning, strategic planning, development economics and environmental management.

A total of 5 expert interviews were conducted, based on a theoretical saturation technique. Saturation was achieved after four (4) interviews. To ensure that saturation was indeed achieved a fifth interview was held.

1.5.4.2 Measuring approach and qualitative data collection and recording

Pre-formulated questions-used as guidance for the semi-structured expert interviews included:

- How can shortcomings in the proficiency (awareness and knowledge) and challenges planning practitioners have with consulting environmental management instruments be addressed so they are able to consider and integrate environmental consideration into land-use decision-making?
- How can alignment between environmental management and municipal planning be improved to integrate environmental information/data (environmental consideration) into land-use management and planning?

A short introduction to the research and the main research question related to expert interviews was provided to interviewees before the interviews started. The recent planning reform which includes the enactment of the Spatial Planning and Land Use Management Act, 16 of 2013, as well as the two case studies discussed in Chapter 6, were also mentioned to expert interviewees. This was done to ease the participants into the situation and for expert interviewees to interactively debate (Maree, 2016:96) on the topic of alignment between municipal planning and environmental management. The research question related to the expert interviews is

“What are the professional views regarding the planning reality and challenges relating to integrated planning?”

Data from each semi-structured expert interview was gathered in a sequence of steps.

The following steps were followed to gather data:

- Interviews were recorded;
- After each interview a summary was made that focused on the two questions used for guidance. The summary of the interview was transcribed;
- Interviews were stopped when saturation was achieved. However, to ensure that saturation was reached another participant was interviewed;
- The semi-structured interviews were summarised according to the common themes which were identified from the transcripts. Thereby a “thematic framework” was formed “informed by the expert interviews transcripts” and the aims of the semi-structured interviews (Mackenzie et al., 2013:4). Refer to Chapter 7.3.1 for the results and discussion of the semi-structured interviews with purposefully selected planning practitioners.

1.6 Limitations of the research

The research focused on the discipline of municipal planning (a field of planning) as applied in the current South African context. While this research considered the implications of the recent planning and environmental law reform and was also based on existing legislative and policy framework of the subjected disciplines this research is by no means a study in law. However, to minimise the potential for inaccurate legal aspects, only secondary sources of acknowledged academic work have been used and referred to in this dissertation. Furthermore, legal aspects have been reviewed by graduated persons in law, with active knowledge and experience. The case study analysis is also limited to two purposefully selected case studies which include municipal planning in case law and the enactment of the Spatial Planning and Land Use Management Act, 16 of 2013. In both case studies the courts ruled in favour of the municipalities. While this research focused on the contribution of municipal planning (land-use planning and management) to environmental management this research did not explicitly explore examples where environmental management contributed towards improving land-use planning and management practices. Questionnaires were distributed to planning practitioners in both public and private sector, limited to the provinces of Gauteng and North-West as the primary location of employment. Respondents were purposefully selected based on their position and experience. This study considered the recent planning law reform and the implications thereof. The notion is that environmental management is informative to land-use planning and management and alignment is required between municipal planning and environmental management to integrate environmental consideration into land-use planning and

management. Lastly, this research recognised that the ability to align municipal planning and environmental management may differ between municipalities and provinces as the availability and access to environmental instruments and resources required vary. Moreover, the sample size was small and may have sampling error and further longitudinal studies could be done.

1.7 Research structure and chapter layout

The research is divided into in nine chapters.

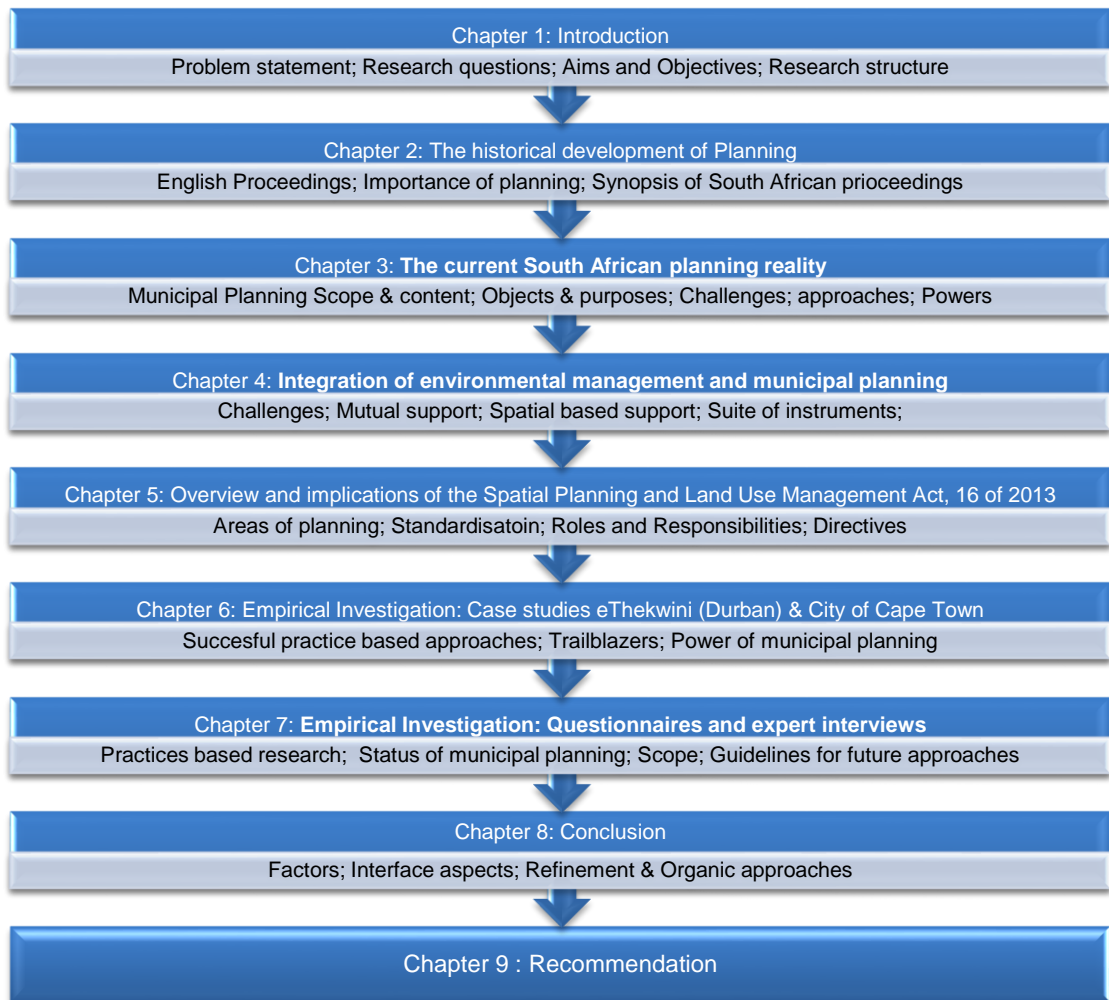


Figure 1-1: Research Structure

Figure 1-2: Conceptualised approach towards the dissertation structure illustrates the conceptual model (approach) of this research.

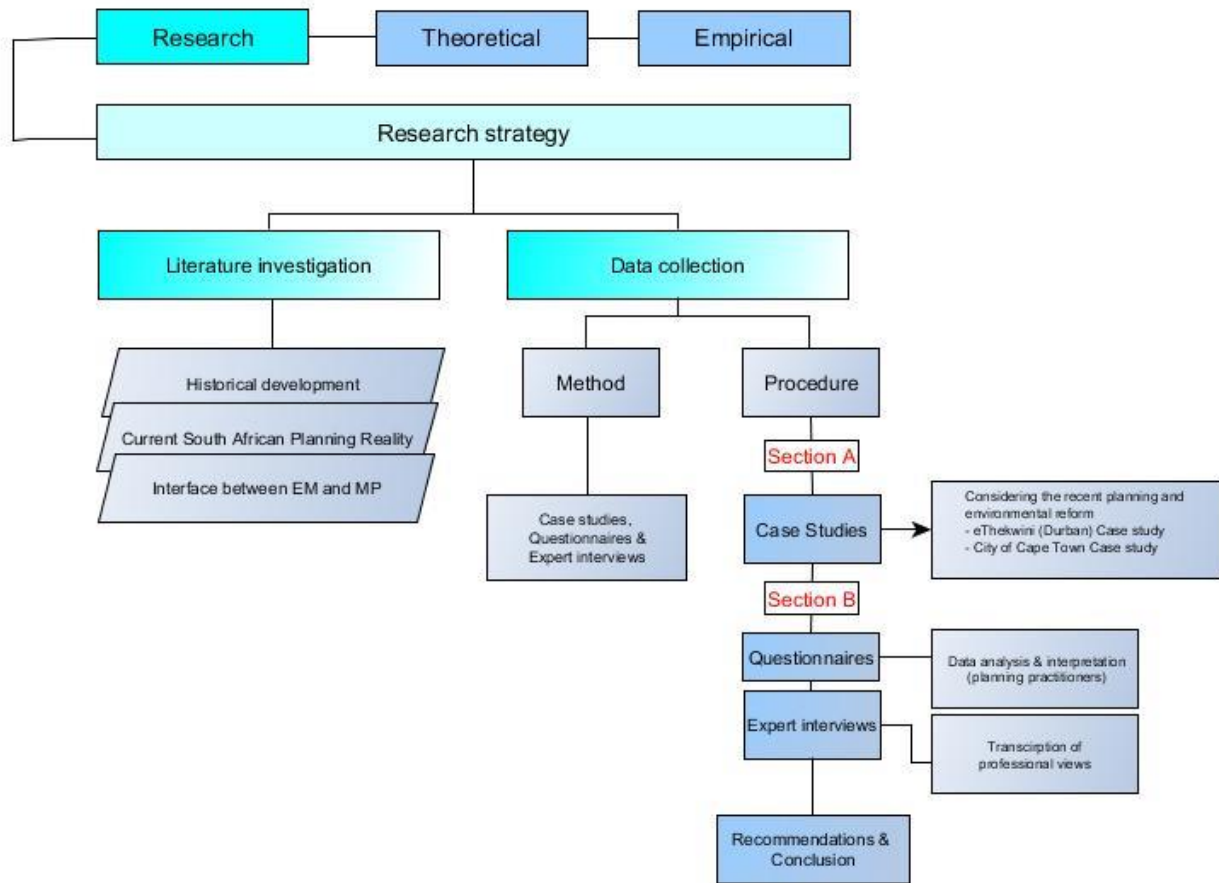


Figure 1-2: Conceptualised approach towards the dissertation structure
 Source: Own construction (2017)

The research questions guided the research methods and the structure of this research as illustrated in Table 1-6.

Table 1-6: Research questions and chapters of this research

	Primary Research question	Chapter
Theoretical foundation	• How did the legal framework shaped the planning profession?	Chapter 2: The historical development of planning
	• What is the current planning and legislative reality in South Africa?	Chapter 3: The South African planning reality
	• Is an interface between environmental management and municipal planning possible?	Chapter 4: Alignment between environmental management and municipal planning
Empirical investigation Section A	Recent planning reform • What entails recent planning and environmental law reform in South Africa?	Chapter 5: Overview and implications of the Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA)
		Chapter 6: Empirical Investigation (Part A): Case studies of eThekweni (Durban) and the City of Cape Town
Empirical investigation Section B	• What are the professional views regarding the planning reality and challenges relating to integrated planning?	Chapter 7: Empirical Investigation (Part B): Questionnaires and expert interviews
Conclusion	• What are the implications of the recent planning and environmental law reform and how did it impact on the South African planning profession?	Chapter 8: Conclusion
Recommendations		Chapter 9: Recommendations

1.8 Definitions

Table 1-7: Definitions

Development	A process by which human activities are undertaken with the aim to change a socio-economic situation, including human well-being, increase revenue, which includes a modification of the environment (as per South African environmental definition) that entitles resource use. This entitles social, economic and environmental aspects, including increasing wealth, fulfilling basic needs and improves equality of citizens (Cilliers, 2010:5).
Development parameters or development controls	Includes limitations and controls imposed on land-use rights or entitlements to control development. Development parameters rather refer to the collective limits imposed on development on a property. Typically development parameters are set by zoning and the associated land-use schemes and title deed endorsements (restrictive conditions and servitudes). Development parameters typically include permissible land-use types (e.g. residential, business, industrial), heights, density (buildings), Floor-Area-Ratio, permissible areas of land to be developed (built), areas of land parcels where buildings/structures are prohibited and other buildings and structure measurements. The land-use scheme or town planning scheme determines the applicable zoning, compatible uses, scheme clauses and annexure and sets land-use parameters. These measurements are set for orderly development and in fulfilment of a certain character in a district or area within the urban areas. Development controls are normally used in the context of town planning or land-use scheme parameters set in terms of the relevant zoning of a property. Development controls typically refer to the associated restrictions of height, density, coverage, floor-area-ratio, parking and building lines linked to the zoning based land-use right and relevant land-use scheme conditions. Additionally development controls might be contained in the title deed of a property such as building lines, densities and number of dwelling units.
Environmental Management	Includes the management and protection of environmental resources and related aspects to enhance the status and qualities of the environment. It is worth noting that environmental management is focused on managing the impact of human activities on the environment and is therefore tasked with managing activities (Du Plessis & Nel, 2015:16-23). For the purpose of this research the delineation of conservation areas is regarded as part of environmental management. Therefore, environmental management, within a planning perspective, entitles management of human activities to prohibit uncontrolled activities that would result in environmentally detrimental impacts and for protection of environmental amenities to prevent a depressed and downward environmental situation.
Environmental resilience	In a planning context, environmental resilience is to limit development and minimise disturbance of ecological functions to have sufficient, or be within a threshold to have enough, capacity to adapt to development impacts or any environmental shocks that might occur from human activities.
Environmental sustainability	Encapsulate the use of activities in such a manner that it does not deplete environmental resources faster than resources can be replaced which may result in an environmental depressed situation. This entitles the responsible use of resources to leave enough for future generations.
Erf	A South African term for referring to a land parcel in an urban setting. However, in a rural context the term can be substituted with portions, holdings and farms.
Floor-Area-Ratio	The ratio (equals) of the total floor area of a building, on all floor-levels, in relation to the total area of the property on which the building is built (City of Johannesburg, 2017). The FAR is used as a development parameter on a property to impose limits to the developed area and assigned in the zoning of a property.
Integrated development	Development that encompass interrelationships between economic activities with social and environmental activities and their related aspects.
Land-use planning and management	Is the common reference to land-use management, land development management and spatial planning. This includes land-use schemes, spatial plans, development controls and statutory land-use change processes and consent uses.
Land development management/development management	Land-use management relies on development parameters implemented and controlled by zoning (land-use rights) and development controls. To maintain these parameters statutory processes are required such as the rezoning of properties and removal/amendments of development controls such as restrictive conditions. These land-use change processes are provided for in land-use schemes, ordinances and by-laws. Therefore land development management is the statutory process required to depart from a current land-use right in terms of the relevant land-use scheme (town planning scheme) and the removal/ amendment of development controls and restrictive title deed conditions.

Land-use management	Statutory land-use mechanism implemented through town planning schemes or (the new order) land-use management schemes. These schemes allocate land-use rights and entitlements through zoning as well as development controls and regulations. Additionally title deed restrictions (also referred to as restrictive title conditions or deed restrictions) impose restrictions servitudes and development parameters and restrictions on properties. Typically this includes prime land-use rights and related descriptions for the land-use right in question as well as prohibited activities and uses (Retief & Cilliers, 2015b:563; van Wyk, 2012a:45)
Land-use planning	Planning of land use (and related) activities based on the allocation of land-use rights to ensure land is optimally used in conformance to the vision and objectivities of the relevant land-use authority and municipality including the urban profile. Land-use planning includes cognition of environmental, socio-political and economic aspects.
Land use plans	Mechanisms for land-use management and control. Include zoning, town planning schemes or land-use schemes and consent uses. It defines land-uses and zoning as per the scheme and provide for compatible uses and uses that are not allowed for a zoning. Consent uses are also provided for in the land-use plans.
Local government	The local sphere of government and refers to municipalities that include legislative and executive functions. This includes political and administrative elements and functions. However, for purposes of this study, local government will be simplified to the daily executive functions of municipalities as an organ of the state offering public services and facilities.
Municipality	Refer to local government, with emphasis on administrative functions carried out within its defined area of authority.
Municipal planning	A functional area of planning allocated to local sphere of government. This entitles land-use management, development controls (and related development parameters), township establishment as well as allocated and assigned functions such as spatial planning. This includes the management of land-use (rights) and land-use control mechanism including development controls, through zoning in terms of land-use schemes and restrictive title conditions. However, these functions can be employed to fulfil a role such as restricting potential harmful behaviour through land-use management and development controls such as servitudes and restrictive title conditions.
Open space	Land parcels that can be primarily identified as undeveloped land with a zoning for open space or defined as open space by the relevant spatial plans of a municipality.
Open space systems	Areas of interlinked and connected open spaces normally within the built area or urban edge.
Rural	An area generally classified with a prime land-use associated with farming; or open undeveloped countryside including parks and reserves. These areas normally falls outside the urban edge as defined and delineated by a municipality's spatial development framework (SDF).
Servitudes	Servitudes impose limits on "real rights" on a property (van Wyk, 2012a:67) and are registered in the title deed of a property. Servitudes registered constitute a limitation or easement of the "entitlement" (van Wyk, 2012a:67) of the owner on a property. Servitudes are in a planning perspective, therefore, a land-use and activity regulatory tool, by which certain activities are limited and restrictions imposed on developments in certain parts of a property. Therefore, the right of the owner to utilise the mentioned part of the property is limited. Moreover, the holder of the servitude holds certain <u>limited rights and privileges on the area of a property where servitudes are registered.</u>
Spatial development planning/ spatial planning	A geographical/ spatial forward planning process that includes economic, development, spatial, social, and environmental considerations, strategies and tools for the allocation of resources, guidance on development, investment, infrastructure and serve as a tool for guiding land-use decision-making. This entitles the urban/development vision and objectives that includes sustainable considerations.
Sustainable development	Sustainable development implies economic growth and development while protecting environmental qualities. Sustainable development maintains a growth rate and resource use that will not diminish natural resources that future generations will not have these resources (Cilliers, 2009:7). Therefore sustainability is to use resources to fulfil the socio-economic needs while not causing detrimental impacts by using resources at such a rate that no resources will be left for future generations.
Title deed	Title deed endorses land measurements and registration of land. Additionally title deeds include matters such as bonds registered in properties, servitudes and allocated mineral rights.

Title deeds: restrictive conditions, title deed conditions	Normally inserted during township establishment in the (title) deed of transfer. Restrictive conditions impose limits or restrictions on land-use rights. Conditions inserted in title deeds contain provisions relating inter alia land-use restrictions or permissible land uses, prohibited activities, allowable coverage and densities (van Wyk, 2012a:306), the number and type of dwellings units on a property, servitudes registered on properties, building lines, prohibition on the use of certain buildings materials/or construction, minimal distances of buildings from different property boundaries and, parking requirements. Additionally it includes control measures for the subdividing and consolidating of land.
Urban	A city, town or activity node associated with a built environment.
Urban edge	A defined edge or boundary in which urban growth (development or expansion) is accommodated or allowed and is coupled to a period of time. Of significance is that it also marks a transition between classified urban and rural land-uses. The urban edge is usually indicated in the strategic planning document of the municipal spatial development framework and is coupled with strategies and is to be influenced by development directive principles.
Environmental amenities	Includes natural resources and assets with an emphasis on open spaces and undeveloped land and its related features. These assets hold value, such as attractiveness, aesthetic pleasing, recreational, open space for biological functions and environmental sensitivities.
Urban sprawl	Development on the urban edge resulting in the urban area expanding in geographical size. The term is generally associated with undesirable development that includes changing the original prime use of rural land and transforming the land into an urban area (Cilliers, 2010:7).
Zoning	Zoning is a land-use management tool allocating permissible land-use rights within which land-use activities are “permitted or prohibited” (van Wyk, 2012a:248) on a property, and sets development parameters or restrictions. These zoning right entitlements and regulations are set out in the associated land-use schemes with specific clauses, conditions and requirements. However, in South African zoning regulations (control restrictions) include related development control aspects such as land coverage and density, Floor-Area-Ratio, building lines, parking requirements, and building heights (Cilliers, 2010: 7; City of Johannesburg, 2017).

Source: Various

CHAPTER 2: THE HISTORICAL DEVELOPMENT OF PLANNING

“Planning law in South Africa is the product of many systems - Greek, Roman, English, Dutch and the indigenous land use system” – van Wyk (2012a:20).

2.1 Introduction

The first part of the theoretical basis of this research focused on the history, developments and origins of planning as a discipline as currently employed in South Africa. South Africa adopted a land-use management system mainly from England (Retief & Cilliers, 2015b:556; van Wyk, 2012a:23) as will be emphasised in this chapter. As such, this chapter focused on the history of planning and planning law in South Africa, as a core part of the heritage and development of the discipline. This included exploring the rationale behind the adoption of planning tools, policies and legislation and the evolutionary path of the discipline towards the current planning system. Accordingly the elements of interest in the history of the South African planning profession were discussed. Within this historical context this chapter examined and explained the historical development of planning and addressed the following research question:

“How did the legal framework shaped the planning profession?”
 – Research question 1 -

The structure of this chapter is illustrated in Figure 2-1.

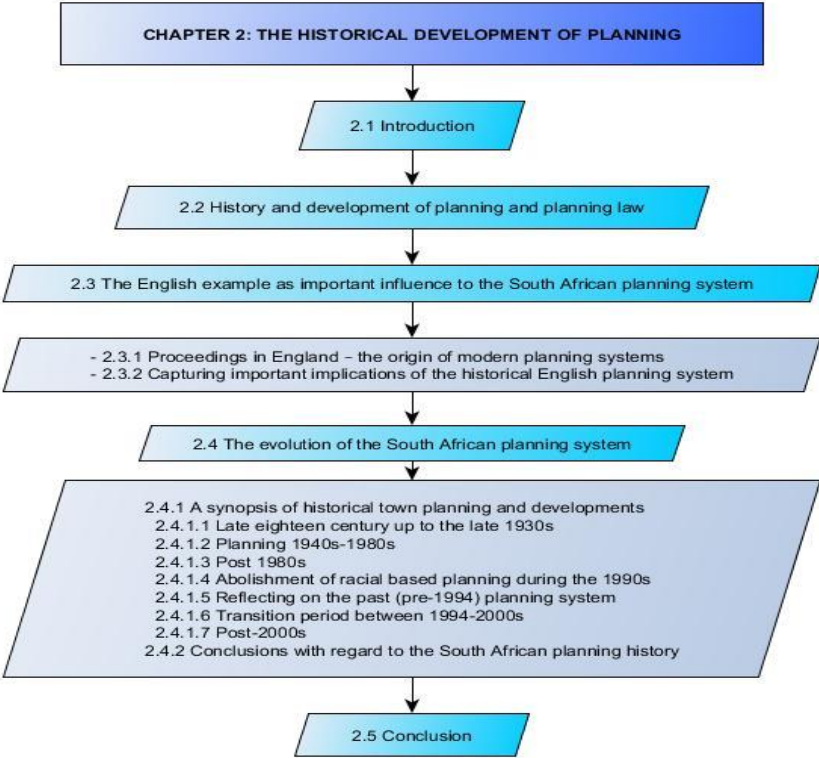


Figure 2-1: Outline of Chapter 2
 Source: Own construction (2017)

2.2 History and development of planning and planning law in South Africa

Planning as a discipline, as well as planning law in South Africa, is a product of many land-use systems from different countries (Van Wyk, 2012a:20). The origins, of South African and many other land-use systems, can be traced back and subsequently builds on the origins of- Greek, Roman, English, Dutch, American and indigenous systems (Kihato, 2012:12; van Wyk, 2012a:20).

Town planning, in some form, could be recognised as far back as 3500 BC with land control measures implementation aimed at the orderly development of urban areas (van Wyk, 2012a:20; Kostof, 2000:20). “Even in ancient Egypt, reference is made to land measurements and registration of title to land” (van Wyk, 2012a:19). However, the identification of definite planning approaches and the management of land in the form of land-use control and spatial planning dates back to Greek and Roman times. The phenomena include “familiarities with limitation of certain land uses to particular areas” (van Wyk, 2012a:20) as well as city layouts (Kostof, 2000:20). Periods between the Roman Empire and the Industrial Revolution saw periodical attempts at land-use control revival as deemed needed (van Wyk, 2012a:21).

However, the introduction of (modern) South African land-use management systems can be traced back to colonial roots with the prominent sources of the Dutch and English law from the 17th and 18th century respectively (African Centre for Cities, 2015:1; Kihato, 2012:12; van Wyk, 2012a:1; van Wyk & Oranje, 2014:354; Watson & Agbola, 2013:6; Retief & Cilliers, 2015b:565). Subsequently, many South African planning instruments can be familiarised with European planning systems (van Wyk & Oranje, 2014:354; Retief & Cilliers, 2015b:565).

Land registration and “planning of towns” were introduced by the Dutch during the mid-1600s and “restrictive covenants” brought into South African planning by the British (English example) conquest from the late 1700s (Kihato, 2012:15; van Wyk, 2012a:19-24). During the period of Dutch settlement in South Africa, early settlers assumed that the land belonged to no one and implemented a land registration system. The registration system “allocated land using title deeds” (Retief & Cilliers, 2015b:565) and subsequently imposed ‘official conditions’ by inserting a conditional clause within the deeds of grants (van Wyk, 2012a:27; van Wyk & Oranje, 2014:354). The fore mentioned served as an early statutory form of land-use control mechanism in South Africa. Kihato (2012:22) describes this first form of planning as “a rudimentary land registration system”. Plots of land near Cape Town were mapped out and subjected to a deed registrations system. This marked the origin of the first modern recognisable spatial planning and land management systems in South Africa (Kihato, 2012:22; Retief & Cilliers, 2015b:565; van Wyk, 2012a:247). Two centuries later in Europe, England introduced several planning legislation to cope with their problems experienced during the industrial revolution. As British

influence grew and South Africa later becoming a British colony, the English planning system became the norm (Retief & Cilliers, 2015b:565; van Wyk, 2012a:24). South Africa largely followed the English land-use management system which was supplemented by the Dutch deed system. The British, with their conquest from 1795 onwards, introduced the English 'restrictive covenants on the use of land' (van Wyk, 2012a:24). Restrictive covenants served as one of the main land-use control mechanism from the late 1700s up to the early 1900s in South Africa (van Wyk, 2012a:247; Retief & Cilliers, 2015b:565). The most significant similarities are British sourced planning acts and urban policies of the early 1900s and post-Second World War (Brockett, 1996; van Wyk, 2012a:23). Emphasis was accordingly placed on developments in England as South Africa largely followed the "English example" as an important influencing (origin) element to the South African planning system (van Wyk, 2012a:21).

2.3 The English example as important influence to the South African planning system

While many British colonies adopted the English land-use management systems (Kihato, 2012:12; van Wyk, 2012a:23, 28). South Africa used the English system to segregate the settlements based on race and the managing "migration patterns" or as mentioned by Retief and Cilliers (2015b:565) eventually used to formalise the apartheid system. The following section captured elements of important developments of the English example as South Africa adopted similar mechanisms and laws as England.

2.3.1 Proceedings in England – the origin of modern planning systems

Planning as a tool found new status during the Industrial Revolution in the eighteenth century Britain (Pacione, 2005; van Wyk, 2012a:21; TCPA, 2007:1). The Industrial Revolution brought rapid growth and uncontrolled development resulting in the forming congested industrial cities with poor living conditions (van Wyk, 2012a:21; Retief & Cilliers, 2015b:565; TCPA, 2007:1-2). The period was marked by uncomplimentary land-use with factories and housing that "sprung up" adjacent to one another (van Wyk, 2012a:21). Furthermore, a lack of zoning, building regulation and sanitation standards or policies contributed towards the urban problem (van Wyk, 2012a:21). Continued urbanisation and poor living conditions added pressure on cities and officials to react to the growing urban problem (van Wyk, 2012a:21; Retief & Cilliers, 2015b:565; TCPA, 2007). Policymakers reviewed the planning provisions made during ancient Greek and Roman periods which offered guidance on urban problems associated with developments and ways to control development. England, subsequently, opted for land-use planning and management, as interventions, to redress the poor urban living conditions and orderly (harmonious) development (Retief & Cilliers, 2015b:565; van Wyk, 2012a:22). These early planning interventions focused on the "physical and environment" and related aspects through (orderly) implementing planning control mechanisms and development restrictions. The fore mentioned was also linked with the quest of creating a healthy environment (Claassen,

2009:921-922; Kihato, 2012:13; Pacione, 2005:167) incorporating environmental concerns in planning (Kihato, 2012:12). Kihato (2012:12) in fact states that there were little to distinguish between “writings” (literature, legislation, governmental policies and plans) of planning and environmental law.

However, urban problems persisted in post-industrial revolution years. During the late nineteenth century and early twentieth century, England introduced a wide range of remedies (regulations and legislation) to tackle the persistent urban problems with emphasis on creating a liveable urban environment (Retief & Cilliers, 2015b:565; TCPA, 2007). The aim was to ensure an urban environment free from undue nuisances. Measures included regulating land-use (rights) on properties to ensure controlled development as well as to accommodate relevant neighbours’ and general public’s interests within the English land-use management and planning systems (Kihato, 2012:13; Pacione, 2005:173; Retief & Cilliers, 2015b:565; TCPA, 2007:1-3).

The abovementioned “modern forms” of “planning”, with its origins mostly from England, are directly associated with the urban/living problems experienced during this period (Claassen, 2009:922; Glasson & Marshall, 2007:24; van Wyk, 2012a:21). Accordingly a chronological discussion of important elements in English planning history follows to identify the importance of planning in England.

With urban England facing health and working condition concerns during the Industrial Revolution period, ‘the Sanitary Conditions of Labouring Population’ Report of 1842 created the catalyst to improve the living conditions in Britain’s towns (van Wyk, 2012a:21). The school of thought at the time was to first address land-use activities’ effect on “other land users”. Secondly was the prioritisation of the interest of the (general) public and public users (Kihato, 2012:13). The persistent planning/housing challenges and unregulated land-use activities lead to the introduction of one of the earliest (modern) planning “sources” in the Public Health Act of 1848 and 1875. These acts had similar concerns than that of environmental laws at the time (Kihato, 2012; van Wyk, 2012a:22). These sources secured measures and codes regulating the building environment. The range of aspects included road constructions, housing, sanitation services and even provided local authorities powers to control the occupation of buildings and to close down undesirable dwellings (Pacione, 2005:169; van Wyk, 2012a:22). Land-use authorisation was required from local authorities before the development of land could take place (Kihato, 2012:13; Pacione, 2005:173; Retief & Cilliers, 2015b:565; TCPA, 2007). These provisions served as early attempts to combat nuisances and depredations such as conflicting land-use activities (Claassen, 2009:922; Kihato, 2012:13). While the implementation of land-use controls is evident in earlier legislation, the first reference to the word “town planning” is found in the (British) Housing Town Planning, etc. Act of 1909 (Kihato, 2012:14). The Housing, Town

Planning, etc. Act of 1909 (Britain) provided the means for local authorities to develop 'schemes' for land-use control (Kihato, 2012:14) and assigned the "power to control the development of land" (van Wyk, 2012a:22). However, poor air quality, polluted cities and the idea of planning for better living environments were a paradox to the political desires. Subsequently solutions were proposed that included further land-use planning and planned blueprints (master planning) for cities (Glasson & Marshall, 2007:21). "Garden cities and new towns" is the work of inventors (philosophers) and politicians to address the British urban problems through pre-planned cities (Glasson & Marshall, 2007:20; TCPA, 2007). After the establishment of the 'Garden City Association' (Garden City Movement) (later being known as the "Town and Country Planning Association") and built of the garden cities of Letchworth (1901) and Welwyn (1920) the way was paved for the establishment of the British Town Planning Institute in 1914 which became an important driving force behind modern planning mechanisms in England (Pacione, 2005:169; van Wyk, 2012:23; TCPA, 2007). The 1909 Housing, Town Planning, etc. Act saw an amendment in 1919 with "the concept of interim development control" being introduced (van Wyk, 2012a:22). Significantly, the Act acknowledged the importance of statutory planning for creating improved living conditions and urban landscapes (Kihato, 2012:14; van Wyk, 2012a:22). One of the major problems leading to the development of land-use control (planning legislation) in Britain was the issues of housing shortages coupled with the search for better and pro-active planned urban areas (Kihato, 2012:15; van Wyk, 2012a:21-22). Proposed solutions to urban challenges included providing sufficient planning powers to local government to play a role in future planning for adequate housing provision and settlement making. Land-use control in the form of restrictive covenants restricted owners' land-use rights (Kihato, 2012:15; van Wyk, 2012a:21-22).

With the implementation of the Housing Act of 1923 and the Town Planning Act of 1925 in England, a definite separation between the fields of planning (land-use planning and management) and housing began to emerge with planning developing into a "statutory significance of its own" (van Wyk, 2012a:23). In 1932, a comprehensive "New Town and Country Planning Act" were introduced. The Town and Country Planning Act of 1932 again replaced all the previous enactments and focused on both urban and rural areas and was a departure to the previous planning approaches that focused on urban areas (Glasson & Marshall, 2007:24; van Wyk, 2012a:23; The Crown, 1932). The Act marked a new step in nurturing planning mechanisms as it made provision for "consolidated" legislation and town planning schemes in "existing built-up areas" as well as areas earmarked for future development (future build-up areas and urban growth) (Claassen, 2009:924; van Wyk, 2012a:23). The 1932 Act was "supplemented" by the Restriction of Ribbon Development Act of 1935" (van Wyk, 2012a:23) providing complementary (control) value to land-use management

as well as imposing “building restrictions” near certain roads (van Wyk, 2012a:23) conserving open spaces.

The continued problems forced the British government to take further action to control future development in a strict manner. Two new reports preceded the mentioned actions during the early 1940's on planning matters. The British Barlow report (1940) with the emphasis on planned and self-sufficient pre-planned towns called New Towns were the first to be released. The second report released the Scott Report of 1942 explicitly focused on rural areas as a national planning initiative (Glasson & Marshall, 2007:24, 34; TCPA, 2007). In the other part of the western world, North American cities were not excluded from urban problems and faced rapid developments and growth of their own and opted for zoning (land-use rights) of properties.

In 1943 Britain introduced an important act to control land development management (restrictions) with the 'Town and Country Planning (Interim Development) Act of 1943. The fore mentioned Act ensured for interim control (subjected to) on all land in the two British countries of England and Wales (van Wyk, 2012a:23). The aftermath of the destructive bombing campaigns of the Second World War on urban England and with the depression of the 1920's/1930's only a decade earlier; the British government took several steps (actions). These steps were implemented to supplement the vision of policy-makers. The steps created the path for the development of the Greater London Plan (1944), the Clyde Valley Regional Plan (1946), New Towns Act of 1946 and the Town and Country Planning Act of 1947 (Glasson & Marshall, 2007:35; Pacione, 2005:173). All previous legislation on planning matters was again replaced by the 1947 Town and Country Planning Act (van Wyk, 2012a:23). The 1947 act provided new found emphasis on addressing the challenges of the UK cities experienced and promoted new town development. Attention was specifically directed towards the “bad housing” and the links between bad health and the quality of the built environment (including housing) at the time (Kihato, 2012; TCPA, 2007). Together with the New Towns Act of 1946, the 1947 Act formed some of the most iconic (complex) planning provisions, with “considerable” future visions. The 1947 Act provided local authorities comprehensive planning powers marking a new era of useful land-use management and control parameters in Britain (van Wyk, 2012a:23; Glasson & Marshall, 2007:35). The Countryside Act of 1949, focused on ‘agricultural self-sufficiency’ and the protection of rural areas and conservation of natural land in Britain (TCPA, 2007) in addition to urban policies. The statutory provisions for subsequent introduction of housing and ‘New Town’ schemes lead to the so-called “emergence of modern urban planning” period (Pacione, 2005:168). After the New Towns Act of 1946 and the Town and Country Planning Act of 1947, consolidations Acts followed in the 1960s and 1970s. The British Town and Country Planning Act of 1968 introduced two new concepts. This included a nationalisation of development (land-use) rights, where the “present legal utilization” became the allocated land-use right of a

property. Zoning as an instrument subsequently, became a reactive “land-use control mechanism” (Claassen, 2009:923). Secondly was the use of forward planning “providing proactive planning mechanisms... to guide development and conservation” as a framework of guidance (Claassen, 2009:923) a master planning form. The consolidations Acts of the 1960s and 1970s were followed by, arguably the most comprehensive, third Consolidation Acts in 1990. At the time, four acts were introduced forming the ‘Planning Acts’ and Planning collectively. The Compensation Act of 1991 ensured the implementing of a ‘planning code’ regulating all land-use developments within England and Wales (van Wyk, 2012a:23; Callies, 2009:269). The introduction of the United Kingdom’s Environmental Protection Act of 1990 and the Environment Act of 1995 ensured further planning reform in England and Wales. Provisions included new requirements for environmental consideration in planning and sustainability (directives) duties (Kidd, 2011:2, 13; van Wyk, 2012a:23). The fore mentioned indicated interrelated and cross-cutting issues relating to planning and the environment within the British planning system. The acts and relevant functions provide the required background and foundation on the historical development of ‘modern planning’ (Britain) and for purposes of this study limited to such.

2.3.2 Capturing important implications of the historical English planning system

The power of planning and planning legislation to contribute towards sound and responsible development practices is evident (McAuslan, 2003). Planning law in Britain was fundamental to supporting and implementing policies during the 1900s as the British government attempted to address planning (conflicting land-uses) and housing problems faced within cities through statutory control mechanisms (van Wyk, 2012a:21). The British planning system accommodated the application of the discipline to fulfil a cross-cutting function to include environmental concerns, as conservation has from infant years formed part of urban and regional planning (Claassen, 2009; Glasson & Marshall, 2007:220-225). Claassen (2009:923) specifically mentions conservation forming part of the town and regional planning in Britain, and from 1948, concerning the greenbelt system around cities and towns, to restrict land-use (mostly private land) for the benefit of conservation. This system effectively limits land-use rights for environmental purposes (Claassen, 2009:923; Kihato, 2012). While planning policies such as New Towns and Garden Cities are criticised for not fulfilling its original intentions these cities are functional settlements till this day and arguably help relieve British urban problems and enforcing development controls (Findlay, 2014:104-107; van Wyk, 2012a:22-23). Moving onto the focus of this chapter the evolution and elements of importance with regard to the South African planning system is accordingly provided.

2.4 The evolution of the South African planning system

The previous section introduced the English planning system, as point of departure for the South African land-use planning and management systems. Emphasis in this section is placed on master planning, development controls (restrictions) and development parameters including imposing of limits to land-use rights. Academics points to a strong duplication of the English (British) example (Claassen, 2009; van Wyk, 2012a:23). However, the South Africa's planning systems developed over many years (van Wyk, 2012a:20; van Wyk & Oranje, 2014:354; Retief & Cilliers, 2015b:565) and includes Dutch and English land-use control mechanisms. Current policy-makers and academics have a strong disapproval of the pre-1994 planning system. Reasons for disapproval include inadequate attention to environmental sensitivities and general reform (complexities) and the much-focused topic of racial segregation and spatial fragmentation (Claassen, 2009:927; Kidd, 2011:210; Retief & Cilliers, 2015b:565; van Wyk, 2012a:16). Colonial and apartheid policies are still evident and an area of continued debate (Oranje & van Wyk, 2012a:16).

Obtaining a background of the historical developments of the South African planning system, with a focus on forward planning and land-use management will provide insight into the role of past planning (including planning law) in South Africa, as well as understanding the present situation including current fragmented and complex land-use management systems and related challenges. Moreover, the chapter stresses the British (English) influence and the indigenous elements/tools used within the planning profession. The following sections offered insight into important elements with regard to the history of South African planning professions.

2.4.1 A synopsis of historical town planning and development

To unpack the historical development relating to South African town planning, this section employs a chronological approach and divides planning developments into seven periods similar to Retief and Cilliers (2015b). The periods include: the late eighteenth century up to the late 1930s, planning 1940-1980, 1980s to early to mid-1990s (including two distinct contrasts in racial land-use management), a 'transition period between 1994-2000, and post-2000 period. Emphasis is placed on the introduction of important statutory mechanisms including relevant tools and instruments. Two of the most important aspects that marks historical developments and planning systems are emphasised namely; 1) the rapid planning developments (legislation and regulation) in England during the industrial periods and that South Africa followed in the British footsteps with the adoption and implementing of English examples (Retief & Cilliers, 2015b:565; van Wyk, 2012a:23) and 2) a land-use system and associated racial separation (Kidd, 2011:210). Current planning practices focus on integrative and holistic planning, spatial inclusion; spatial integration and sustainability as described in Chapter 2.4.1.7 Post-2000s and Chapter 3. Accordingly, the different chronological periods are discussed.

2.4.1.1 Late eighteen century up to the late 1930s

The development of mining towns in the old Transvaal and subsequent concerns over health and uncontrolled development saw the introduction of the Gold Law of 1885. This “Law” ensured for settlement development within prescribed codes and regulations (Kihato, 2012:22; van Wyk, 2012a:32; van Wyk & Oranje, 2014:354) through orderly development and separation of stands for different land-uses (Brockett, 1996:178; van Wyk, 2012a:32). These ‘laws’ also provided for (spatially) exclusive areas for white settlers (van Wyk & Oranje, 2014:354). Two years later The Crown Lands Disposal Ordinance, Act 15 of 1887 of Britain was introduced to control and survey subdivisions, and township establishments (Meyer, 2015:631; Kihato, 2012:22, van Wyk, 2012a:32). The Crown Lands Disposal Ordinance Act implemented special title deed conditions imposed on municipalities regarding traditional municipal commonage land. The implications of the mentioned Act are still felt today, in terms the difficulties faced by surrounding municipalities to provide access to commonage, especially rural areas, for grazing or other agricultural uses (Meyer, 2015:631). Kihato (2012:12) states that by the end of the nineteenth century, there were little to “distinguish” between the fields of planning and environmental management from a legal perspective. Both the fields had many similarities including the interest of land owners (development/ property rights) and the need to uphold public interest including healthy (liveable) and harmonious urban landscapes (Claassen, 2009:923; Kihato, 2012:14). Planning during the 1900s, saw the development of further planning control systems and statutory forms of town planning in South Africa with a move towards adopting British town planning measures (Kihato, 2012:22).

Development control parameters, during the early 1900s, were carried out through the Township Ordinance of 1905 (Kihato, 2012:22) and provided for the establishment of township boards (Kihato, 2012:23). Several other provinces also developed Townships Acts such as the Orange Free State Township Act 15 of 1909 and Townships laws in Natal based on English policy and legislation examples. These measures were developed with the objective to control developments and township establishment to ensure orderly settlement establishment (Kihato, 2012:23) with the focus on urban areas for European settlers and mining towns. Unregulated township establishment for non-white people and no formal services for these townships lead to health concerns and disease outbreaks.

From 1910 provinces changed geographically, through combining the two republics and the two British colonies, to form the four provinces namely the Orange Free State province, the Transvaal province, the Cape of Good Hope and the Natal province (Berrisford, 2011:249; De Vos et al., 2014:9). After the establishment of the four provinces, several planning instruments developed and were applied on a racial basis such as the Black Land Act, 1913 which is echoed in the planning profession even well into democracy. This land decision legislation saw

an early form of restrictive conditions imposed on land-use based on race (van Wyk, 2012a:2) restricting the ownership of (“black”) land. Thereby planning and land-use management developed into a tool to control the migration of people enforced through racially based planning legislation (Brockett, 1996:178-179; Retief & Cilliers, 2015b:565) preserving of land (areas) for exclusive white use (Brockett, 1996:178; Hendler & Wolfson, 2013:3).

Following the Black Land Act of 1913, the government implemented other racially based legislation. The South African land-use management system was used to control and ensure management of migration to urban areas based on race, and eventually led to the apartheid system of land-use management (Retief & Cilliers, 2015b:565). The Public Health Act of 1919 followed in an attempt to address health concerns and regulate township developments. This act controlled “land sub-division and use, the layout of land for building, the width and number of streets, the limitation of dwellings on building sites” as well as a form of zoning provisions within and outside municipalities (Kihato, 2012:23). The fore mentioned saw some of the earliest forms of racial based segregated planning (Kihato, 2012:23) through legislation and statutory provisions. This marked the beginning of legislation that eventually resulted in the phenomenon of a city form and structure known as the apartheid city model with spatial implications evident to the present day. According to Hendler and Wolfson (2013:3), the period between 1920 and 1948 was a period of “legislation urban segregation”. Urban racial segregation was ‘formalised’ with the 1920 Housing Act and the 1923 Native (Urban Areas) Consolidation Act (Hendler & Wolfson, 2013:3). According to Retief and Cilliers (2015b:565), the Native (Urban Areas) Consolidation Act 21 of 1923 further contributed towards the land-use management in South Africa through establishing “‘prescribed’ urban areas and ‘non-prescribed’ rural areas” limiting through land-use the movement and settlement of “black persons”. The reinforcement of the 1923 Act followed with several racially based segregation policies and legislation (Retief & Cilliers, 2015b:565). The 1925 Town Planning Act (Britain) was central (influenced) to the formalisation of South African planning legislation (van Wyk, 2012a:23) during this period. The 1920s, referred to as a modernist planning area, saw the adoption of town planning legislation by provinces in South Africa which enabled further town planning practices (van Wyk & Oranje, 2014:354).

By comparison, during the 1920s the United States of America during the 1920’s adopted and subsequently relied upon a land-use management system implementing zoning as a control mechanism to create a desired urban profile for the benefit of the community. Zoning as a land-use control mechanism subsequently, led to South Africa adopting zoning provisions (land-use rights) as part of the land-use plans during the latter part of the 1900s (Kihato, 2012:15; Watson & Agbola, 2013:6).

During and after the Depression years of the 1930s saw an increased focus on the application of planning, at least from a national spatial planning perspective, to improve urban living conditions (Oranje & Merrifield, 2012:31). Subsequently, new town planning laws were introduced in 1931 (Kidd, 2011:211) and all four provincial governments passed town planning ordinances based on the British Town and Country Planning Act of 1932 (Claassen, 2009:924). During this period town planning legislation saw new evolution as a tool to address the problems of housing, health and socio-economic problems that resulted from the industrialisation and urbanisation experienced. In South Africa requests were made, similar to the British Town Planning Institute's calls, for implementing land-use planning as a tool from a national planning scale (Oranje & Merrifield, 2010:32). The provincial ordinances (provincial laws) at the time made provision for two functions - new subdivisions and control over land-use through the use of town planning schemes. The significance of town planning schemes during the period was that town planning schemes contained maps indicating "zonings" for land-use management and served spatial planning (or forward planning) purposes. However, these ordinances, in reality, were applied for the subdivision of land and township establishment (Claassen, 2009:924) and were of little project level (site specific) land-use management control (land-use decision-making). Further promotion of 'control' over the settlement and movement of "black persons" came with the Development Trust and Land Act 18 of 1936. The Black Land Disposal Act 1913 and its complementary act the Development Trust and Land Act 18 of 1936 marked the beginning of a variety and geographically raced based different planning legislation that resulted in a fragmented planning system with complexities (van Wyk, 2012a:26; Retief & Cilliers, 2015b:567). The planning legislation made during this period and subsequent post-Second World War created a land-use planning system for 'White', 'Coloured' and 'Indian' populations with town planning schemes of different town planning areas and managed by the provincial ordinances/ statutes (Retief & Cilliers, 2015b:565). The historical 'Black areas' was subjected to a very basic land-use management system (Retief & Cilliers, 2015b:565).

New developments in the planning system followed post-Second World War reconstruction years. The four provinces also controlled different racial areas through their respective town planning ordinances (Retief & Cilliers, 2015b:565). Table 2-1 indicates the different town planning legislation per province post-Second World War. During the same period, several acts developed for the more formal and 'white' areas regarding planning matters. This chapter provides a reflection of the most important planning legislation developed and applicable on planning in the areas as stated by van Wyk (2012a:31) 'white' South Africa per province. Accordingly the ordinances in the former four provinces of 'white' South Africa are examined.

Table 2-1 Town planning legislation per province post-Second World War

Province	Description
Transvaal	As mentioned the 1871 Gold Law made provision (limited to) for the “layout of mining towns” (van Wyk, 2012a:32). The Crown Land Disposal Ordinance 57 of 1903 made provision for the reservation of specific usage on land, control activities on land (Kihato, 2012:32; van Wyk, 2012a:32) and accommodate for the implementation of regulations “for the establishment and proclamation of townships” (Kihato, 2012a:22). As mentioned one of the main recommendations in the report was the need for town planning schemes an instrument that will serve for many years to come (van Wyk, 2012a:33). Just two years after the first Township Ordinance (Transvaal) 19 of 1905 was introduced, the Township Act 33 of 1907 (T) made provision for the establishment of “township boards” handling applications (Kihato, 2012:22). This provision introducing a more formalised form of planning, providing conditions for the registration of townships and importantly the inclusion of the definition ‘approved township’ into legislation (van Wyk, 2012a:32). Arguably, the ‘Transvaal Town Planning Commissions’ 1929 report formed the basis for planning legislation in the other provinces (van Wyk, 2012a:33). With the first ordinance introduced, the report paved the way and ensured a driving force for spatial planning in South Africa (Oranje & Merrifield, 2010:31). The 1931 Transvaal Township and Town-Planning Ordinance 11 of 1931 were similar “to the English Town Planning Act of 1925” (van Wyk, 2012a:33; Oranje & Merrifield, 2010:29).
Orange Free State Province	Following the ‘Transvaal Town Planning Commissions’ 1929 report and subsequent adoption of the 1931 Ordinance in Transvaal, the Orange Free State concerned with the importance township layouts implemented the Township Act 15 of 1909 (O) (Kihato, 2012:23; van Wyk, 2012a:35). This Act replaced the “Recognition of Township Law 6 of 1894 (O) which ensured that the ‘Volksraad’ should endorse the layout of town on a farm or farm portion (Kihato, 2012:23; van Wyk, 2012a:35). The Orange Free State in 1928 followed-up with a “Township Hamlet Ordinance 6 of 1928 (O) which forced down township establishment by the ordinance and the creation of enforcement tools was clearly the objective, and contravention could result in prosecution or fines (van Wyk, 2012a:35).
Natal province	Natal’s first legislation dealing with planning matters was the Township Law 11 of 1881 (N). The mentioned law provided for local government (municipalities) to control the management of township establishment (van Wyk, 2012a:34). The 1881 law was a (reactive) effort to control development as concerns over orderly development was raised (Kihato, 2012:23; van Wyk, 2012a:34). Orderly development remained a concern prompting further amendments and legislation. The 1881 law was amended by the Local Boards Law No. 39 of 1884, followed by the Township Law 17 of 1893 which ensured control in an attempt to achieve desired township development (Kihato, 2012:23; van Wyk, 2012a:34). In 1926 Natal saw the introduction of boundary controls and definition of township boundaries introduced by a “specific plan,” along with the term “assigned with proclamation” through the Township Ordinance 11 of 1926 (N) (van Wyk, 2012a:34). Durban and Pietermaritzburg required town planning schemes (van Wyk, 2012a:34). In 1949 planning moved towards the English Town and Country Planning Act, with the Town Planning Ordinance of 27 of 1949 (N) based on English planning developments (Claassen, 2009:924; van Wyk, 2012a:34).
Cape Province	The Cape Province was unique in its pre-1927 planning approaches. Before 1927, the ‘Cape Colony’ was divided into two ‘provinces’ the ‘eastern’ and ‘western’ provinces, with their district “boundaries defined” and towns acquiring municipal status post-1836 (van Wyk, 2012a:35). Subsequently, various “legislative enactments” ensured control over township establishment (van Wyk, 2012a:35). According to van Wyk (2012a:35), the Township Ordinance 13 of 1927 (C) marked the first implementing of “comprehensive” planning legislation, for township establishment within the Cape Province (van Wyk, 2012a:35). Similar to the other provinces the Ordinance required that establishment of townships must be in accordance with the mentioned ordinance (van Wyk, 2012a:36). The 1927 Ordinance was replaced in 1934 with the Township Ordinance 33 of 1934 (C) and adopted the Transvaal model (van Wyk, 2012a:36). The Ordinance saw amendments in 1948 and 1959 (van Wyk, 2012a:36). The introduction of the Land Use Planning Ordinance of 15 of 1985 (C), is regarded by van Wyk (2012a:36) as having a significant impact on town planning and township establishment (Claassen, 2009:931; van Wyk, 2012a:36). The 1985 Act accommodated co-ordinating bodies in planning serving integrated planning and development (Claassen, 2009:931). The mentioned 1985 TPO was key to the Maccsand case in South Africa after apartheid ended, and proved to be vital for the City of Cape Town to control land-use within its area of authority and enforcement of zoning. Refer to Chapter 6.3 for more on the City of Cape Town as part of the recent developments.

Source: Own compilation from various sources

2.4.1.2 Planning 1940s-1980s

1942 saw the introduction of a council dealing with planning matters, on a national scale handling social and economic policies and planning challenges. This council, the 'Social and Economic Planning Council' was based on a similar council founded in Britain during that period. The council issued several reports to redress urban challenges faced. A report in 1944 criticised among others planning law in South Africa, particularly land-use plans (Oranje & Merrifield, 2010:32). This report also highlighted the need for the integration of "town plans with regional plans", the use of neighbourhood units in new town planning layout, and that further developments of towns should become the responsibility of local government (Oranje & Merrifield, 2010:32). The Native (Urban Areas) Consolidated Act, 21 of 1923 was "superseded" by the Native (Urban Areas) Consolidation Act, 25 of 1945, to ensure land-use management in urban areas (Retief & Cilliers, 2015b:565). The 1940s also saw proposals (report) for the establishment of a "National Department of Physical Planning and Regional Planning". The department's proposed role was to delegate 'zoning' from a national and regional level. Moreover, it included the development of "planning rules and regulations" on a national level coupled with strongly enforced spatial planning provisions (Oranje & Merrifield, 2010:32; van Wyk, 2012a:40). Decision-makers rejected most of the recommendations; however, certain recommendations did receive attention. This led to the development of the Natural Resource Development Act of 1947. This Act provided for the proclamation of 'controlled areas' by the minister - areas with coordinated resources and land-use in mind (Oranje & Merrifield, 2010:33; van Wyk, 2012a:40). The identified areas focused on reconstruction and economic upliftment (van Wyk, 2012a:40). The Natural Resource Development Act, of 1947 and the relevant Natural Resource Development Council focused on the development of industries on land identified specifically for industrial development in 'controlled areas' (Oranje & Merrifield, 2010:33; van Wyk, 2012a:40). Van Wyk (2012a:41) states that Natural Resource Development Act, 1947 "recognised that land-use planning was national in character", highlighting the ideas of the 1944 report. During the same period, United Kingdom's Town and Country Planning Act of 1947 were influential throughout Africa (Watson & Agbola, 2013:3) with South Africa being no exception. Moreover, the New Towns and Garden City concepts are reflected in South African towns such as Sasolburg, Vanderbijlpark, Stilfontein and Welkom (Brockett, 1996:178). Cross-reference to Chapter 2.3.1 for more on the United Kingdom's Town and Country Planning Act of 1947 and the New Town movement. The 1940s also saw the development of further racially based land-use management mechanisms. The Native (Urban Areas) Consolidation Act of 1945 that "superseded" the Native Urban Areas Act 21 of 1923 serving the racial segregation policy till the late 1980's (Retief & Cilliers, 2015b:565; van Wyk, 2012a:48). The latter part of the 1940s saw the birth and developments of the much talked about apartheid government system. Eventually 'apartheid' principles were reflected in planning legislation and the planning profession

(Pacione, 2005; van Wyk, 2012a:25). Kidd (2011:210) describes the use of town planning (legislation) developed from the late 1940s onwards as one of the main tools used in South Africa to achieve the objective of racial segregation. This includes policies for spatial segregation and developed planning became instrumental for the allocation of “land” and the control and allocation thereof (Berrisford, 2011:248; Brockett, 1996:178; Todes, 2012:158; van Wyk, 2012a:25). This resulted in segregated areas and developments through the land-use management systems (Berrisford, 2011:248; Brockett, 1996:178; Coetzee, 2005:40; Retief & Cilliers, 2015b:565; Todes, 2012:158). While literature evidently focused on segregated policies during the apartheid area, van Wyk (2012a:24), however, states that “planning law in South Africa has always been defined by its historical and racial context”. Van Wyk (2012a) supports this statement by mentioning segregated living areas based on race since the beginning of European landing on the South African soil and has, since 1652, developed a separated land-use planning systems for “white” and “black” land occupation (van Wyk, 2012a:25). According to Hendler and Wolfson (2013:3), 1948 marked the beginning of a period of “channelling accumulation in urban township development” which lasted till 1962. From 1949 regulations and statutory processes further evolved in terms of the departure of land-use rights such as rezoning (Claassen, 2009:924). The mentioned provisions marked the beginning of a new format of town planning developed in their respective provinces. Refer to Table 2-1 for more detail on post-Second World War town planning legislation.

The 1950s saw the introduction of several land-use applicable acts for non-white areas. These include among other the Group Areas Act 41 of 1950 and Bantu Self-government Act 41 of 1959 significantly impacting the future (within ‘reserved areas’) of the South African planning systems. The Group Areas Act 41 of 1950 created the means to enforce ‘zoned’ racially based areas throughout South Africa (van Wyk, 2012a:44) with an extended restriction, land ownership, urbanisation and development of land (van Wyk, 2012; Oranje & Merrifield, 2010:33; Berrisford, 2011:249; Retief & Cilliers, 2015:565). The Bantu Self-Government Act, 49 of 1959, supported the ideology of segregation and paved the way for ‘independent Homelands’ (Kidd, 2011:100; van Wyk, 2012a:44). This supported the apartheid ideal’s objectives among others to “divide urban and rural land on the basis of race” (van Wyk, 2012a:25) resulting in complex and fragmented planning systems in South Africa.

The 1960s saw a “boom period” for the white population in South Africa with high economic growth and socio-economic upliftment. This led to further industrialisation, urbanisation and “suburbanisation” of the white South African population resulting in further township developments and expansion (Oranje & Merrifield, 2010:33). Moreover, in 1961 South Africa obtained independence from Britain subsequently leaving the Commonwealth and becoming a republic (Carpenter, 1987:217; De Vos et al., 2014:12). The four provinces remained

geographically unchanged (Berrisford, 2011:249). However, town planning became a task of provincial governments (Claassen, 2009:924). Several new planning regulations and legislation followed. From 1962 till around 1977 marked a period focused on stimulating the Bantustan areas (Hendler & Wolfson, 2013:3). The Group Areas Act 36 of 1966 saw further geographical land allocation and restrictions based on race (van Wyk, 2012a:44; Retief & Cilliers, 2015b:565). Subsequently, a system provided for different land-use management systems for different areas based on race (Retief & Cilliers, 2015b:565). The Physical Planning and Utilisation of Resources Act of 1967 replaced the Natural Resource Development Act of 1947. Apart from the fore mentioned the Natural Resource Development Act, 1947 also served as the “foundation” for the highly criticised Physical Planning Act 88 of 1967 (Oranje & Merrifield, 2010:33) with several future amendments. The Environmental Planning Act of 1967 incorporated the ‘reservation of land for specific purposes’, provisions for environmental aspects and most important the adoption of ‘guide plans’ as a pivotal planning device (tool) for several years to come (van Wyk, 2012a:41). These guide plans were widely used in the South African land-use and planning system on a national scale. Furthermore, it contributed towards many of the post-Second World War industrial, harbour and mining towns. The guide plans and differentiated legislation helped strengthened the apartheid government with their segregated development vision (van Wyk, 2012a:42). The Physical Planning Act 88 of 1967, introduced land-use change processes, permits and land management of areas that felled outside town planning scheme, objections to townships boards, and guide plans (structure plans) (Retief & Cilliers, 2015b:571-573; Meyer & Roos, 2015:713). The Physical Planning Act 88 of 1967 contributed towards town planning especially forward planning (land-use planning) in an attempt at “coordinated development” (van Wyk, 2012a:41). However, enforcement/binding power was limited. The Physical Planning Act saw many amendments but continued to serve as the “backbone” of land-use planning in South Africa. The (negative) impacts of this Act were evident for many years and the legacy of the act reflected in court cases well into democracy (Oranje & Merrifield, 2010:33; van Wyk, 2012a:42).

By the 1970s town planning schemes developed into a comprehensive control mechanism. Attention shifted to promoting ‘structure plans’ with its spatial development application and providing spatial reflections of land-uses contributing towards the segregation policies in both rural and urban areas. By then planners criticised the planning system as being too “complex” (Coetzee, 2005:42). However, Claassen (2009:925) described town planning schemes of the period used as an environmental tool, having partially succeeded in fulfilling “control of spatial development” and ensuring public participation. The period was marked by rapid urban growth and without town planning could have been even more chaotic (Claassen, 2009:925).

2.4.1.3 Post 1980s

The post-1983 Constitution years saw developments in the field of planning, in particular on a provincial level. During this post-1983 period, the Provincial Administrator had powers on several local governmental matters including town planning with the introduction of several provincial ordinances that followed and continued to be in place even in post-apartheid years (Carpenter, 1991:432). During this post-1983 period, the Provincial Administrator had powers on several local governmental matters including town planning with the introduction of several provincial ordinances that followed and continued to be in place even in post-apartheid years (Carpenter, 1991:432). The 1980s saw the development of ordinances controlling planning in each former province of South Africa, referred to by van Wyk (2012a:31) as “planning in ‘white’ South Africa”, or the more formal serviced towns. Each province regulated land-use, township establishment and development through their respective ordinances (van Wyk, 2012a; Berrisford, 2011:248). The “enactment of provincial spatial planning legislation” (Kihato, 2012:22) saw the adoption of the American form of zoning schemes in the South African planning system (Brockett, 1996:178; Kihato, 2012:22), although many writers referred to zoning type planning provisions in South Africa since 1931. The introduction of the Land Use Planning Ordinance of 15 of 1985 (C), is regarded by van Wyk (2012a:36) as having a significant impact on town planning (especially restricting land-use rights) and township establishment through land development management. The four provinces respectively implemented land-use management systems (Retief & Cilliers, 2015b:565).

Table 2-2 below provides a summary of the major segregation and apartheid-era planning legislation leading to fragmented and a complex land-use management system.

Table 2-2: Major segregation policies during the 1900s

Major apartheid segregation planning legislation	Objective/ goal	Implications
Black Land Act, 27 of 1913	System accommodating for separate land-use control provisions for 'black' areas	Land allocation through scheduled areas
Black Administrative Act, 38 of 1927	Enhance provision of separated(race) land-use laws	Regulations and control mechanisms for areas contained by the Land Acts of 1913 and 1936
Development Trust and Land Act, 18 of 1936	System for separate land-use control including 'black' areas.	Extended areas of land allocated through “released areas”
Group Areas Act, 41 of 1950	Racial based zones or delineation of areas	Segregation of land
Community Development Act, 3 of 1966	Land-use acts for non-white areas	Spatial segregation
Group Areas Act, 36 of 1966	Further raced based land allocation and restrictions	Spatial segregation

The latter part of the 1980s saw the introduction of the Environmental Conservation Act, 73 of 1989 (ECA), a national law, having an effect on land-use control on a municipal level. ECA required environmental authorisation, in the form of a permit, before certain new activities could legally commence. The National Environmental Management Act, 107 of 1998 (mainly) over time phased out ECA (permit) authorisation (Claassen, 2009:925).

2.4.1.4 Abolishment of racial based planning during the 1990s

By the 1990s a complex land-use management system as described by Retief and Cilliers (2015b:565) had been established. Refer to Section 3.4 for a more detailed description of the challenges faced. Many of the ordinances made during the late 1980s were still in use in their respective 'new' provinces after apartheid together with legislation controlling 'black areas'.

According to Hendler and Wolfson (2013:3) from 1991 onwards South African planning focused on servicing all areas of the fragmented cities and implementing reconstruction programmes. In 1991 national legislation was introduced to regulate township establishment in the former 'homelands' and to ensure for the eradication of apartheid fragmentation of towns and planning systems. This saw the introduction of the Racially Based Land Measures Act, 108 of 1991 which repealed the Black Land Act 27 of 1913 and 18 of 1936, the Group Areas Act, 36 of 1966 and the Black Communities Development Act 4 of 1984 (van Wyk, 2012a:49). Other relevant legislation enacted includes the Less Formal Township Establishment Act, 113 of 1991 (Retief & Cilliers, 2015b:570; van Wyk, 2012a) and the upgrading of the Land Tenure Rights Act, 113 of 1991 (van Wyk, 2012a:49).

2.4.1.5 Reflecting on the past (pre-1994) planning system

The British planning (English example) were insightful and influential towards the South African planning system. One of the most influential introductions was the British Town and Country Planning Act of 1932 (Claassen, 2009:924; van Wyk, 2012a:23,33). The process of zoning started with the introduction of town planning schemes from the 1930s onwards. From the 1970s South Africa entered a "post-modernist" approach, with a focus on "long-term" planning and forward (spatial) planning. Forward planning provided further opportunity to integrate environmental management within planning outputs (Claassen, 2009:924; Kidd, 2011). However, historically planning was not (specifically) directed to limit environmentally detrimental impacts (Kidd, 2011:209). The fore mentioned was largely overshadowed by the politically inspired planning practices of racial nature (Claassen, 2009:925).

Important acts (although racially based) with effect on the planning system includes legislation such as: the Group Areas Act, 41 of 1950 and 36 of 1966 (with an extended restriction, of black people, land ownership, urbanisation and development of land), the Bantu Self-government Act

41 of 1959, the National States Constitution Act, 21 of 1971 and Bantu Homelands Constitution Act during the apartheid era. These acts were preceded by the Black Land Act, 27 of 1913, the “sister statute”, the Development Trust and Land Act, 18 of 1936, and the Black Administration Act 38 of 1927 (van Wyk, 2012; Oranje & Merrifield, 2010:33; Berrisford, 2011:249; Retief & Cilliers, 2015b:565). The fore mentioned acts marked the different applicable legislation for different areas during the time. Group Areas Act 41, of 1950 and 36 of 1966, are explicitly identified as the act had placed extended restriction, on black land ownership, urbanisation and development of land and control of migration.

Moreover, land-use planning in areas designated for the “black” population consisted of different “categories of black areas” coupled with different legislations and “statutory enactments” (van Wyk, 2012a:26; Retief & Cilliers, 2015b:563,565). Separate from the “black population” the Indian, White and Coloured population areas had their respective land-use management systems developed in each of the four provinces (Retief & Cilliers, 2015b:565). The different statutory planning regulations and control mechanisms applicable to certain areas, subjected to provincial planning ordinances (with specific reference post-1983 Constitution years), contributed towards the complexities of the land-use management systems (Retief & Cilliers, 2015b:565,585-586). The abridgement of complexities will potentially be achieved through the implementation and full operation of the Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA) throughout South Africa (Retief & Cilliers, 2015b:585-586).

2.4.1.6 Transition period between 1994-2000s

Retief and Cilliers (2015b:564) describes the period between 1994 and 2000 as a transition period within land-use planning and management. The transition period focused on spatial reconstructions integrative planning approaches (Coetzee, 2005:480).

The complex land-use management system continued to be used even during post-apartheid years. Inadequate nationally applicable land-use and spatial planning legislation did not help curb the problems of the “complex system” (Retief & Cilliers, 2015b:565). Geographically South Africa was divided into nine provinces and continued to rely on ‘old order ordinances’ (Berrisford, 2011:249; Kidd, 2011:211; Retief & Cilliers, 2015b:567-570) for many years. Apart from the ‘old order ordinances’, former self-governing territories still relied on the “host of planning” legislation made during the 1900s (Kidd, 2011:211).

In 1996 the Constitution of the Republic of South Africa, 1996 provided for ‘municipal planning’ in Schedule 4 B, a functional area of local government (Nel et al., 2015a:45; van Wyk, 2012a:7; Freedman, 2014:568). The Schedules provided in the Constitution of 1996 also saw a separation of planning matters. Classification of planning matters included “four functional areas” relating to the planning profession and are listed by the Constitution in Schedules 4 and

5 and included “provincial planning and development’, ‘urban and rural development’, ‘provincial planning’ and ‘municipal planning’”(van Wyk, 2012b:288). For this dissertation emphasis is placed on ‘municipal planning’ employed on a local government level (municipal level). These provisions ensured local government exercise land-use management and control mechanisms as part of municipal planning (Coetzee, 2005:38).

According to (Nel et al., 2015a:45) the following areas listed in the Constitution Schedules 4B and 5B have relevance towards the “sustainability context” (with emphasis on a balance between development needs and conservation/environmental protection) and environmental considerations on a local government level. Some of the relevant areas applicable to local government and to municipal planning context are indicated in Table 2-3.

Table 2-3: Relevant functional areas of local government competence

Schedule 4B	Schedule 5B
Building regulations	Beaches
Municipal planning	Control of public nuisances
Pontoons, ferries, jetties, piers and harbours	Municipal parks and recreation
	Public places

Source: Adapted from Nel et al. (2015a:45).

The first democratically elected government inherited a fragmented planning system (Schoeman, 2010:1). The years that followed the Interim Constitution of 1993 saw the adoption of the Development Facilitation Act, 67 of 1995 (DFA) to ensure legislative mechanisms and statutory provisions to drive ‘development orientated planning’. This was the first post-apartheid legal expression for spatial planning providing opportunities to those previously excluded to ensure socio-economic upliftment and in support of reconstruction (Du Plessis, 2014:218; van Wyk, 2012a:3; van Wyk, 2014:356) and speed up land-use application approvals (Dlamini & Musakwa, 2014:564).

The DFA served as a tool for “efficient, integrated and sustainable land development” in support of the Reconstruction and Development Programmes (RDP) and included land development objectives setting a forward vision (Coetzee, 2012:12; van Wyk, 2014:356). The DFA was always meant to be an “interim act” to be replaced by a single national act for the reform of the South African planning system (van Wyk, 2012a:2-3). The DFA also contributed to the introduction and enhancement of planning issues including planning principles, planning tribunals, land development objectives which were to be integrated into spatial planning for decision-making by municipalities (Berrisford & De Visser, 2015:5; Du Plessis, 2014; van Wyk, 2012a:2-3). The DFA also made provisions for forward planning, provided for decision-making

principles and Land Development Objectives (LDOs) to be formulated by municipalities (van Wyk, 2012a:3). The DFA provided for “spatial content” in development planning, which later developed into the ‘functional integration’ concept (Coetzee, 2012:12; Du Plessis, 2014:218). ‘Old order’ land-use planning ordinances were not repealed with drafters of the DFA hoping that the different legislation would co-exist (Dlamini & Musakwa, 2014: 564-565).

However, the DFA with very good intentions further contributed to the complexity of land-use management by providing, to municipalities, the means to apply for township establishment to provincial development tribunals, falling on a different sphere of government than local government (Retief & Cilliers, 2015b:570; van Wyk, 2012a:155). In 2012, the highest court in the Republic of South Africa, the Constitutional Court, ruled that certain provisions and chapters in the DFA were unconstitutional. Refer to Section 3.2.1 for detail on the implication of DFA ruling on municipal planning. In 1998, South Africa adopted the National Environmental Management Act, 107 of 1998. At this stage it must be pointed out that several strategic environmental instruments are prepared in terms of the National Environmental Management Act, 107 of 1998. Instruments, not necessarily implemented in this time period, include Environmental Management Frameworks (EMFs), Strategic Environmental Assessments (SEAs). In addition South African conservation planning (also known as biodiversity planning) are provided for under the National Environmental Management: Biodiversity Act, 10 of 2004. The development of C-plans is described by the National Environmental Management Act, 10 of 2004 (Retief & Cilliers, 2015b:581; Patterson, 2015:736). C-plans have direct connotations with environmental management by indicating environmental attributes specifically “critical biodiversity” and “mapping areas of crucial for conservation” in an attempt at achieving development goals and targets (Retief & Cilliers, 2015b:581). Refer to Chapter 4.2.3 and 4.2.4 for more on the suite of environmental management instruments.

Table 2-4: List of environmental management and municipal planning tools

Level	Municipal planning tools	Environmental Management tools
Strategic level	IDPs SDFs	EMF SEA C-planning
Project-level	Land-use management	Environmental authorisation NEMA: Listing Notice 3 (screening tool for environmental authorisation)

Source: NWU-CEM (2013)

2.4.1.7 Post-2000s

The Local Government: Municipal Systems Act, 32 of 2000 (MSA), marked a new direction for planning on a local scale. The Municipal Systems Act, 32 of 2000 (MSA) made provisions for a

range of instruments and tools. One such instrument is the Integrated Development Planning (IDP) - a local government operational instrument and successor of the Land Development Objectives LDOs. Another important strategic instrument is the IDP’s spatially reflection, or in theory at least, the Spatial Development Framework (SDF) - a component of the IDP (van Wyk, 2012a:3; Nel et al., 2015b:144). The SDF as a spatial instrument is firstly a fundamental local level planning tool (forward planning/ land-use planning or master planning) (Nel et al., 2015b:144; Retief & Cilliers, 2015a:168) and secondly a local environmental governance instrument (Nel et al., 2015b:144). The two instruments (IDPs and SDFs), essentially, serve as the basis for strategic planning within municipalities (Retief & Cilliers, 2015a:168) in the post-2000s years. The tools provide the “framework within which planning law” and especially land-use planning (spatial planning or development planning) can “mature” (Retief & Cilliers, 2015a:168; van Wyk, 2012a:3). During the early millennium years, policy-makers began to formulate a new national planning act. The introduction of the White Paper on Spatial Planning, Land Use Management and Land Development and the first version of the Bill drafted in 2001 marked the beginning of an overhaul of the land-use management and development planning system in South Africa. From the beginning, directives included the principles of “inclusivity, equity, justice and redress” (van Wyk, 2014:356). However, the Bill took many years to develop into the now enacted Spatial Planning and Land Use Management Act, 16 of 2013. While sections of the DFA were ruled unconstitutional, by 2011 at least two provinces pro-actively developed provincial planning legislation in the absence of comprehensive national planning legislation (van Wyk, 2012a:4). Table 2-5 below indicates the most important framework during the pre-SPLUMA planning system.

Table 2-5: Summary of important pre-SPLUMA planning system- Legislation, policies and tools

	National	Provincial	Local
Spatial planning (development planning) MSA	Physical Planning Act DFA Principles	Voluntary adoption of Provincial Growth and Development Strategies	IDPs (previously LDOs) and SDFs
Land-use management and land development management MSA	DFA	Provincial land-use planning ordinances, township ordinances ('old order legislation) and DFA	Town planning schemes, complex decision-making context with different acts for different areas of a municipality. Several town planning schemes can exist in a municipal area.

Source: Adapted from South Africa (2012)

The majority of provinces still used ordinances of ‘old order’. The 2014 National Environmental Management Act, Listing Notice 3 was introduced in 2014 (amended 2017) is a screening tool for environmental authorisation (South Africa, 2014a; South Africa, 2017). In terms of NEMA

Listing Notice 3 listed activities in identified geographical areas (based on environmental attributes) triggers an environmental authorisation. Among the areas included are “areas designated for conservation use in the SDFs” or zoned open space (South Africa, 2017). The Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA) were eventually enacted in 2015, marking a new era for planning. Refer to Chapter 5 for more on SPLUMA.

2.5 Conclusion

The aim of this chapter was to capture the origins of the planning profession as applied in a South Africa context for the orderly and harmonious development of urban areas. This chapter identified several import values of planning. Planning was used as a tool to combat urban problems, promote harmonies and desired development and might even be implemented to drive political policies such as the case of apartheid segregation. The statutory planning framework is central to the establishment and enforcement of the planning profession. On this point it must be noted that some of the legislation discussed in the present chapter (Chapter 2) is further explained within the present planning system (current planning reality) in Chapter 3-5. Moreover, planning provisions were imperative to secure good practices and that planning is instrumental in future urban planning and conservation (Cilliers et al., 2014; Claassen, 2009).

The South African planning system stems from Greek, Roman, Dutch, English and indigenous systems. The Industrial Revolution in England and the associated urban problems thereof had an important influence on the field of planning. The modern form of the discipline (planning system) is the product of direct British government action to combat urban pressures and associated problems faced in urban England. British policymakers during the nineteenth century were pursuing solutions to address the health concerns and poor living environment experienced at the time with particular attention set to the poor community (Retief & Cilliers, 2015b:565). The system initially developed into a statutory tool for sound land-use planning and management practices adopted in South Africa.

A historical perspective on South Africa’s mining developments saw periods of rapid growth and development (within cities) coupled with rapid industry and township expansion. In the early 1900s the South African government enacted several planning related legislation in an attempt manage the rapid growth and ensure orderly development and control over land-uses (Kidd, 2011:211; van Wyk, 2012a:32). The need for ‘town planning’ (including town planning legislation and township establishment control) was identified by the ‘Transvaal Planning Commission’ (1929). The ‘Transvaal Planning Commission’ issued a report in 1929 following difficulties experienced, and shortcomings resulted from “inadequate” township provisions. Subsequently South Africa introduced formal town-planning legislation in 1931 (Kidd, 2011:211).

The South Africa planning profession received its fair share of criticism and still bares the effects of the apartheid segregated planning policies with the apartheid city structure (segregated city) evident till this day (Pacione, 2005:474; van Wyk, 2014:356-357). During the middle to late 1900s statutory planning provided the means to restrict, control and to “divide urban and rural land on the basis of race” (van Wyk, 2012a:25) serving the purpose of the former (apartheid) government. Moreover, top-down driven planning policies identified areas for industrial development and related township establishment. This was crucial for the development of South Africa and the creation of industrial areas and cities based on a planned (prior) layout design of towns. Examples include Sasolburg, Stilfontein and Vanderbijlpark with pre-planned cities (designs) based on among other the New Town concept developed in Britain – which were designed to combat the housing problems associated with the Industrial Revolution. Another important shared similarity with the British system came with the provision during the twentieth century. It included the recognition of mutual supporting interface between spatial planning, land-use management and environmental management. South Africa examined examples of the British environmental management systems to develop cross-cutting functions between spatial planning and environmental management (Kihato, 2012:13,22; Watson & Agbola, 2013:3). However, each discipline continued to function within its distinctive mandate and parallel developments arguably never reached maturity during the twentieth century to contributed towards any significant cross-cutting value (Kidd, 2011:209; Retief & Cilliers, 2015b:563; 585; Turpie, 2009:54-56).

Post-1994 planning in South Africa underwent several changes. This included the call for integrated planning, inclusive development and inclusion of environmental concerns. Post-apartheid planning included the introduction of several normative principles and provided for social, economic and spatial integration to achieve a better living environment for all citizens (van Wyk, 2014:357). Planning was also seen as a tool for reconstruction and redressing past spatial inequalities (Kidd, 2011:210).

During the 1990s ‘municipal planning’ became embedded in the Constitution of the Republic of South Africa, 1996 and therefore land-use management and planning became the competence of local government (Claassen, 2009:927; van Wyk, 2010:215; van Wyk, 2012a:51; Nel et al. 2015a:45). Additionally, since the 1990s master planning (forward planning) through integrated development planning supplemented by land-use management control mechanisms became the norm for municipal planning (local land-use planning and management). With the core of planning focused on land-use and, with every portion of land falling within a “jurisdiction of a municipality” (van Wyk, 2012a:20), planning served as a municipal tool to take custodianship of land-use in their area. Therefore, it is evident that planning practices came a long way from planning mechanism (regulations and legislation), being introduced by the government to

manage land-use (activities) for health and safety reasons to the recent focus of integrative planning.

With the continued evolution of planning, the discipline remains relevant within modern times. With a historical perspective on the evolution and development of planning in South Africa, the next chapter focused on the current practice of municipal planning in South Africa.

CHAPTER 3: THE SOUTH AFRICAN PLANNING REALITY

3.1 Introduction

The discipline of planning has a long history as explained in the previous chapter. Although the planning profession has been established ‘municipal planning’ is a relatively new term which is embedded in the Constitution of the Republic of South Africa, 1996. However, it encompasses well-established instruments and tools acquainted with town planning practice prior to the term ‘municipal planning’ being included in the Constitution, 1996. This includes amongst others land-use management concerned with mechanisms to “regulate land use rights”, setting development controls and a forward land-use planning component (Retief & Cilliers, 2015b:563). Within the context of the current South African planning reality this chapter addressed the following research question:

“What is the current planning and legislative reality in South Africa?”
– Research question 2 -

This chapter focused on the discipline of municipal planning and the related functions in the current South African context. This chapter introduced the status quo of planning practices in South Africa, including the current framework, policies and practices and contextualised the current municipal planning practices and realities. In the second instance this chapter addressed the objects and purpose of land-use planning and management. Thirdly this chapter clarified the challenges relating to municipal planning. Fourthly this chapter explored municipal planning and its approaches that offer mutual support to environmental management by controlling land-use in cognition of environmental concerns. Lastly a summary of the powers of local government pertaining to municipal planning was provided to gain insight into the functions of municipal planning including the enforcement of land-use control mechanisms in support of environmental management. The structure of this chapter is illustrated in Figure 3-1.

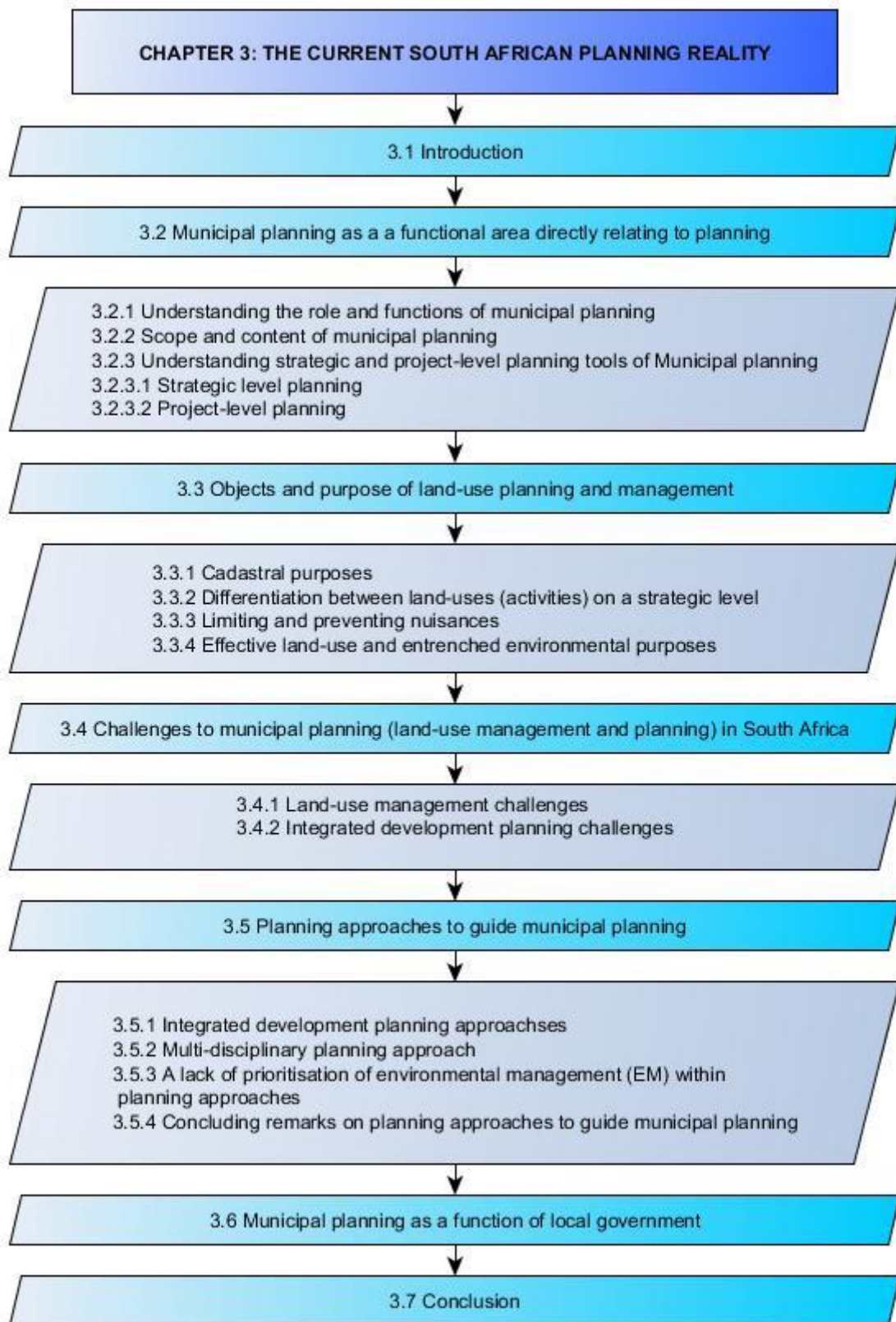


Figure 3-1 Outline of Chapter 3
Source: Own construction (2017)

3.2 Municipal planning as a functional area directly relating to planning

This section focused firstly on the content and functions of municipal planning “as a functional area directly relating” to the planning profession (van Wyk, 2012b:288). Refer to Section 2.4.1.6 for detail on the other three functional areas relating to planning. Secondly this section focused on the different areas of municipal planning. Thirdly this section, building on the different areas of municipal planning, focused on the different levels (project and strategic) of municipal planning.

3.2.1 Understanding the role and functions of municipal planning

Prior to recent developments in the field of planning and the *Johannesburg Metropolitan Municipality v Gauteng Development Tribunal* court case, the exact contents of municipal planning and the related powers of municipalities to perform certain functions were somewhat obscured. Reason being that not all municipal planning components have been defined and because different areas of planning (integrated planning and land-use planning and management) are “administered by different national departments and governed by different legislation” (Retief & Cilliers, 2015b:563). Traditionally when determining the scope of municipal planning reference is made to the commonly adopted definition of planning coupled with the municipal affairs context (van Wyk, 2012b:297). Clarity was provided in a series of court cases on the exact contents of municipal planning (Retief & Cilliers, 2015b:563; van Wyk, 2012b:295) including confirmation on the exact role of ‘municipal planning’ by the ‘highest’ Court (Constitutional Court). The Constitutional Court confirmed that “municipal planning” contains the functions and powers of rezoning of land, township establishment, measures to control land-use, integrated development planning and the applicable spatial component - the Spatial Development Framework (SDF) (Cilliers et al., 2014:263-264; Freedman, 2014; 576; Kidd, 2011:211; Kihato, 2012:46; van Wyk, 2012a:298-302). On a project-level it includes ‘determining’ site specific conditions/restrictions also referred to as development controls. Project level application of municipal planning therefore includes (stand) erf sizes, building restrictions including the location of buildings, subdivision and consolidation of land, height and density restrictions, and development control parameters allocated by zoning based land-use rights and relevant regulations (Nel et al., 2015a:48-49; van Wyk, 2012b:302). According to Nel et al. (2015a:45), municipal planning has also been identified for the potential and relevance, to municipalities (local governance), to contribute towards sustainable environmental management and governance (Cilliers et al., 2014:260; Nel et al., 2015a:44,48-49).

The practical application (practice) of planning (law), regarding the spheres of government and hierarchy of legislation is complex. The issue around the contents of municipal planning was resolved in the *Johannesburg Metropolitan Municipality v Gauteng Development Tribunal* with a Constitutional Court ruling. Accordingly the court decision provided clarity on the functions of

'municipal planning' which include managing land-use and the power to approve land-use change applications as well as the establishment of townships (Freedman, 2014:576; van Wyk, 2012b:297). In addition, municipal planning includes spatial planning through the compilation of SDFs (van Wyk, 2012b:302). Court decisions have provided clarity on municipal planning and the function of land-use management. Text box 1 provides a summary of two important court decisions on municipal planning prior to the court decisions in the two purposefully selected case studies in Chapter 6.

Text box 1: Municipal planning functions and content as confirmed by courts

The now repealed Development Facilitation Act (DFA), 67 of 1995 served to support the speedy development in the post-apartheid era by providing for land development measures. The DFA, a Parliamentary act, provided for the establishment of 'provincial development tribunals' and the establishment of a parallel provincial decision-making body on planning and development (Humby et al., 2015:192; van Wyk, 2012b:297). These tribunals were supposed, in parallel with municipalities, support land-use/development in the form of rezoning applications and township establishment decisions. However, conflicts did arise between municipalities and provincial government (development tribunals) (van Wyk, 2012b:297). In the *Johannesburg Metropolitan Municipality v Gauteng Development Tribunal* the Constitutional Court ruled that the provincial government overstep their powers by unduly interfering in the functional area of municipal planning which is listed in schedule 4B of the Constitution of the Republic of South Africa, 1996 (Humby et al., 2015:192; van Wyk, 2012b:297). However, the power to regulate land-use within a municipality's area of jurisdiction is subjected to oversight by the relevant provincial government (van Wyk, 2012b:299). The Court also confirmed that municipal planning is the responsibility of local government (Nel et al., 2015a:48; van Wyk, 2012a:1; van Wyk, 2012b:288, 297). The pivotal role of municipal planning as a local government tool for orderly development and restricting unwanted or inappropriate developments were emphasised. This includes restricting environmentally harmful activities from taking place (Nel et al., 2015a:48-49) and potentially offers a cross-cutting role for local environmental management and governance (Nel et al., 2015b:144). This emphasises the liaison between municipal planning and environmental (management) protection.

Source: Own compilation from various sources

The role and functions of municipal planning could, based on the above court case, be linked to:

- Municipal planning is listed in Schedule 4B of the Constitution of the Republic of South Africa, 1996 – “a relevant functional area of local government competence” (Nel et al., 2015a:45). Therefore serve as a key element for municipalities to take action to regulate land-use and implement development controls.
- Municipal planning includes the functions of rezoning and township establishment.
- The powers of local government combined with land-use planning and management can be used to restrict environmentally harmful activities through allocated land-use rights and implementing land development controls. Land-use change processes is required to

change, remove or amend development controls and to obtain the appropriate zoning (land-use rights) in terms of the relevant land-use scheme.

3.2.2 Scope and content of municipal planning

Municipal planning is subjected to academic discrepancies or differences in the academic defining of instruments and components (areas) of municipal planning (Retief & Cilliers, 2015a:168; van Wyk, 2012a:102). Van Wyk (2012a:57) is of the opinion that the content, functioning and the subdivision of planning is not a fixed matter and is “open” to interpretation. Furthermore, academics regard planning as a multi-disciplinary nature, “continuously evolving and developing”. This includes a system of adopting instruments in attempts to mature planning practices (van Wyk, 2012a:57,169). This is supported by Freedman (2014:585), referring to court decisions, which also regards planning (law) to develop over time.

However, academics in the field of planning, environmental management and law all agree that ‘municipal planning’ contains both land-use control mechanisms as well as strategic planning instruments (forward and master planning), all influencing the spatial structure of a municipal area (Kidd, 2011:210; Retief & Cilliers, 2015b:563). According to Retief and Cilliers (2015a:168) the main areas are: a) land-use management and planning and b) (integrated) development planning (a strategic operational planning function). Retief and Cilliers (2015a:168) base their classification on the legal context and different administration governmental departments as well as the different applicable legislation on each of the defined areas of planning. Retief and Cilliers (2015b:563), however, acknowledges a change in “position” with the Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA) is discussed in Chapter 5.3.

A second view include that of Steyn (2012:34) who mentions the need to distinguish between a) strategic planning including instruments such as the integrated development plans (IDPs) and applicable spatial development frameworks (SDFs) and; b) control mechanisms such as zoning, town planning schemes, consent uses and restrictive conditions in title deeds. Steyn’s (2012) viewpoint points to a similar understanding (of the areas of municipal) as Retief and Cilliers (2015a). Todes (2012:159) mentions the two areas of strategic planning and land-use management (land-use management systems) as components of planning, supporting the line of argument of Retief and Cilliers (2015a) and Steyn (2012).

In this regard, Retief and Cilliers (2015a:168), prior to the Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA), identifies the differences between integrated development planning and, land-use management and planning. Development planning is seen as strategic instruments predominately based on Integrated Development Plans (IDPs) and the associated SDF as instruments of policy formulation (policy plans). On the other hand land-use

management is defined as the actual ‘mechanism’ to regulate land-use rights and set development controls. The former serves as predominately strategic level instruments and the latter as project-level instruments and development controls on land parcels.

Applying the views, from a planning point of view, and classification by Retief and Cilliers (2015a:168-169), Steyn (2012) and Todes (2012), Table 3-1 provides a classification for the traditional planning tools and instruments.

Table 3-1: Classifying traditional planning instruments

Development planning (strategic and spatial)	Land-use management
IDP	Town planning schemes/zoning schemes/ land-use management schemes and related development controls
SDF	Title deed endorsements (servitudes and restrictive conditions) as development controls

Source: Compilation from Retief & Cilliers (2015a:169), Steyn (2012) and Todes (2012).

A third view is that of van Wyk (2012a:57) who is of the opinion and acknowledges that the “contents and sub-division of planning” are subjected to different “views” (van Wyk, 2012a:57). However, Figure 3-2 provides an overview of ‘municipal planning’ as interpreted by van Wyk (2010:222) from a planning law perspective (pre-SPLUMA). It includes the identification of two ‘sub-disciplines’ or areas of municipal planning which include a) land-use planning/development planning, and b) land-use management. Van Wyk (2012a:131) regards land-use management rather as a “procedure to amend land use” with emphasis on title deed restrictions as appose to land control mechanisms. Subsequently van Wyk (2012a) classifies town planning schemes, land-use management plans and strategic planning as part of ‘land-use planning’.

Accordingly, the view and classification of instruments by van Wyk (2010) and van Wyk (2012b) is illustrated. Additionally the relevant powers of the instruments are indicated. These local government powers are defined in Chapter 3.6.

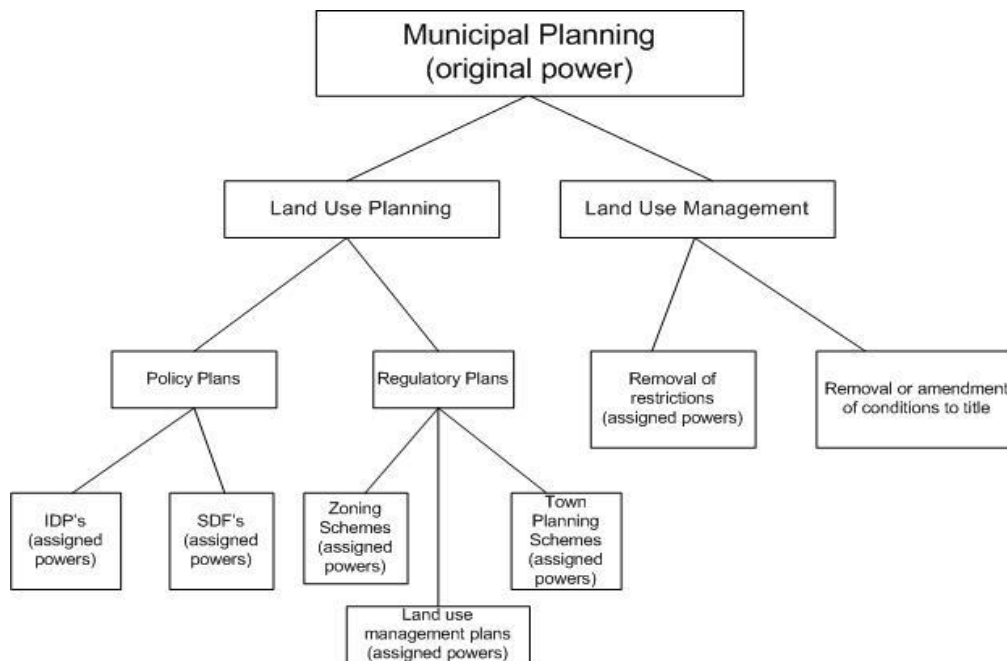


Figure 3-2: Municipal Planning as seen by van Wyk (2010)

Source: Compiled from van Wyk (2010:222), van Wyk(2012a), van Wyk (2012b); De Vos et al. (2012:295).

As mentioned above van Wyk (2012b:296) classifies the components (instruments) of town planning schemes (zoning schemes or land-use schemes) and strategic planning instruments under land-use planning while land-use management comprises of title deed endorsements (development restrictions) and the process to amend or remove these restrictive conditions or to amend town planning schemes (based on zoning rights).

Despite the differences in defining the relevant areas or “sub-disciplines” in municipal planning the instrument is of importance and plays a pivotal role in forward planning and development control by municipalities (van Wyk, 2010:222).

“Municipal planning” being the competence of local government (Nel et al., 2015a:45) land-use planning and management serve as “key elements” within local government for municipal action to regulate and control land-use (Nel et al., 2015a:48) that is coupled by strategic planning practices.

Based on this section, the scope of municipal planning could be linked to:

- The scope and content of municipal planning contains functions and instruments associated with its original functional competence (refer to Section 3.2.1 and Section 3.2.2) as well as additional functions and instruments that is assigned to them by legislation.
- Based on the suite of instruments, municipal planning can be classified into two main components (pre-SPLUMA) which include a strategic planning as well as a land-use

management component that controls land-use (development controls) of land parcels on a project level.

- Strategic planning focuses on master planning and forward planning designed for the future vision of a municipality.
- Land-use management focuses on project-level application with land-use schemes setting the framework for land-uses in an area, zoning based land-use rights and development controls (including restrictive title deed conditions and servitudes). The aforementioned sets development parameters on specific land parcels.

3.2.3 Understanding strategic and project-level planning tools of municipal planning

Municipal planning comprises of both strategic planning and land-use management as defined in Table 3-2 and offers an outline of the two levels of municipal planning consisting of strategic level and project-level planning tools available.

Table 3-2: Defining municipal planning instruments on applicable planning level

	Predominant instrument
Strategic level	IDP & SDF
Project level	Land-use schemes (town planning schemes) and restrictive title deed conditions as development controls

The two levels of planning and the related instruments as indicated in Table 3-2 will be discussed accordingly.

3.2.3.1 Strategic level planning

Strategic level municipal planning consists of two predominant instruments namely integrated development plans (IDPs) and the spatial development frameworks (SDFs). According to Retief and Cilliers (2015a:169), IDPs and SDFs are regulated and prepared in terms of the Local Government: Municipal Systems Act, 32 of 2000 (MSA). The two instruments serve as tools for the dictated municipal responsibility of undertaking integrated development planning. For more on the above mentioned instruments refer to Chapter 4.2.1.

Furthermore, the MSA requires that an IDP must include the core component (municipal planning instrument) of a spatial development framework (SDF). The SDF must direct development and “reflect the desired spatial form of the municipality”. This includes “strategies to achieve the objectives” of the SDF (Retief & Cilliers, 2015a:168; van Wyk, 2010:223; van Wyk, 2012b:295). According to van Wyk (2012b:295), the following apply to municipal planning:

“The strategies must indicate desired patterns of land-use, address the spatial reconstruction of the municipality, and relate to the nature and location of development in the municipality. Moreover, the spatial development framework must set out the basic guidelines for a land-use management system.”

Thereby, strategic planning in terms of municipal planning must:

- Reflect the vision of the municipality including the desired urban (land-use) profile in a plan for the spatial form of a municipality (South Africa, 2014b:68; van Wyk, 2012b:295).
- Provide adherence to spatial and development principles set by legislation with specific reference to the SPLUMA (Kruger, 2014:94-95; South Africa, 2014b:68).
- The SDF must assess the impact of desired spatial planning on the environment including pressures and opportunities within a municipal area. Strategic planning must guide land-use management (Freedman, 2014:586; Retief & Cilliers, 2015a:171; South Africa, 2014b:69).
- Align with regional, provincial and national strategic plans as well as policies from other spheres of government (South Africa, 2014b:68-69).
- Formulate sound strategic policies and plans, and develop strategic planning instruments. The implementation plans will include budgets and resources for implementation, requirements, targets, and monitoring indicators (Retief & Cilliers, 2015a:170-173; South Africa, 2014b:70).

3.2.3.2 Project-level planning

Project-level planning encompasses land-use management, applicable to individual properties, based on development controls and parameters, typically allocated through land-use schemes and the applicable zoning, as well as restrictive title deed conditions (Retief & Cilliers, 2015a:168). Therefore, the nature of project-level planning, as it typically comprises of land-use management, “involves the establishment and implementation of mechanisms to regulate land use rights” per property (Retief & Cilliers, 2015a:168) as well as the insertion of townships mechanisms in title deeds to set development controls and land-use activities (Freedman, 2014:576; Retief & Cilliers, 2015a:168).

3.3 Objects and purpose of land-use planning and management

The abovementioned levels of planning and the related tools forms the basic framework of municipal planning components. These tools are developed and employed to help municipal planning practices fulfilling its intended role with defined purposes and objectives. However, statutory mechanisms typically require and drive planning instruments, hence statutory planning practices.

Planning, as a tool, is equipped with the means to ensure that problems experienced by local authorities are confronted and provide the means to confront (Kihato, 2012:13). Thereby the need for planning (law) lies in the need to control development with cognition of different stakeholders' needs and aspiration and avoids undesirable and unmanageable development outcomes. The structure of planning consists of three important role-players with a defined relationship between them. These role-players include a) the state, b) owners of land/land-user (including duties and obligations), c) interested and affected parties such as neighbours, community and society (Claassen, 2009:316, 324, 376; Steyn, 2012:36-37; van Wyk, 2012a:58-59).

Moreover, central to the structure of planning is the management of land to limit potential nuisances including activities that can potentially harm the environment (Claassen, 2009:923; Kidd, 2011:210). The main aim is to secure harmonies and sound development that takes cognition of all stakeholders by enforcing land-use control, to minimise conflicting land-use and ease and manage tensions through harmonising and coordinating development (Claassen, 2009:924; van Wyk, 2012a:24,285). Additionally, it includes the aim of securing a liaison role for the entrenchment of environmental management. Thereby municipal planning contributes to securing development responsibilities while ensuring for a "satisfactory quality of life" and addressing environmental concerns (Claassen, 2009:923; van Wyk, 2012a:1).

Gleaned from Claassen and Milton (1992) (cited by Kidd, 2011:210 and Steyn, 2012:37) and proposed categories by Steyn (2012:37) the importance and reason for statutory planning (importance of planning having a legal side) is captured in the objects of land-use planning and management legislation. Relevant to this study and apart from the aforementioned aims, planning serves the following purposes reflected in the aims mentioned by Claassen and Milton 1992 (cited by Kidd, 2011:210 and Steyn, 2012:37): a) cadastral purposes (city level planning), b) differentiation between land-uses (activities) on a strategic level for sound and responsible planning practices, c) limiting nuisances (activities within an area) and, d) effective land-use control for entrenched environmental purposes (including legislation), as explained accordingly.

3.3.1 Cadastral purposes

Central to municipal planning and statutory planning control is the aspect of land (van Wyk, 2012a:17) including the management thereof (van Wyk, 2012a:20). Local level plans and land-use control mechanism should incorporate the needs and desires of different role-players (state, owners/users of land, neighbours, community and society) and balance these different needs and desires. Land parcels can be spatially defined as cadastral units. These cadastral units of land can be earmarked for specific land-use purposes. By establishing land-use structures and frameworks, planning ensures land-use control and development restrictions over these parcels. These controls and restrictions are employed for cadastral purposes in cognition to the

relationship between the role-players (Steyn, 2012:34; van Wyk, 2012a:10). The cadastral provisions include creating specific sized land units (land area) and the location thereof for specific land-use types (land-use rights) to promote a certain character of an area (Kidd, 2011:210) for instance low density residential neighbourhoods and fulfil the vision of the local land-use authority. Therefore, for cadastral purposes planning is employed to ensure development restrictions to maintain a character of place and harmonised land-uses within an area. These functions, implemented by the relevant authorities (Raith, 2011:5), are key tools to secure the interest of the general public and the land-use authorities vision, while balancing and controlling the owner of a property's (project) land-use (right) provisions through zoning based land-use rights (van Wyk, 2012a:10,285; Steyn, 2012:31).

3.3.2 Differentiation between land-uses on a strategic level

The original purpose of an instrument such as town planning schemes and forward planning is to arrange different land-uses to create certain patterns of land-use to minimise “conflict and maximise harmony”, eliminate undesirable development as well as to limit and enforce land-use (rights) to conform to the vision of the municipality (van Wyk, 2012a:285). Guiding plans and policies should contain “planning devices”, forward planning and land-use control (van Wyk, 2012a:42) and promote the need for a specific activity within that specific area (Kidd, 2011:210). Town planning schemes/ zoning schemes/land-use schemes provides for different categories of land-use which can be assigned to cadastral land units to ensure the spatial accumulation of complementary land-uses with clear distinction between these different land-uses. These plans and mechanisms serve to control land-use for the benefit of the larger community (Kidd, 2011; Schilling & Keyes, 2008:457).

3.3.3 Limiting and preventing nuisances

In combating nuisances planning provides for just, accountable and fair decisions (Kidd, 2011:210; Steyn, 2012:1; van Wyk, 2012a: 7-8, 179, 163, 158, 166) protecting landowners, the community (general public) and the environment; through development controls (Berrisford, 2010:12; Claassen, 2009; Nel et al., 2015a:48-49). Regulation is needed to prevent unnecessary detrimental activities and unwarranted developments that will causes nuisances within a specific area that are not compatible with the established unique character (van Wyk, 2012a; Claassen, 2009; Kidd, 2011:209). Thereby land-use is controlled to prevent undue nuisances to neighbours and the community and requires public participation to include potentially affected parties (van Wyk, 2012a:229).

The aim of land-use management is to prevent “unreasonable interference” with other land-use rights/ with neighbouring land users including intolerable living conditions (Claassen, 2009:922; Kidd, 2011:209; van Wyk, 2012a:21, 572).

3.3.4 Effective land-use and entrenched environmental purposes

Environmental management and municipal planning have mutual objectives (Claassen, 2009; 923; Kihato, 2012:14), to control land-use and activities, in the interest of all role-players including interested and affected parties, in a responsible manner. Municipal planning is focused on land-use and the planning and management thereof (Nel et al., 2015a:49; Retief & Cilliers, 2015b:580). Whereas environmental management is focused on the impact of human activities on the environment and the regulation of these activities (Du Plessis & Nel, 2015:12-14; Retief & Cilliers, 2015b:580). In addition this study includes conservation in terms of conservation areas under environmental management. From a municipal planning perspective, land must be controlled and managed in the interest of promoting health, welfare and general living conditions as well as for environmental protection and conservation purposes (Claassen, 2009:921-923). Additionally, policies and legislation offers directives to land-use, which may include the benefit of protecting valued environmental attributes. Land is also a resource, and requires efficient and effective exploitation to enhance development for specific activity purposes (industrial, agricultural, residential, open space and business) (Kidd, 2011:210).

Human activities, commenced on land parcels, may potentially have an impact on the natural environment. Development control mechanisms, implemented by municipal planning, serve to prevent undesirable development outcomes (Claassen, 2009:123-125, 337; Kidd, 2011:210). Therefore, environmental factors are important aspects that must be considered in municipal planning (Kidd, 2011:209; Nel et al., 2015a:47-49).

Moreover, environmental management requires a spatial approach to identify cadastral areas of environmental concern. This includes the allocation of land and the management thereof for environmental protection and conservation, including preserving areas of natural beauty, through protecting environmental attributes indicated on cadastral units (Claassen, 2009:923; Du Toit & Cilliers, 2015; Freedman, 2014; Kidd, 2009:210). By spatially indicating environmental attributes and spatially defining desired land-uses and objectives, supported through implementing development controls provide support to environmental management. This subsequently offers the benefit of controlling land-use and therefore activities and mitigates environmental attributes from the negative urban impacts (Cilliers et al., 2014:260-261; Du Toit & Cilliers, 2015:758).

3.4 Challenges to municipal planning (land-use planning and management) in South Africa

Land being one of the most valued resources on earth needs to be managed. Therefore, land-use needs sound planning and needs to be regulated effectively. The legacy and historical developments of planning practices, the slow progress in dealing with complexities in the municipal planning system, the slow development of innovative tools, as well as unsustainable

trajectory, in terms of land-use, spatial structures and activities, contribute towards challenges experienced within municipal planning (Bester, 2005:1-2).

This section introduces the challenges of the current land-use planning and management system applicable to local government (municipalities) as part of the function of municipal planning (Retief & Cilliers, 2015b:564).

From literature three main challenges can be identified in terms of municipal planning (land-use planning and management) in South Africa. The first two identified challenges are land-use management systems and municipal integrated development planning (Retief & Cilliers, 2015b:564). As mentioned the complex planning system stems from among other a historical system which created a fragmented urban (profile) structure encompassed by spatially segregated areas and urban sprawl as well as new planning enactments resulting in a cumbersome and fragmented land-use planning and management system. Many municipalities are yet to conform to the Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA) requirements (or still handles applications subjected to pre-SPLUMA planning systems), making pre-SPLUMA municipal planning provisions a relevant factor.

Another challenge is the interface creation between environmental management (EM) and municipal planning (MP) with emphasis synchronising the disciplines on a strategic planning level. The fore mentioned requires defining “effective interface” and establishing synergies between environmental management and municipal planning within the current frameworks of parallel processes for municipal planning and environmental management (Cilliers et al., 2014; Retief & Cilliers, 2015a:564; van der Waldt, 2015:329; van Wyk, 2012a). Moreover, conflicting objectives for land exist between environmental management and municipal planning. For example developers want to acquire high potential agricultural land and open spaces for residential development (Cilliers, 2009:182). In many instances development proposals are made that lacks environmental consideration worsened by the fact that municipalities are not familiar with environmental considerations in land-use decision-making (Wilhelm-Rechman & Cowling, 2013:1-7). Accordingly, these challenges relating to land-use management and integrated planning are discussed.

3.4.1 Land-use management challenges

Retief and Cilliers (2015b:564) identified several complexities, around the pre-SPLUMA, land-use management system in South Africa. This includes firstly, legislative complexities, secondly, institutional and procedural complexities and, thirdly spatial complexities with a complex spatial reality. Understanding these complexities provides a fundamental overview of complexities which should assist municipalities to overcome land-use management challenges.

- Legislative complexities: Legislative complexities refer to the “number of acts dealing with land-use management” in South Africa (Retief & Cilliers, 2015b:564) which spans over several decades. The statutory framework is regarded as “fragmented and cumbersome” (Bester, 2005:1-2). Before, the enactment of SPLUMA no single national municipal planning legislation existed creating a complex system (framework) of different applicable legislation (Kidd, 2011:211; Retief & Cilliers, 2015b:564-566; van Wyk, 2012a:60-62). Included in the land-use management system are historical developments in land-use planning and management with several acts and ordinances designed for specific geographical areas and race groups. The pre-1994 planning system was made up of different provincial ordinances, as well as racially based planning legislation. The land-use legislation included legislation of the former self-governing territories and homelands systems, legislation for former formalised ‘black areas’, the four “erstwhile” provincial town planning ordinances and the former DFA (Kidd, 2011:211). Many of these statutory enactments will remain in place until municipalities developed a land-use management scheme in conformance in terms of SPLUMA (Retief & Cilliers, 2015b:565).

In many instances, municipalities use a combination of old order legislation and new acts (Retief & Cilliers, 2015b:565; van Wyk, 2012a:62). The result is a planning system that functions within a mixture of legislation from different (time) periods and include various procedures (Retief & Cilliers, 2015b: 565; van Wyk, 2012a:8-11, 56-58).

In the past, with emphasis on the Development Facilitation Act, 67 of 1995 (DFA), a scenario of “parallel legislation” and “alternative” processes to provincial ordinances existed (van Wyk, 2012b:296). The overlaps of legislation and planning functions were a result of the planning system where powers of spheres of government overlap (van Wyk, 2012b:309). Refer to Chapter 3.2.1 more on the DFA.

Contributing to the complexities the current planning system includes the aspect of sustainability within land-use planning and management, which has a wide framework of different acts (legislative and policy) contributing to the complexity in land-use management and spatial planning experienced (Cilliers et al., 2014:562-563; Retief & Cilliers, 2015b:564-56). Refer to Annexure 1’ for an overview of the evolution and complexities of land-use management legislation in South Africa. However, the enactment of SPLUMA in 2015 serves as a comprehensive national applicable land-use management tool which should toil away with many of the challenges experienced. However, this will not be immediate and will be a systematic improvement. Refer to Chapter 5.4 for more on the standardisation of land-use management.

- Institutional and procedural complexities: The different land-use systems and “fragmented” statutory land-use management framework in place, the constitutionally granted functional areas and mandates (integrated development planning and land-use management) assigned by legislation contribute towards “institutional and procedural complexities” (Retief & Cilliers, 2015b:570). These complexities include a combination of national legislation, provincial ordinances as well as challenges from the old homeland systems (Retief & Cilliers, 2015b:570). This entitles different legislation for different types of land-use application (land-use change, subdivisions and consolidation of land, township establishment, removal of restrictive title deed conditions) that is processed and handled under different applicable legislation (national or ordinances) and different “mandated authorities”. In the past the DFA for instance contributed towards a dual-system for approvals. Past experiences have “result, for example, from an encroachment by provincial governments on areas of legislative authority, such as municipal planning, that have been assigned to municipal councils in terms of the Constitution” (Retief & Cilliers, 2015b:564). Stated differently - an encroachment by provincial sphere of government occurred on an original local government power (functional area) of land-use decision making due to different mandated authorities by different legislation. Differences (disputes) eventuated regarding the (sole) “designated authorising authority” on subject matters of land-use management, township establishment and related functions of municipal planning. These disputes stem from the different planning legislation instituted, including provincial ordinances and the DFA, which created various (different) planning bodies for the same planning considerations and authorisation (van Wyk, 2012b:296). This was “confirmed” in the *Johannesburg Metropolitan Municipality v Gauteng Development Tribunal and Others 2010 (6) SA182 (CC)* highlighting conflicts between the local government and provincial government on granting permission for a (specific) development to take place. This encompassed the content and functions of municipal planning. Therefore, developers previously, had a choice of different legislative provisions which instituted either local or provincial (under the DFA) authorities for development approval. In practice this meant an application could be lodged by the local authority or a Development Tribunal (provincial). The choice of legislation provided room for municipalities to be “by-passed” impeding in their exclusive functions (Retief & Cilliers, 2015b:570; van Wyk, 2012b:296-297). However, the status quo eliminates the possibility of bypassing municipalities (the exclusive authority) (Retief & Cilliers, 2015b:570) with emphasis on the confirmation that “land use change, township establishment and related aspects of land-use management fall under the legislative competence of municipal planning”.

- Spatial complexities: The past planning system, a new Constitutional order, coupled with “newly demarcated boundaries” (provincial, district, local) provide for a complex land-use management decision-making context (Retief & Cilliers, 2015b:573). Different legislation, and different town planning schemes, is applied to different geographical areas within a municipal boundary (prior to conformance to SPLUMA requirements). The geographical area determines the relevant governing legislation during land-use management application processes. Areas can be classified between urban areas, rural land; land under traditional authority; former formalised “black” urban areas. These areas will define the applicable legislation (Retief & Cilliers, 2015b:574; van Wyk, 2012a:182-194) (prior to municipalities moving to SPLUMA). In practice this meant that the spatial location of a property determined the specific (relevant) act (legislation) to be used which may be subjected to “different legislative measures” (Retief & Cilliers, 2015b:564). The various laws and different laws applicable to different areas create a scenario where one municipality could have multiple land-use schemes (town planning schemes) operational at a given time (Retief & Cilliers, 2015b:574; van Wyk, 2012b:292-293) implemented by the various different legislation. These land-use management schemes may at times be contradictory (conflicting) to one another. In some cases the location may be subjected to more than one applicable act as well (Retief & Cilliers, 2015b:564). Moreover, exact boundaries and therefore the applicable land-use scheme might be unclear. This is problematic when determining the relevant legislation or town planning scheme to use or if it is classified as rural or urban. This includes determining if a property (farm portion) falls under rural areas, classified tribal areas (land under the management of traditional authorities) or areas with no applicable planning scheme. Moreover, these rural areas need to be allocated by a responsible local authority (as decision making authority), a local mandate that did not previously exist for all municipalities. The aforementioned contributes towards complexity of selecting the appropriate land-use schemes (or lack thereof) and the applicable planning legislation (Retief & Cilliers, 2015b:574; van Wyk, 2012a:182-194). Defining the urban edge and scheme boundaries are, therefore, crucial to determining the applicable land-use legislation. A factor contributing to this challenge is that only a limited number of municipalities developed consolidated (integrating) town planning (integration of the different land-use schemes) schemes (Retief & Cilliers, 2015b:573) prior to the enactment of SPLUMA. The introduction of consolidated town planning schemes, however, are not regarded as the definitive solution to the problem faced and is still subject to criticism for many shortcomings (Retief & Cilliers, 2015b:574). Thereby, municipalities as directed by SPLUMA (discussed in Chapter 5) must address the shortcoming, gaps and lack of progress experienced developing a single land-use scheme for the entire municipality.

3.4.2 Integrated development planning challenges

Integrated development planning, for purposes of this section, includes elements of strategic planning and integrated thinking that include development needs while still and environmental consideration. Municipal operating-and management processes, as well as forward planning policies and plans, requires a diverse perspective to develop potential solutions for planning problems experienced and possible future changes (Cilliers et al., 2014:265). Literature emphasised the need to integrate integrated thinking and strategic planning into the aforementioned processes (Cilliers et al., 2014:265). Thereby municipal planning includes the “management of such changes, a process by which a balance is sought between all interested involved..... to resolve conflicting demands on space” (Cilliers et al., 2014:265).

One of the main objectives of (strategic) integrated development planning is the need to ensure holistic and integrated development goals that embrace sustainability and spatial directives (Retief & Cilliers, 2015a:169) reflected in statutory frameworks and municipal strategies. For municipal planning purposes, this entitles the inclusion of integrated and strategic thinking in an attempt to plan for, absorb and manage change for all interests involved (Cilliers et al., 2014:265). Municipal planning relies on the aforementioned strategic thinking approach to find solutions to shape future urban settlements and “sustainable landscapes” and to reflect sound municipal visions (Cilliers et al., 2014:265).

The current South African reality, possess several challenges in terms of integrated planning. As discussed earlier colonial and apartheid era planning has contributed towards the current fragmented spatial profiles (Cilliers et al., 2014:266; Oranje & Merrifield, 2010:36). This is manifested in “distorted settlement patterns and spatial inefficiencies” (Cilliers et al., 2014:266). Municipalities are faced with the challenge of “reversing” this inherited undesirable land-use profiles (Cilliers et al., 2014:265), secure investment while addressing the unsustainable settlement trends experienced. Moreover, integrated development planning is tasked with delivering services and addressing housing backlogs, while still “considering environmental issues” (Cilliers, 2009; Cilliers et al., 2014:265) all with the limited municipal resources (Retief & Cilliers, 2015a:168). Citing literature, in dealing with these urban problems, the success of effective integrated development planning (for urban and urban-rural planning) lies with creating a holistic planning system, through the use of a combination of instruments which include environmental instruments. Instruments must be used as guidance to decision-making by municipalities based on integrated and strategic thinking principles (Cilliers et al., 2014; Retief & Cilliers, 2015a:174). While both disciplines require spatial approaches in practice, the legacy of individuality (stand-alone approaches) of disciplines is persistently seen (Retief & Cilliers, 2015b:579-582). Therefore this section focuses on two important strategic instruments, IDPs

and SDFs, in the context current challenges experienced within the integrated development planning.

Retief and Cilliers (2015a:193) firstly questions the impact and performance, to date of integrated development planning in achieving sound sustainable planning practices. Pointed out are questionable successes, with a “lack of improvement in integrated development planning over time” (Retief & Cilliers, 2015a:191). The questionable successes are reflected in the current status of landscapes and urban growth patterns (Cilliers et al., 2014:265). The argument on a lack of integrative planning is based on the current general inadequate integrated thinking (action) evident in many municipal plans (IDPs) and most importantly SDFs. Moreover, many SDFs are out dated and require serious revision. Thereby continued urban sprawl contributes towards environmental and socio-economic costs (Cilliers et al., 2014:265; Retief & Cilliers, 2015a:191).

The lack of resources, background and expertise on integrated development planning cast doubt on the feasibility and successful outcomes of integrated development planning by municipalities (Cilliers et al., 2014:268; Retief & Cilliers, 2015a:191). Capacity and resource problems spill over to legal compliance concerns. There are also concerns over the inadequate adoption and implementation of sound (guiding) planning tools (Retief & Cilliers, 2015a:191). Therefore legal compliance and innovative integrated development planning, including the development and implementation of tools, remains a challenge (burden) for many smaller and less resourced municipalities (Cilliers et al., 2014:268; Retief & Cilliers, 2015a:191).

Retief and Cilliers (2015a:191) stated that municipalities’ determination to prioritise legal compliance in terms of their environmental and sustainable mandates could arguably be the key to improving integrated development planning. The application of supportive tools remains a problem. Municipalities tend to only include environmental considerations when it is legally required through environmental authorisation (Retief & Cilliers, 2015a:189).

Anecdotal evidence suggests that municipalities generally fail to innovatively pursue environmental and spatial tools. Municipalities are faced with difficulty in selecting (adopting a criterion) appropriate tools within budgetary provisions and resources available (Retief & Cilliers, 2015a:181). Many municipalities, also rely on external funding to develop the means and tools for integrated development planning (to develop IDPs, tools and policies) to secure sustainability paths. This is regarded as an unsustainable practice. Self-sufficiency, therefore, remains a problem with performance and innovation rapidly fading as soon as external funding stops (Retief & Cilliers, 2015a:191). Furthermore, available knowledge and tools do not “automatically imply its inclusion or prominence in local governance and key planning strategies” (Cilliers et al., 2014:268).

Municipalities should use resources wisely. Moreover, many municipalities require external support for such.

3.5 Planning approaches to guide municipal planning

Municipal planning is multi-discipline in nature, comprising of a multitude of considerations (Bester, 2005:1-3; van Wyk, 2012a:210). This section focuses on different approaches applied within municipal planning practices in terms of land-use planning and management. Emphasis is placed on integrative development planning and multi-discipline approaches to urban planning. Accordingly these approaches are described.

3.5.1 Integrated development planning approach

Certainly, the most prominent tool in the strategic planning context of municipal planning, is integrated development planning (Cilliers et al., 2014:265; Coetzee, 2005:39). Retief and Cilliers (2015a:168) state integrated development planning contains the economic, environmental and social aspects and, therefore, fits into the broader sustainability context or for purposes of this study balancing the interest of development pressures and conservation needs (Cilliers, 2009; Retief & Cilliers, 2015a:168). Against the backdrop of municipal planning, with its strategic planning and land-use management components, the main purpose of this section is to describe the strategic thinking dimension of integrated development planning. This includes a variety of concerns within municipal planning, including environmental concerns, and a reflection on these concerns and priorities on a local scale.

The first reference to integrated planning in South Africa was found in the Reconstruction and Development Plan (RDP), adopted in 1994. The notion was to adopt an integrated planning approach to deal with post-apartheid planning and development (Retief & Cilliers, 2015a:168). Emphasis was accordingly placed on integrated and holistic planning to overcome development challenges and combat problems faced by municipalities. This was linked to the political drive and plans of reconstruction and spatial integration. Integrated planning had to deal with reconstruction programmes including large scale housing projects, urban sprawl and other undesirable settlement patterns (Retief & Cilliers, 2015a:167; Cilliers et al., 2014:265; Coetzee, 2005:51).

During the mid-1990s the principles of holistic and strategic planning crystallised into formalised municipal integrated development planning (Coetzee, 2005:47). The frameworks set were regarded as ideal to address urban problems and bridge the gap between urban planning and actual urban management practices (including environmental management and development visions) (Coetzee, 2005:48-49). Moreover, it was realised that integrative spatial planning approaches are required to tackle urban planning (Cilliers, 2010:17). This was expressed in

land development objectives (LDOs) and soon to follow integrated development plans (IDPs) with the spatial component thereof the SDFs (Berrisford, 2011:251; Coetzee, 2005:50; van Wyk, 2012a:269). In this regard, the Development Facilitation Act 76 (DFA) of 1995 and the Municipal Systems Act, 32 of 2000 (MSA) stands out in the integrative planning context (Cilliers, 2010: 17; Retief & Cilliers, 2015a).

As the overall strategic tool of a municipality, IDPs typically emphasises development objectives and projects (Berrisford, 2011:248; Cilliers, 2010:17; Retief & Cilliers, 2015a:167). The spatial component of the IDP the spatial development framework (SDF) sets out the spatial objectives including the desired land-use patterns of a municipality. Furthermore, a clear relationship between municipal integrated development planning and environmental aspects have emerged (Kihato, 2012:54). In this regard local (municipal) strategic planning including spatial planning has become a significant tool for urban planning and landscape creation, which include environmental consideration to deal with complex urban planning issues, as it employs integrated thinking that includes spatially defined environmental attributes (Cilliers et al., 2014:265; Coetzee, 2005:44).

Several environmental considerations can be identified within a developmental context. IDPs need to “take strategic assessment of the environmental impact” (Cilliers, 2010:17; Fourie, 2014). According to Cilliers (2010:17), this brings together the aspects of “development” and the “environment”. Additionally “the concept of integrated development planning” forms the “focal point of spatial planning in South Africa, demanding a holistic approach to land development” which includes environmental considerations (Cilliers et al., 2014:265). In this regard strategic spatial planning guide day-to-day land-use decision-making (Berrisford, 2011:261) and therefore stresses the need to develop sound strategic planning tools. Therefore spatial plans must take cognition of environmental attributes (spatially defined) to ensure effective decision-making and secure environmental management (Cilliers et al., 2014:266). Therefore informative environmental management tools needs to “accompany” the integrated development planning process (Retief & Cilliers, 2015a:191) providing support to decision-makers on a municipal-scale perspective and strengthen strategic planning (Cilliers, 2010:590). This will contribute towards addressing sustainability issues and responsible planning practices (Retief & Cilliers, 2015a:193).

3.5.2 Multi-disciplinary planning approaches

Van Wyk (2012a:410) states that “planning, development and the environment are inextricably linked”. This includes social, development and environmental aspects encompassed in both disciplines. Moreover, the manner in which land is use, including the nature, intensity (activities) and the location thereof, are linked to environmental impacts (Kidd, 2011:209) indicating the

need for responsible land-use management. Furthermore the South African urban landscapes are rich in biodiversity, however, experience “steep socio-economic gradients” (inequality) (Cilliers et al., 2014:260). Continued unsustainable settlement patterns are reason for concern (Cilliers et al., 2014:260; van Wyk & Oranje, 2014:356). Concern is also raised regarding urban sprawl and development of open spaces (Cilliers, 2010:182). In the light of integrated development planning, with a holistic approach, the two disciplines of environmental management and municipal planning (land-use planning and management) stands out as each discipline is uniquely suited to address certain concerns and aspects within a municipal environment (Cilliers et al., 2014; Turpie, 2009:54-56). Moreover, free-for-all development without environmental management will be destructive, potentially leading to detrimental environmental impacts (Cilliers, 2009; Nel et al., 2015). The notion is that a multidisciplinary approach by municipalities (including protecting rural areas) will foster mutual support offered by each discipline and ensure a collective approach to the management of the urban landscape, protection of open space and rural land, as well as overcome potential barriers to spatially defined areas for protection.

The nature of environmental management is not solely to protect and “manage the environment”, but rather to provide the means, through tools and mechanisms, to “manage human activities that have or may have an impact on the environment” (Cilliers et al., 2014:266). Essentially, it includes the topics of humans, including activities commenced by humans, and the environment (Du Plessis & Nel, 2015:12-14). However, differences in environmental sensitivities of different areas do exist.

Environmental management is at the forefront of defining environmental sensitivities and attributes. Thereby environmental management has potential to inform decision-making and protect the environment from potentially detrimental impacts (Nel et al., 2015a:48-49). Additionally it includes the outcome of achieving environmental objectives. Municipalities are tasked with “promoting human resilience, improve peoples’ lives and livelihoods and foster sustainable development” (Du Plessis & Nel, 2015:3). In this regard, environmental management provides assistance in generating “approaches and tools” to identify, inform and potentially contribute to the management of the environment. This includes the restricting of human activities; or the reduction and potential management of activities that have or may have environmental detrimental impacts (Cilliers et al., 2014:266). Therefore, for purposes of this study emphasis is placed on the spatial informative value offered by environmental management tools to municipal planning. Environmental management is uniquely suited to integrate data/research, develop the means to ensure effective management of the environment and transfer data to appropriate scales.

Environmental management has evolved through the developing and formulation of several innovative strategic (including spatial) tools and instruments in dealing with urban sustainability and decision-making issues. This includes the instruments of strategic environmental assessments (SEA), environmental management frameworks (EMFs) and (systematic) conservation planning (C-planning) (Cilliers et al., 2014:266; Retief & Cilliers, 2015b:563). These tools include identifying environmental sensitivities; attributes through informative instruments that could potentially inform the development of planning and strategic municipal planning instruments such as SDFs. Sound examples of the aforementioned tools include research and data. The tools should guide decision-making and promote sustainable outcomes and responsible planning decision-making (Cilliers et al., 2014:266). Retief and Cilliers (2015b:576) compliments the work done at municipal level with regard to developing and managing strategic environmental management tools (instruments) innovatively. Municipalities are, therefore, continuously forged environmental management instruments and, therefore, some municipalities are in the position to “integrate environmental considerations into land-use management” (Retief & Cilliers, 2015b:576). Refer to Chapter 4.2 for more on the suite of environmental management and municipal planning instruments.

Municipal planning plays a pivotal role in interface possibilities between the disciplines as it offers development anticipation (forward planning) sets land-use rights and development controls (Claassen, 2009:921; Kidd, 2011:209; Nel et al., 2015a:48-49; Retief & Cilliers, 2015a:169). The role of municipal planning, within a multidisciplinary approach is firstly to contribute towards promoting the ideal urban (spatial) profile which considers environmental attributes (spatially defined) and integrate these concerns within planning (Claassen, 2009:921-922; Turpie, 2009:54-56). Secondly municipal planning can enforce land-use control to achieve this idealised urban spatial structure (or municipal vision) with the additional possibility to restrict environmental (detrimental) harmful behaviour (Claassen, 2009:921; Nel et al., 2015a:48). Moreover, municipal planning contributes towards a system that is “protective of the environment”, foster harmonised and required development including the protection of land owner’s rights and limiting nuisances. Lastly municipal planning contributes towards development decision-making that promotes “equitable spatial patterns and sustainable human settlements” (South Africa, 2013:2). Therefore the nature and scope of planning provides for a collective (discipline) approach for land-use decision-making (Cilliers et al., 2014:260; Turpie, 2009:55) to achieve a balance between development needs and conservation or protection of environmental attributes (Cilliers et al., 2014).

3.5.3 A lack of prioritisation of environmental management (EM) within planning approaches

In Section 3.3.4 it was identified that one of the aims of planning legislation is to ensure effective land-use management for entrenched environmental management purposes. “Effective interface” creation between environmental management and municipal planning requires synergies. This can be accomplished by aligning tools used within each discipline (Retief & Cilliers, 2015a:564; van der Waldt, 2015:329). Despite several tools available for adoption, and possible alignment of supporting tools, such as informative environmental management instruments, evidence points to a lack of successful examples. This is based on the general failure of municipalities to adopt and use (mutually) supportive tools on a strategic level (Retief & Cilliers, 2015a:191; Todes, 2009:159). This challenge mainly focuses on the management of (physical) spatial challenges reflected within the urban geographic structure including a general lack of resources (tools) in cognition and dedicated to environmental planning. Challenges include that environmental management and municipal planning are administered by different governmental departments, as well as the operational scale differences between municipal planning (local) and environmental management.

On a local level, the tendency by many municipalities is to develop land-use and spatial plans that are not aligned with environmental management plans leading to stand-alone documents for the disciplines of environmental management and municipal planning. It entitles the undertaking of silo-planning approach with plans and policies lacking mutual support. This contributes towards difficulties and subsequently ineffective (holistic) strategic planning tool creation, especially in terms of (innovative) spatial planning tools that fail to reflect strategic and integrated thinking. This includes inadequate actions (enforcement), including a lack of integrating environmental concerns into municipal planning matters (Retief & Cilliers, 2015a:188) and alignment with other municipal plans. Furthermore, many of the enforcement means developed by municipalities are subjected to criticism (Du Toit & Cilliers, 2015:779) and may lose favour with politicians (Cilliers, 2009). Political favouring of development, over conservation regarding spatial planning, protrudes over onto project-level decision-making (Cilliers, 2009:182; Cilliers et al., 2014:298; Todes, 2009:159).

To create interfaces on a local level, strategic level planning requires the political commitment as municipal councils must prioritise environmental management and provide the means (resources) necessary to back municipal integrated development planning (Cilliers, 2009; Cilliers et al., 2014:268; van der Walt, 2015: 329). The value placed on environmental management by the municipal council will be reflected in strategic planning. Therefore addressing the effective allocation of resources remains a priority (Retief & Cilliers, 2015a:192-193).

3.6 Municipal planning as a function of local government

The previous section identified the different municipal planning approaches which stressed the need for the inclusion of environmental management aspects within municipal planning. This section focuses on municipal planning as a function of local government and its associated powers in terms thereof. Additionally municipalities fulfil functions within the statutory framework applicable to municipal planning including land-use planning and management as well as integrated development planning. Focus was placed on the ability to use these powers to set development parameters and statutory land-use control. These land development controls and limitations to land-use rights may be used to fulfil a role in safe-guarding environmental attributes and promote local environmental management practices.

Planning in South Africa is described as “interdisciplinary in nature” (van Wyk, 2012a:96) and has certain linkages to environmental management (Claassen, 2009:921-923; van Wyk, 2012a:96). This includes municipal planning playing a pivotal role in land development management, land-use control, and spatial planning to manage and regulate urban landscape creation and directing development (phasing) towards the desired municipal urban profile vision.

The land-use management and development control mechanisms are not limited to land-use, but involve measures to restrict land-use to “conserve and protect” the environment as well (Freedman, 2014:576). In this regard, Freedman (2014:569-570) identifies the powers of local government in relation to municipal planning, including the original functions of municipal planning, assigned functions and the incidental value it holds. This indicates that there are different municipal functions restricting potential activities that may be used to promote environmental management on a local level.

While plans without the means of enforcing them will be senseless to make, statutory planning provisions (framework) are key to land-use control. This includes the ability to secure the means for decision-makers to make responsible decisions, which create better living environment and future, and promoting development in-line with the municipal vision (Kidd, 2011:209-212; Retief & Cilliers, 2015a:168). In this section emphasis was placed on the powers of municipalities to ensure statutory functions and developing the means to control land-use. Within the limits of this research, this section unpacks the functions of municipal planning to illustrate the possibility for the application of further municipal powers towards environmental management on a local level (Nel et al., 2015a:42; van Wyk, 2012a:75-97). Accordingly this section offered insight into the functional areas of local government in terms of planning and the powers of municipalities to implement planning mechanisms and instruments.

De Vos et al. (2014:295) divide municipal powers (local government) into three distinct powers. Powers include original municipal powers, assigned municipal powers and incidental municipal

powers. Reference to local government (fulfilling land-use management and planning) and municipal planning are used interchangeably. Exclusive reference to 'local government' generally implies the municipal council or the sphere of government. For a more detailed discussion on local governance and local government powers refer to De Vos et al. (2014:294), Freedman (2014:269-270) and van Wyk (2012a:103). Also, refer to De Vos et al. (2014:284), Freedman (2014:567), University of the Western Cape, 2007 and van Wyk (2012a:143) for more on legislature competencies and the ability to pass legislation as "a matter of course". Table 3-3 below provides a summary of the three powers in question to illustrate the ability of municipal planning to ensure land-use planning and management functions and additional environmental protection.

Table 3-3: Three types of local government powers applicable to municipal planning

Original powers of local government	
Powers derived from	Powers "derived directly from the Constitution" as contained in the list of functional areas in Schedules 4B and 5B. Entitles an original power of municipal councils
Description	The most significant powers of local government as sourced from the Constitution. "Safeguarded" by the constitution "and is a fundamental feature of local government's institutional integrity" with no ordinary (parliamentary) statute or provincial acts allowed to 'trump' this original power.
Additional information on the authority/power by local government	Furthermore, the Constitution, 1996 makes provision for municipalities to make laws on matters listed in Schedule 4B and 5B. However, provincial governments may monitor and provide support to local government, within their respective provincial boundaries as well as establish a framework within which local government must perform their functions. Municipalities also have the executive authority and right to administer matters that are assigned to them by national and provincial legislation

Assigned powers to local government	
Powers derived from	These powers contain the legislative or executive assignment of authority. The Constitution of 1996, makes provision for cooperative governance and concurrent and exclusive power of authority and national and provincial government can delegate certain legislative powers to “a specific municipality or municipalities in general”. Thereby, municipalities’ legislative powers. These powers are therefore obtained through acts of assignment and delegation that normally fall outside local governments functional areas as contained in Schedule 4B and 5B or they may add to these functions.
Description	Capacity by local government is important for implementation. Strategic planning tools such as the IDP and SDF are examples of assigned powers to municipalities in terms of the Municipal Systems Act, 32 of 2000.
Authority/power by local government	Freedman (2014:578) states spheres of government are “not contained in hermetically sealed compartments”. The assignment of powers and functions are, furthermore, regulated by an “executive act” or by an agreement which is “regulated by the Local Government: Municipal Systems Act” (De Vos et al., 2014:299). “Parameters” need to be set by the “assigning agent” onto the assigned authority in the relevant “legislative act of assignment” (De Vos et al., 2014:298). Municipalities, therefore, typically have the final decision-making powers on matters they have been assigned to (De Vos et al., 2014:299).
Incidental powers of local government	
Powers derived from	Incidental powers provide for municipalities to effectively carry out functions not explicitly assigned to municipalities in the form of legislative and executive authority. However, these powers are typically connected to/ associated with the performance of carrying out its functions.
Description	According to De Vos et al. (2014:299) “a municipality has the right to exercise any power concerning a matter that is reasonably necessary for or incidental to the effective performance of its functions” (De Vos et al., 2014:299). Therefore, different spheres of government may have legislative authority on the same regulated aspect (Freedman, 2014:581; Humby et al., 2015:143).
Authority/power by local government	These powers fall outside the legislative and executive authority of a municipality but are connected with the operations and functioning of matters considered as part of and linked to matters that a municipality has authority on. While new municipal functions are not intended, these incidental powers ensure that municipalities have “incidental powers” that “broaden” the legislative and executive authority of their functional areas. In terms of municipal planning, this includes the ability to regulate land-use that may offer environmental protection from potentially detrimental impacts

Sources: Own compilation from De Vos et al. (2014:295-298); Freedman (2014); Humby et al., (2015:192-193); Nel et al. (2015a:44-45, 48-49); van Wyk (2012:183), University of the Western Cape (2007:6-8).

Table 3-3 above indicates the three main powers of local government as mentioned by Freedman (2014). In conclusion of this section and reflecting on Chapter 3.2.1 municipal planning as an original power consists of the functions of land-use management (rezoning and enforcement of zoning) and township establishment conditions. Strategic planning including

integrated development planning and spatial planning (IDPs and SDFs) forms an important part of the assigned responsibility of municipal planning that are identified to include strategic environmental aspects. Moreover, municipal planning may be employed to include environmental protection as a matter of course within municipal planning practices (Freedman, 2014). Therefore, through land-use planning and management, as well as integrated development planning, municipal planning can take cognition of the environment and fulfil a supportive environmental protection role. The fore mentioned builds on the objectives of integrated planning and multi-disciplined approaches to municipal planning.

3.7 Conclusion

This chapter introduced municipal planning in the current South African context. The content, scope, role and functions of municipal planning, including related instruments, offer insight into the functional areas of municipal planning. Municipal planning entitles a forward planning component and strategic planning component as well as land-use management system to control land-uses on parcels of land. Land-use management typically includes imposing development controls through zoning and land-use change application processes are required to remove or amend restrictive conditions or to rezone a property.

The objectives of municipal planning (land-use planning and management) capture the need for planning in the current urban realities with the aim to ensure limiting nuisances and harmonisation of land-uses. Four main objectives were identified: a) cadastral purposes including responsible decision-making that takes into account all role-players, b) the differentiation between land-uses (activities), c) limiting and combating nuisances as a result of land-uses and, d) effective land-uses and for entrenched environmental purposes.

A variety of difficulties and challenges are experienced including limited municipal resources, planning instruments in need of serious review, a lack of expertise and the need to toil away with complex and fragmented land-use management systems. The complex planning system stems from among other a historical planning system based on race, resulting in different land-use management systems, the creation of fragmented urban (profile) structure encompassed by spatially segregated areas, urban sprawl as well cumbersome planning framework of new and old planning enactments. Many municipalities are yet to fully conform to the Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA) requirements, making many old (order) planning (pre-SPLUMA municipal planning provisions) a present (relevant) factor in municipal planning. The uptake of environmental concerns and instruments within planning practices remain one of the most significant issues to forming sound municipal planning strategic/spatial instruments.

This chapter also aimed to discuss some of the important approaches in municipal planning. A multi-disciplinary and integrated approach were described for interface identification between environmental management and municipal planning building on integrated development planning with a holistic approach within the current planning system. The rationale is that urban systems are complex and that land-use does have an impact on the environment. Each discipline has unique contributions to offer and should therefore utilise the supporting functions of one another.

Powers of municipalities include original, assigned and incidental powers which are instrumental for municipalities to control land uses. This functional competence is instrumental to the objective of effective land-use for entrenched environmental purposes described in Section 3.3.4.

Accordingly, the following chapter explored the suite of municipal planning and environmental management instruments by which interfaces between the disciplines can be established. The notion is that environmental management is informative to municipal planning and through interface creation between environmental management and municipal planning will lead to mutual support of one another.

CHAPTER 4: ALIGNMENT BETWEEN ENVIRONMENTAL MANAGEMENT AND MUNICIPAL PLANNING

“I came to understand that when the environment is destroyed, plundered or mismanaged, we undermine our quality of life and that of future generations” - Wangari Maathi (2005).

4.1 Introduction

The previous chapter introduced municipal planning within the current South African context. It was established that municipal planning includes strategic-and spatial planning, land-use management and mechanisms to enforce development controls (Kidd, 2011:209-212; Kihato, 2012:9). Typically, these functions include ‘township establishment and town planning’ (van Wyk, 2012b: 297). Furthermore, spatial planning forms a significant part of municipal planning, focusing on forward planning and setting a municipal vision, which land-use management should give effect to. Moreover, it was established that one of the main objects or purpose for planning legislation is for effective land-use planning and entrenched environmental management purposes (refer to Chapter 2). This chapter explored the alignment possibilities between municipal planning and environmental management in an attempt to address the research question:

“Is an interface between environmental management and municipal planning possible?”
– Research question 3 -

Environmental management offers valuable information on environmental sensitivities and attributes, normally in a spatial format that should inform strategic planning. This includes the integration of environmental consideration into municipal planning. The notion adopted in this research is that environmental management instruments ultimately inform city-level instrument development and land-use decision-making. Retief and Cilliers (2015b:585) stated that “alignment” between municipal planning and environmental is more appropriate than integration, as in the current legislative frameworks and mandates for decision-making is “vested in different spheres of government”. Moreover, alignment is more appropriate as each discipline has its own mandate that needs to be upheld. In support to the alignment of municipal planning and environmental management, this chapter, based on a theoretical basis, aimed to identify possible linkages for interfaces between environmental management and municipal planning for alignment to secure mutual support. In this regard Claassen (2009:925) as well as Retief and Cilliers (2015a:167) stated that municipal planning has only partially succeeded as an environmental management tool and consideration of sustainability in decision-making. Moreover, the lack of environmental fortitude within urban planning as well as the political will

within municipalities has been raised as concerns (Cilliers, 2009; Cilliers et al., 2014; Turpie, 2009:54).

Accordingly, this chapter focused on the alignment of environmental management and municipal planning based on the suite of municipal planning and environmental management instruments available. Moreover, this section focused on identifying possible interface opportunities to mainstream environmental consideration into municipal planning. This included the application of municipal planning in a mutually supportive nature to environmental management and provide valuable background to solidify municipal planning preceding Chapter 5 on the Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA) and, therefore, does not yet consider the Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA).

This chapter departed by discussing the status quo in terms of available environmental management and municipal planning instruments. This included the aim of identifying and providing an outline of environmental management and municipal planning instruments and determining the position of environmental management in relation to municipal planning in practice.

Secondly, this chapter focused on the challenges faced for the alignment of environmental management and municipal planning including challenges for environmental management instruments in relation to land-use planning and management.

In the third instance, this chapter dealt with the support municipal planning offer to environmental management as a reason to align environmental management and municipal planning and integrate environmental consideration into municipal planning despite the challenges faced. The notion was to identify interface linkages for possibilities to align environmental management into municipal planning and capitalise on the mutual support offered by municipal planning and fulfil a cross-cutting role to protect the environment.

In the fourth instance, this chapter dealt with interface possibilities between environmental management and municipal planning within the existing parallel processes undertaken by municipal planning and environmental management. This included provisions in the different applicable regulations for the alignment of instruments. Additionally, a summary was provided on the current approaches followed by municipalities whereby environmental management instruments inform municipal planning and municipal planning forming a cross-cutting spatially based local environmental governance tool.

In the fifth instance, this chapter identified and explored successful practice based examples of alignment of instruments. This entitled answering the question on how municipalities achieved alignment between municipal planning and environmental management and if the integration of

spatially based environmental information into municipal planning is possible. The structure of this chapter is illustrated in Figure 4-1.

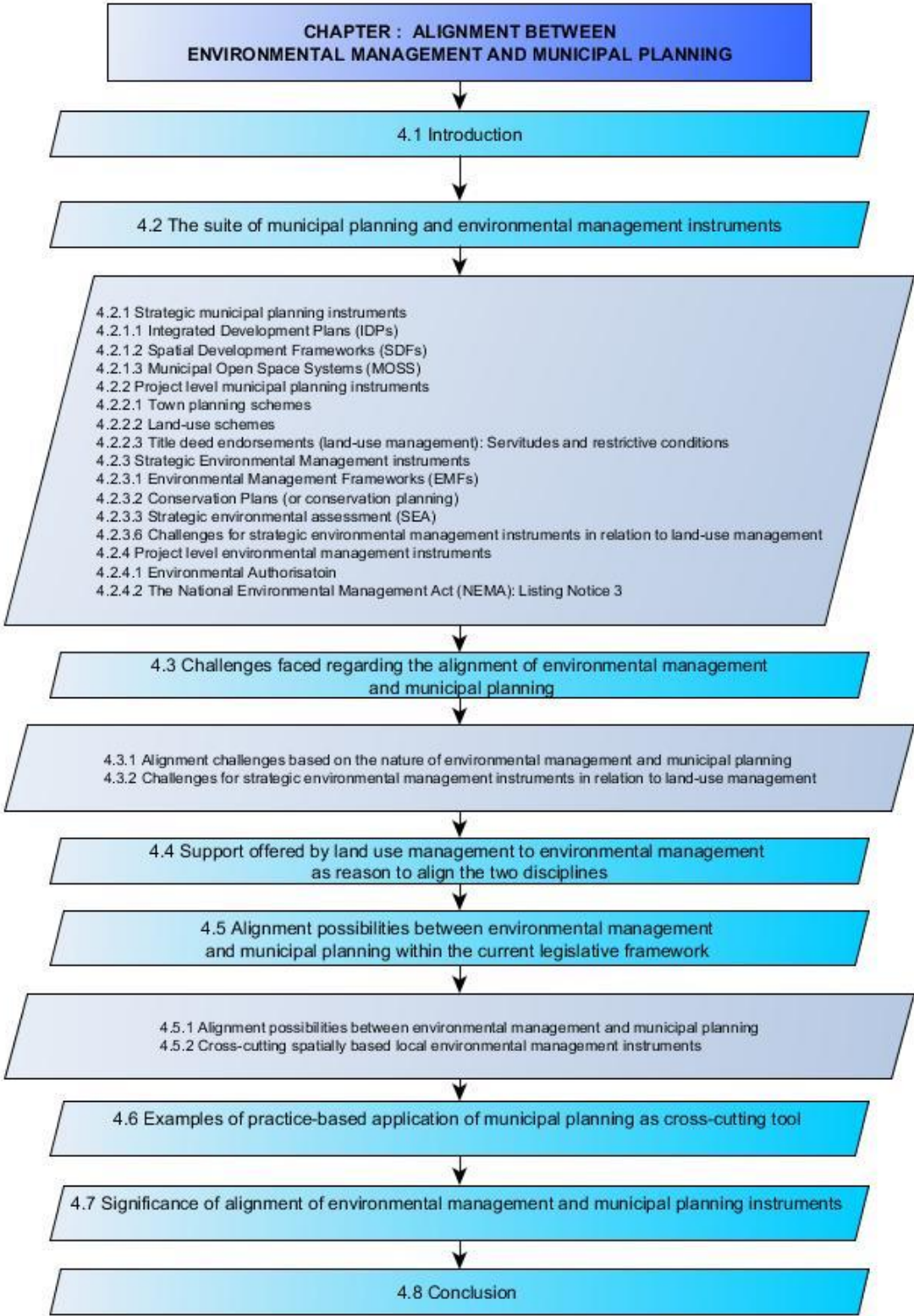


Figure 4-1: Outline of Chapter 4
 Source: Own construction (2017)

4.2 The suite of municipal planning and environmental management instruments

One of the main aims of planning, as identified in Chapter 3.3.4, is to ensure land-use management for entrenched environmental management purposes. Municipalities, in this sense, should contribute towards responsible planning practices and sustainable urban and urban-rural profile creation (Retief & Cilliers, 2015a:169).

In practice, municipalities deal with numerous instruments in planning processes to make land-use (development) decisions and approval for township establishment (Nel et al., 2015b:143). As such, integrated planning has been identified for its contribution to holistic and integrative municipal planning, with the potential to integrate environmental considerations. Cross-reference to Chapter 3.5.1 for more on integrative planning approaches. The use of planning and environmental management instruments and tools is therefore employed for effective decision-making. For purposes of this research, the suite of environmental management and municipal planning tools serves as the framework for the two disciplines, as this section explores the possibility for alignment of land-use planning and management and environmental management related instruments in the parallel processes of environmental management and municipal planning. These instruments serve as a point of departure for interface identification between the disciplines within the current framework and parallel processes. Table 4-1 presents an outline of the relevant planning and environmental management instruments on the relevant (project or strategic level) scales.

Table 4-1: Outline of municipal planning and environmental management instruments

Level	Planning instruments	Environmental Management instruments
Strategic level	IDPs Municipal SDFs Neighbourhood-level municipal SDFs Municipal Open Space Systems (MOSS)	EMFs C-planning SEAs
Project level	Land-use management plans Title deed endorsements as development controls	Environmental authorisation (EA) NEMA: Listing Notice 3 (screening tool for environmental authorisation)

Source: Compiled from NWU-CEM (2013:207).

These instruments can be classified as either project-level or strategic level in nature as explained in the previous chapter (cross-reference to Chapter 3.2.3). Refer to Section 4.5.1 for more on the parallel processes of municipal planning and environmental management under the different mandates. These instruments have “direct implications” for land-use management decision-making (Retief & Cilliers, 2015b:575). Refer to Section 4.2 for more detail on the suite of instruments.

The suite of environmental management instruments is available for adoption to inform municipal planning. This typically happens on a strategic level. In return, municipal planning (land-use planning and management) instruments can perform a cross-cutting local environmental governance role (Nel et al., 2015b:144). The cross-cutting spatially based instruments serve as the departure for the strategic integration of environmental management within municipal planning for environmental management and local environmental governance purposes (Nel et al., 2015b:143).

The suite of instruments offers possibilities to align municipal planning and environmental management and to integrate environmental consideration into municipal planning. The classification of tools consists of four sub-classes and are classified as strategic (Chapter 4.2.1) and project (Chapter 4.2.2) municipal planning followed by the strategic (Chapter 4.2.3) and project (Chapter 4.2.4) environmental management instruments. Accordingly these instruments are discussed.

4.2.1 Strategic municipal planning instruments

On a local government level the strategic planning tools of integrated development plans (IDPs) and spatial development frameworks (SDFs) serve as the fundamental spatial-and operational municipal planning instruments (Nel et al., 2015b:144; Coetzee, 2005:47). Spatial planning has also been identified as the main tool for the possible entrenchment of environmental management consideration into municipal planning. Moreover, municipal open space systems (MOSS) are strategic municipal spatial instruments with environmental management outcomes. Accordingly, IDPs, SDFs and (MOSS) are discussed as a departure to the suite of environmental management and municipal planning instruments as indicated in Table 4-2 which forms the basis of strategic level planning in municipalities.

Table 4-2: Strategic planning instruments as part of the suite of instruments available to municipalities

	Description	Municipal planning	Environmental Management
Strategic level	Policy and forward planning tools focused on operational instruments and strategic spatial guidance	IDP (municipal) policy Municipal SDF Municipal Open Space System (MOSS)	EMFs Conservation planning/ biodiversity planning SEAs
Project level	Tools focused on site specific application such as development control on land parcels or control of activities on a project level. Land-use management can include title deed conditions	Land-use management (land-use schemes, town planning schemes) Title deed endorsements (Restrictive conditions and servitudes) as development controls	Environmental authorisation (EA) NEMA: Listing Notice 3 (screening tool for environmental authorisation)

Source: Adapted from NWU-CEM (2013).

4.2.1.1 Integrated Development Plans (IDPs)

Integrated Development Plans (IDPs) are classical municipal management instruments and a ‘principle strategic planning’ (tool). IDPs have been implemented for more than a decade, serving as an expression of municipalities’ integrated development planning (Retief & Cilliers, 2015a:167-168). A central statutory framework driver for integrated development planning is the prominent Local Government: Municipal Systems Act 32 of 2000 (MSA) promoting (Nel et al., 2015b:111; van Wyk, 2012a:270) “development orientated planning” (van Wyk, 2012a:270).

Integrated Development Plans (IDPs) consists of a 5-year, continuously reviewed, plan focussing on development needs and priorities within a municipality including budgeting and directing investment (DPLG, 2000:29; Knysna Municipality, 2013; van Wyk, 2012a:167). Related to strategic planning, van Wyk (2012a:273) states that an IDP is “a comprehensive document covering all aspects of municipal planning” through the coordinating of planning and development. In essence, the IDP framework provides the output of “integrated development planning” (Nel et al., 2015b:111) and forms a central governing based instruments for the planning and governance within a municipality (Nel et al., 2015b:110). IDPs are related to land-use planning and management through spatial “development” guidance and mechanisms to for land-use control purposes (van Wyk, 2012a:270). Linked to the fore mentioned is the quest for sustainability and “integrating sustainability interest” within municipal planning which includes environmental aspects (Retief & Cilliers, 2015a:169). Nel et al. (2015b:111) also mention the linkages between integrated development planning and environmental planning with IDPs driven by several environmental laws. This captures the cross-cutting functions between planning (development) and environmental management (Nel et al., 2015b:114) and

strengthens the validity of this research to identify interfaces between the disciplines in the light of recent planning reform.

The contributions of IDPs to municipal planning lies within the core components relevant to planning matters which include: a) the long-term development vision, b) current levels of development, c) development priorities, objectives and strategies and, d) the Spatial Development Framework (SDF) (Retief & Cilliers, 2015a; van Wyk, 2012a:271). This ensures valuable guidance towards development and design and city scale development projects, within a municipality (Schoeman, 2010:8; Retief & Cilliers, 2015a). Therefore, an IDP is an operational instrument offering guidance on planning and integrates environmental interest within urban profile making to drive responsible decision-making (Nel et al., 2015a:48). A link exists between spatial planning and land-use management because spatial planning should guide land-use decision-making for a holistic outcome (Berrisford, 2011:251,261).

4.2.1.2 Spatial Development Frameworks (SDFs)

The Municipal Systems Act, 32 of 2000 dictates the adoption of a Spatial Development Framework (SDF) by each municipality. In practice, SDFs serve as the prominent spatial instrument and forms a spatial reflection of the IDP. SDFs, therefore, is a component of the IDP providing a spatial integration component.

The Spatial Planning and Land Use Management Act 16 of 2013 (SPLUMA), provides for National, Provincial, regional and Municipal SDFs. Refer to Chapter 5.5.2 for detail on SDFs and the Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA). Municipal Spatial Development Frameworks (SDFs) are drawn up by municipalities for individual municipal needs (van Wyk, 2012a:274) offering unique solutions that fit the context. In return, it provides binding commitments on development direction forming the main spatial document of a municipality. Measures within the SDF provide legal status to the spatial documents (and framework) and content thereof (City of Cape Town, 2016a; Nel et al., 2015a:48; Retief & Cilliers, 2015a:189). Arguably contributing towards more comprehensive integrated municipal planning (Retief & Cilliers, 2015a:167,179).

Spatial Development Frameworks (SDFs) provides strategic spatial representation towards municipal forward planning (development planning). Subsequently, providing “basic guidelines for land use management system” as SDFs should be consulted during all land-use (development) applications (van Wyk, 2012a:275). Local SDFs can also be prepared to provide guidance on a smaller scale for instance a SDF for a specific neighbourhood, extension or area within a municipality.

Moreover, as a component to the IDP, the SDFs assist in directing spending and investment within the municipality, through visually reflecting areas of investment and desired development. This includes relevant desired activities in certain areas/properties (fine scale) and direct IDP investment accordingly for desired urban profiles (DPLG, 2000:16; City of Cape Town, 2016a; Retief & Cilliers, 2015a; van Wyk, 2012a: 270). Environmental sensitivities, attributes, development and environmental objectives are also indicated in SDFs. Additionally the SDF indicates the urban edge boundary setting an urban development boundary.

SDFs provide valuable guidance to operational and land-use decision-making and must be informed by other spatial information. Available spatial data needs to be integrated into SDFs to 'inform' SDF formulation to form a comprehensive planning instrument. This includes spatial information such as environmental instruments forming layers of spatial data within the SDF operational use (Nel et al., 2015a:48). The layers of information is obtained from environmental information such as: Conservation/bioregional plans, Strategic Environmental Assessments (SEA), Environmental Management Frameworks (EMFs), Municipal Open Space Systems (MOSS) as well disaster management and other relevant plans (Cilliers et al., 2014:264,267; Nel et al., 2015a:48; Nel et al., 2015b:143-144). This is instrumental, from a municipal sustainability perspective, to take custodianship of the environment, guide municipal decision-making and ensuring responsible development controlled. Thereby, taking environmental impacts into consideration and inform land-use management systems and land-use decisions as part of the functional area of 'Municipal Planning' adhering to sound development principles and directives (Du Toit & Cilliers, 2015:773-774).

It is evident that SDFs can ensure municipalities take custodianship of the environment through utilising SDFs as a local environmental governance instrument serving a cross-cutting role (Nel et al., 2015b:144). Furthermore, by incorporating environmental management instruments into SDFs have several supportive benefits. Firstly, the integration contribute towards further comprehensive integrated municipal planning (Retief & Cilliers, 2015a:179). Secondly, it might be used as a tool to effectively restrict/control unwanted land-use or to preserve certain areas for specific purposes (Nel et al., 2015a:48). Thereby SDFs serve as a pro-active tool to ensure a balance between development needs and environmental protection by guiding land-use decision-making.

The (new) Spatial Planning and Land Use Management Act, 16 of 2013 provides additional requirements and guidance on SDF preparation. Refer to Chapter 5.5.2 for more detail on the Spatial Planning and Land Use Management Act, 16 of 2013 and impact on SDFs.

4.2.1.3 Municipal Open Space Systems (MOSS)

Municipal Open Space Systems (MOSS) is an effective tool for local government to take custodianship of environmental matters as it offers guidance for land-use decision-makers (Snijman & Peterson, 2015:296). Municipal Open Space Systems (MOSS) spatially defines environmental attributes, elements, sensitivities and objectives for land parcels with the intention to inform project-level (per property) land-use decision-making. MOSS generally forms part of an environmental management plan, policy or framework which subsequently forms part of the broader local conservation efforts (Retief & Cilliers, 2015a:189).

MOSS incorporates valuable biological and environmental attributes for sustaining “ecological processes and human interaction” reflected on spatial platform (City of Johannesburg, 2002:7). The system of open areas consist of private and public, undeveloped, disturbed or undisturbed natural areas and watercourses (van Wyk, 2012a:256) to create a system of linked spaces supplementary to other spatial plans. The rationale includes that biodiversity holds environmental value such as environmental “goods and services” maintaining the resilience of natural urban environments from development and human activities (Du Toit & Cilliers, 2015:778; United Nations, 2008:2; eThekwini, s.a.). This entitles identifying areas of high biodiversity, valued open spaces and sensitivities such as ridges and wetlands (Du Toit & Cilliers, 2015: 778; Snijman & Petterson, 2015:298-297; United Nations, 2008:2; eThekwini, s.a.). These measures contribute in the pursuit of a municipal spatial vision and pilifying environmentally valuable areas (Nel et al., 2015a:49; United Nations, 2008). In return it promotes environmental protection (Snijman & Peterson, 2015:296) promoting sustainable urban settlement making and enhance urban environmental resilience (Cilliers et al., 2014; Du Toit & Cilliers, 2015:778; Freedman, 2014:584).

MOSS is generally integrated within the SDF for strategic planning purposes. This will typically be incorporated as a layer within the SDF operated on a geographic tool such as Geographic Information Systems (GIS). An additional route is to incorporate MOSS, through municipal policies, into the land-use management system to offer project-level environmental considerations and restrictions (Du Toit & Cilliers, 2015:778; Freedman, 2014:584; Nel et al., 2015a:48-49). Subsequently, MOSS has merits to inform spatial planning, however, is dependent on land-use management to enforce development control in cognition of the MOSS. This can be done through assigning additional split zoning or overly zoning (additional zoning assigned apart from the prime land-use right such as low density residential purposes) on land parcels (Freedman, 2014:584; Nel et al., 2015a:49; Snijman & Peterson, 2015:296-297).

4.2.2 Project level municipal planning instruments

Project level municipal planning tools consist of land-use management granting certain land-use rights and simultaneously limiting land-use rights (Nel et al., 2015a:48-49; Kidd, 2011:210) by imposing development controls on land parcels. Before defining the instruments of land-use (management) schemes or old order town planning schemes (also known as zoning schemes), it would be favourable to briefly mention land-use management as a tool to control and manage land-use. With the promulgation and implementation of SPLUMA 2013, a nationally applicable definition on land-use management systems was introduced (South Africa, 2013:9) which is defined as:

“the system regulating and managing land use and conferring land use rights through the use of schemes and land development procedures.”

From the above mentioned, it is evident that land-use management includes control and regulating mechanisms over land-use and imposes limits to land-use rights (Retief & Cilliers, 2015a:169) or development parameters. Table 4-3 indicates the project level instruments. The project-level municipal planning instruments include old order town planning schemes and modern land-use schemes in accordance with the SPLUMA, as well as the relevant title deed endorsements forming development controls.

Table 4-3: Project level municipal planning instruments as part of the suite of instruments

	Description	Municipal planning	Environmental Management
Strategic level	Policy and forward planning tools focused on operational instruments and strategic spatial guidance	IDP (municipal) policy Municipal SDF Municipal Open Space System (MOSS)	EMFs Conservation planning/ biodiversity planning SEAs
Project level	Tools focused on site specific application such as development control on land parcels or control of activities on a project level. Land-use management can include title deed conditions	Land-use management (land-use schemes, town planning schemes) Title deed endorsements (restrictive conditions and servitudes) as development controls	Environmental authorisation (EA) NEMA: Listing Notice 3 (screening tool for environmental authorisation)

Source: Adapted from NWU-CEM (2013)

Accordingly the suite of project level municipal planning instruments is discussed. These instruments include land-use management instruments (land-use schemes and town planning schemes) and title deed endorsements (restrictive conditions and servitudes forming development controls). The discussion cannot be watertight and overlaps may occur between instruments. Firstly, town planning schemes (old order) are discussed followed by land-use

schemes (new order) and title deed endorsements that is development controls on land parcels. These instruments have direct implications on integrating environmental consideration into land-use management and planning.

4.2.2.1 Town planning schemes

The first project level instruments discussed is town planning schemes. Town planning schemes are old order land-use management instrument. Town planning schemes or zoning schemes serve as the main statutory means to achieve orderly land-use management and development control over land-use (UWC, 2007:30; van Wyk, 2012a:279). Town planning schemes have “legally enforceable prescriptions” as “mechanisms to control and regulate” (Kidd, 2011:211) land-use rights of owners, promoting the welfare and safety of the inhabitants and promoting orderly development (Kidd, 2011:211; Retief & Cilliers, 2015a:169; van Wyk, 2012a:286) and “the general welfare and prosperity of the people it serves with the greatest efficiency and economy” (van Wyk, 2012a:279).

A 1990 court judgement offers insight into the definition of and cause of town planning schemes with the judgement concluded that town planning means (cited by van Wyk, 2012a:279).

“The preparation and construction of plans in accordance with which the growth and extension of a town is to be regulated, so as to make use of natural advantages of the site, and to secure the most advantageous conditions of housing and traffic, the convenient situation of public buildings, open spaces, et cetera.”

This provides the power to enforce measures and regulate land-use within municipality’s jurisdiction.

Town planning schemes provides landowners with land-use rights and imposes limits to their rights through zoning based measures and development controls (van Wyk, 2012a:278). Zoning, therefore, restrict the use of land on a property through scheme regulations and prescriptions as well as development controls imposed by the allocated zoning. Typical schemes will consist of “scheme clauses, scheme maps, annexures and schedules” (Steyn, 2012:34; van Wyk, 2012a:278). The abovementioned documentations typically include prime land-use rights and potential allowable secondary land-uses as well as surrounding land-use rights (zonings). The following project level instrument to be discussed is land-use schemes.

4.2.2.2 Land-use schemes

Land-use schemes are associated with the more contemporary land-use systems and legislation. Land-use schemes are, therefore, a nurtured form of the classical management tool of town planning schemes used by local government to regulate and implement controls over the built environment (UWC, 2007:3). Land-use schemes provide guidance, facilitate and direct

land-use management typically through zoning (Kruger, 2014:95). Departure from an assigned zoning requires a rezoning process or consent use. This is identical to town planning schemes and, therefore, has spatial implications on urban profile-making (van Wyk, 2012a:291) and forms part of the bigger land-use control, spatial planning and development parameters (SAPI, 2015). Land-use schemes, in effect, must be aligned with IDPs and SDFs and other relevant policies and plans regarding spatial location of activities, conservation, investment and development (Kruger, 2014:95; South Africa, 2013: 34). A land-use scheme is, therefore, a tool to guide and manage development within a municipal jurisdiction in such a manner to reflect the vision of the strategic documents of the SDF and IDP through applying land-use control (SAPI, 2015). For more on land-use schemes, and the implications the enactment of the Spatial Planning and Land Use Management Act, 16 of 2013 has had on the land-use management and planning system refer to Chapter 5.5.3.

Therefore land-use management systems (town planning schemes and the modern definition land-use schemes) grants land-use rights, however, simultaneously limits land-use rights of landowners as a provision for controlling and managing development to conform to desired land-use patterns and restricting unwanted development limiting potential for uncontrolled development and nuisances (Claassen, 2009:921; Kidd, 2011; Nel et al., 2015a:48-49).

4.2.2.3 Title deed endorsements (land-use management): Servitudes and restrictive conditions

Title deeds developed from simplistic formats of registration of owner and measurements of the property into a formidable project-level land-use control instrument. This includes registering servitudes and other “restrictive conditions and limitations” (restrictions) in title deeds, forming development controls (restricting land-use) on land parcels (Nel et al., 2015a:48-49; Retief & Cilliers, 2015b:48-49; van Wyk, 2012a:19-20, 68-69, 305-309, 313, 322-324, 330-339).

Restrictive title deed conditions (also known as restrictive conditions) restrict the use of land and set certain duties and responsibilities during township establishment (van Wyk, 2012a:14) imposed to the benefit of the surrounding owners, neighbours or bodies (such as body corporates, owners of a township) and the general character of an area (van Wyk, 2012a:68; Western Cape Government, 2015). For purposes of this research restrictive conditions include the number of dwellings and or structures on a property; conditions prohibiting subdivisions; the distance from boundaries or attributes which prohibits structures to be erected; the structure types; prohibit land-uses and activities; the size of dwellings or structures and coverage (van Wyk, 2012a:14, 68, 313; Western Cape Government, 2015).

According to van Wyk (2012a:19), a servitude is “a limited real right over another’s property that grants the entitlement persons certain specified entitlements of use and enjoyment”. This

includes the creation of “no-go” areas on a property in favour of a municipality or organ of state which can be used to protect environmental attributes by restricting development and prevent unwanted activities (Nel et al., 2015a: 48-49; SANBI, 2014:19; van Wyk, 2012a:214).

Refer to Table 4-8 for detail on title deed endorsements restricting environmentally harmful behaviour through land-use planning mechanisms. For more on title deed endorsements and SPLUMA refer to Chapter 5.5.4.

4.2.3 Strategic environmental management instruments

Planning instruments play an important supporting role to environmental management by offering a spatial approach to land-use planning and development controls mechanisms. However, environmental management instruments are of informative value to planning, forming an important “strategic and spatial dimension” to land-use planning and management and require capitalisation (Retief & Cilliers, 2015b:575). From a planning perspective, the aim is to align environmental management instruments with land-use planning and management (Retief & Cilliers, 2015b:585).

These informative tools serve to indicate environmental attributes, sensitivities and objectives spatially. Instruments include environmental management frameworks (EMFs), conservation plans (C-plans) and strategic environmental assessments (SEAs). The position of strategic environmental management instruments in relation to the suite of municipal planning and environmental management instruments is indicated in Table 4-4.

Table 4-4: Strategic level environmental management instruments as part of the suite of instruments

	Description	Municipal planning	Environmental Management
Strategic level	Policy and forward planning tools focused on operational instruments and strategic spatial guidance	IDP (municipal) policy Municipal SDF Municipal Open Space System (MOSS)	EMFs Conservation planning/ biodiversity planning SEAs
Project level	Tools focused on site specific application such as development control on land parcels or control of activities on a project level. Land-use management can include title deed conditions	Land-use management (land-use schemes, town planning schemes) Title deed endorsements (Restrictive conditions and servitudes) as development controls	Environmental Authorisation (EA) NEMA: Listing Notice 3 (screening tool for environmental authorisation)

Source: Adapted from NWU-CEM (2013).

Accordingly the suite of strategic level environmental management instruments as indicated in Table 4-4 is discussed.

4.2.3.1 Environmental Management Frameworks (EMFs)

Environmental Management Frameworks (EMFs) is a “study of the biophysical and socio-cultural system” of a specific geographical area which includes a spatial representation of the environmental sensitivities and attributes offering guidance on appropriate and inappropriate activities for an area. An “explicit mandate” (legal mandate) for EMFs exist and is also open for adoption in local integrated development planning (Retief & Cilliers, 2015a:178; South Africa, 2010:1).

In essence, an EMF informs decision-making on appropriate activities for an area and provides performance standards to maintain appropriate activities (Cilliers, 2015:50; Kidd, 2011:265; Retief & Cilliers, 2015b:579; South Africa, 2010:1). EMFs, therefore, serve as a screening mechanism for environmental authorisation and include the “extent of environmental authorisation requirements in defined geographic areas” (Retief & Cilliers, 2015b:579). This includes areas where certain activities are exempt from an environmental authorisation and areas where “specific activities may not commence without an environmental authorisation” (Retief & Cilliers, 2015b:579).

EMFs inform the competent decision-making authorities as well as influence development planning typically during land-use and township establishment applications (van Wyk, 2012a:294-295; Cilliers, 2015:50). EMFs inform decision-making in three different ways (Cilliers, 2015:50-51). Firstly, EMFs defines the “authorising requirements in defined geographic areas” (Retief & Cilliers, 2015a:579) as it is a screening mechanism for environmental authorisation and provide guidance on the desirability of an activity (Cilliers, 2015:51). Secondly, EMFs provide strategic context for environmental management as it provides for the need and requirements of environmental assessment providing for assessment beyond site specific issues during decision-making, but includes impacts beyond the site boundaries (Cilliers, 2015:51). Lastly, EMFs informs spatial planning, and development planning, by providing input to SDF formulation (Cilliers, 2015:51). In addition by informing spatial planning, EMFs, provide for a strategic vision to land-use management.

The main relevance of EMF application and land-use planning and management is the contribution towards sustainability and securing environmental protection (van Wyk, 2012a:294) by informing land-use decision-making by indicating “location sensitivity” (Retief & Cilliers, 2015b:578). On a local level, these sensitivities form a visual representation of areas and capture environmental attributes by the use spatial tools and plans. Additionally, the possibility exists for municipalities to adopt an EMF as sector/structure plans, into land-use systems, by

incorporating the EMF as a layer of information into the SDF (City of Cape Town, 2016b; Nel et al., 2015b:144; Retief & Cilliers, 2015b:580).

The advantage of EMFs, for development planning, is that EMFs can be used to identify “appropriate” and “inappropriate” activities for a certain spatial area and may be used as guidance in land-use change decision-making (Retief & Cilliers, 2015b:580). Moreover, streamlining and alignment of EMFs and SDFs provide the opportunity to reflect upon development pressure and conservation needs (including conservation targets) to achieve a more sustainable planning approach (Cilliers et al., 2014; Retief & Cilliers, 2015b:582) and resolve conflicts between the visions/ spatial outcomes of the two instruments on a strategic level (Retief & Cilliers, 2015a:179; Cilliers, 2015:32,93,102). This can place municipalities in a position to make responsible and informed decisions on land-use by consulting the sensitivity as defined by the EMF in the specific area. The comprehensive spatial tools guide decision-makers on project level authorisation (processes) including environmental authorisations (EAs) and land-use change such as rezoning applications and township establishments (Cilliers et al., 2014:267; Nel et al., 2015a:48; Retief & Cilliers, 2015b:583). Refer to Section 4.6 for practised based examples on the alignment of EMFs and SDFs.

Recent legislation frameworks and planning reforms (refer to Chapter 5.5) specifically requires that municipal authorisation to assess EMFs for their land-use schemes and municipal SDFs. This provides for the alignment of EMFs and land-use planning and management instruments.

4.2.3.2 Conservation planning

Conservation planning (also known as biodiversity planning) is a strategic conservation orientated environmental management tool focused on biodiversity which is open for adoption by municipalities in South Africa (Cilliers, 2015:53; Retief & Cilliers, 2015b:581-582). C-planning is, however, not done at one specific level” of governance (Retief & Cilliers, 2015b:581).

While formal areas allocated for conservation are significant they alone are not adequate to mitigate the adverse effects of development. A more systematic approach is required for biodiversity conservation outside these designated areas to include the whole landscape (Margules & Pressey, 2000:243). Conservation planning comprises of a process of identifying environmentally significant areas, critical biodiversity and ecological support areas, that are of conservation importance. This type of planning mechanisms includes bioregional plans or ecosystem plans (Retief & Cilliers, 2015b:581-582; SANBI, 2014; SANBI, 2015). Conservation planning also help to mainstream biodiversity objectives into land-use planning and management decision-making (SANBI, 2014:2) by providing information on biodiversity in a specific area and guide land-use planning and management (Cilliers, 2015:53; Retief & Cilliers, 2015b:582).

Three important principles are associated with C-planning. The principles include two objectives (representativeness and persistence) with a third principle which include setting targets to achieve conservation goals. Firstly C-planning is representativeness, a long term goal whereby conservation areas are to represented or sample “the full variety of biodiversity” in organisations particularly in decision-making processes. This entails representation of the biodiversity of an area in the “face of competing land uses” (Margules & Pressey, 2000:243). The second principle is persistence; C-planning should promote the long-term maintenance of a certain state of the biodiversity and natural processes including managing the pressures on the biodiversity as well as issues pertaining to the state of the biodiversity. The third principle includes explicit biodiversity conservation goals translated into operations targets and the efforts in realising the conservation efforts. Therefore, C-plans identifies areas of significance for biodiversity protection and form a representation of biodiversity targets for long term approach to biodiversity protection (Margules & Pressey, 2000:243).

C-planning in South Africa comprises of several instruments which include: ‘open space management plans’, provincial conservation plans, ‘biodiversity plans’ (including biodiversity sector plans), and ‘bioregional plans’ (Retief & Cilliers, 2015a:189). Provided for under the National Environmental Management: Biodiversity Act, 10 of 2004, bioregional plans are the only tool, if published that must be taken into account by municipalities. These instruments also offer guidance on environmental assessment in land-use planning and for expanding conservation areas (SANBI, 2014) with the potential to be aligned with land-use plans (Retief & Cilliers, 2015a:189; Retief & Cilliers, 2015b:582). Conservation planning identifies Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) (SANBI, 2014:14). Whereas, Bioregional plans “contain land-use guidelines for CBAs and ESAs” (SANBI, 2014:14). C-planning as a tool focuses on municipalities’ plans for longer term environmental management and custodianship plans. Bioregional plans map CBAs to be used in municipal planning instruments and operational instruments such as the IDPs, SDFs as well as land-use schemes (SANBI, 2014:14) to indicate appropriate land-uses and to identify compatible and incompatible land-uses within each area for conservation purposes (Retief & Cilliers, 2015b:582; SANBI, 2014:14). CBAs and ESAs, therefore, provide context to decision-makers on areas to conserve.

On a local level, consulting C-plans are beneficial as it informs where to preserve within a municipality. C-plans success depends on information and data offered to planning tools and the value to inform decision-making “add value to integrated development planning” (Retief & Cilliers, 2015a: 178,181). C-plans also informs spatial planning (Nel et al., 2015a:48) by providing for biodiversity conservation to be integrated into spatial plans and land-use management by providing “guidelines” to inform planners on recommended compatible and incompatible land-uses (SANBI, 2015:2). With the recent introduction of new planning

framework legislation) it is now required of municipalities to consider and assess environmental planning instruments such as C-plans (Refer to Chapter 5.7). Moreover, C-plans can also inform EMF formulation (Retief & Cilliers, 2015a:178). A distinction should be made between EMFs and C-planning, whereas C-plans identify area of conservation importance to biodiversity, EMFs indicate environmental sensitivities in terms of envisaged activities (Cilliers, 2015:46-48,53; Retief & Cilliers, 2015b:579-582).

By aligning C-plans and land-use planning and management (Retief & Cilliers, 2015b:575,580-582; SANBI, 2014) (Retief & Cilliers, 2015b:576; SANBI, 2014) will ensure planners are directed and decision-makers and restricting land owners' rights in support of C-plans. Moreover, the National Environmental Management Act, 107 of 1998 Environmental Impact Assessment Regulations Listing Notice 3 of 2017 (NEMA: Listing Notice 3) affords environmental protection to C-plans to maintain the status quo land-use. In terms of NEMA: Listing Notice 3 additional environmental authorisation is required for developments in areas identified in systematic conservation planning (South Africa, 2017; NWU-CEM, 2016:216; SANBI, 2014:14-15).

4.2.3.3 Strategic environmental assessment (SEA)

SEAs is a strategic instrument with both "technical" and "administrative" procedures (Torreta & Capodaglio, 2017:105) to integrate environmental considerations into policy formulation, plans and programs preparation as well as operational documents and processes (World Bank, 2007:1-2). Although SEAs are internationally endorsed and extensively applied, no universal definition for SEAs exist (Torreta & Capodaglio, 2017:105).

There is also no legal definition for SEAs in South Africa, and it is sometimes difficult to distinguish between EMFs and SEAs (Cilliers, 2015:52). There is also no legal mandate for SEAs in South Africa. However, guideline documents exist and NEMA provides for SEA regulations (Cilliers, 2015:52; Retief & Cilliers, 2015b:576). Retief and Cilliers (2015a:578) state that the Spatial Planning and Land Use Management Act, 16 of 2013 "calls for the inclusion of a strategic assessment of environmental pressures and opportunities within the municipal area".

In terms of the application of SEAs the instrument can be defined as "an environmental assessment of strategic decision at policy, planning and programme levels of decision-making" (Retief & Cilliers, 2015b:577) or rather "tiers of decision making "(Cilliers, 2015:52).

In practice, an SEA is a strategic environmental management tool driven by adopted policies driven by integrating the concept of sustainability into decision-making (Cilliers, 2015:52). Thereby the purpose of SEA is to inform strategic decision-making as well as to serve as an assessment tool for programmes, policies and plans (Cilliers, 2015:52-53; Retief & Cilliers, 2015b:577). Moreover, SEAs is as an assessment activity focused on "specific issues and

priorities” (Cilliers, 2015:52-53) which aspects of opportunities and constraints that the environment places on development (Cilliers, 2015:47; Retief & Cilliers, 2015b:579).

While traditionally classified as a strategic environmental management instruments research shown that SEAs have been used in planning-related matters in development planning processes (Retief & Cilliers, 2015b:578). Therefore, SEAs have potential to be used in planning related matters and in terms of interface with municipal planning have significant potential.

4.2.4 Project level environmental management instruments

For purposes of this research, in an interface context, the emphasis is placed on the environmental authorisation in relation to land-use planning and management as well as NEMA: Listing Notice 3. The purpose of environmental authorisation is to regulate and mitigate potential environmental impacts caused by human activities (Nel et al., 2015b:48-49). In addition development in areas listed in NEMA: Listing Notice 3 requires additional environmental authorisation.

Table 4-5: Project level environmental management instruments as part of the suite of instruments

	Description	Municipal planning	Environmental Management
Strategic level	Policy and forward planning tools focused on operational instruments and strategic spatial guidance	IDP (municipal) policy Municipal SDF Municipal Open Space System (MOSS)	EMFs Conservation planning/ biodiversity planning SEAs
Project level	Tools focused on site specific application such as development control on land parcels or control of activities on a project level. Land-use management can include title deed conditions	Land-use management Title deed endorsements (Restrictive conditions and servitudes) as development controls	Environmental Authorisation NEMA: Listing Notice 3 (screening tool for environmental authorisation)

Source: Adapted from NWU-CEM (2013)

4.2.4.1 Environmental authorisation

Environmental authorisation is required for listed activities in terms of South African environmental legislation which includes an assessment of the environmental costs/consequences caused by “human actions” (Retief & Cilliers, 2015b:583; van Wyk, 2012a:421). Environmental authorisation can prevent potential environmentally harmful activities and mitigate potential environmental impacts caused by activities. The process and documents required for environmental authorisation provide decision-makers with information on the impact of proposed activities, possible alternative activities, as well as participation mechanisms for stakeholder involvement (Kidd, 2011:235; van Wyk, 2012a:421).

There are complex legislative processes applicable to development and developers are required to go through multiple decision-making processes for environmental and land-use authorisation (Steenkamp, 2009; Retief & Cilliers, 2015b:584). Both processes include conducting of separate socio-economic studies and requires motivating the “need and desirability” (including public participation) of a proposed development for each application. While this may contribute towards a comprehensive multiple disciplined assessments, the dual processes contribute to increased cost of a development and possibly delay the start thereof. Thereby Retief and Cilliers (2015b:584) as well as Steenkamp (2009) emphasise the need for the “integration and alignment of authorisation process” to ensure a turnaround on delays and improve “efficiency and effectiveness” of the processes. However, with the enactment of SPLUMA a more positive outlook for decision-making process integration and alignment between land-use authorisation and environmental authorisation exist (Retief & Cilliers, 2015b:584-585; Steenkamp, 2009). However, success in streamlining authorisation in a system of different mandated authorities for environmental authorisation and land-use remains to be seen.

Proposals are also been made to improve upon the strategic guidance of environmental instruments for project level decision-making. Proposals are made to align SDFs and EMFs to provide guidance to project level decision-making. “The rationale is that SDFs and EMF provide the strategic context that informs project-level decisions” (Retief & Cilliers, 2015b:583). Local authorities are typically involved as commenting authorities during processes for environmental authorisation and included during participation processes and can potentially influence decisions outcomes (Retief & Cilliers, 2015b:583).

4.2.4.2 The National Environmental Management Act (NEMA): Listing Notice 3

As mentioned in Chapter 4.2.3.2 NEMA: Listing Notice 3 has direct implications on developments where listed activities would trigger an environmental screening and environmental authorisation process (SANBI, 2015). This makes provisions for activities within geographically defined areas where new activities require environmental authorisation before an activity can commence in addition to land-use approvals (SANBI, 2015). Therefore, NEMA Listing Notice 3 ensures that certain land parcels/ areas enjoy additional environmental consideration. The land parcels included land zoned as conservation or open space, land parcels reflected within the SDF as open space or conservation or a similar status land-use (within urban areas), any parcels reflected in similar strategic plans, sensitive areas identified by EMFs, or areas implicated in biodiversity plans or C-plans (SANBI, 2015; South Africa, 2014a; South Africa, 2017). Additional environmental management processes for environmental authorisation may be required. Thereby, land-use planning and management can be complementary to environmental management. Municipal planning is therefore in a position to

fulfil a complementary role to environmental management by establishing a mutual objective for land parcels and applying planning tools.

4.3 Challenges faced regarding the alignment of environmental management and municipal planning

Literature review maintains that the alignment of environmental and municipal planning is required. However, several challenges exist for practical alignment of environmental management and municipal planning instruments. The nature of municipal functions and the status quo poses several limitations to ensure the alignment of environmental management and municipal planning including the entrenchment of environmental management consideration within municipal planning (Hendler & Wolfson, 2013:28).

4.3.1 Alignment challenges based on the nature of environmental management and municipal planning

The major shortcomings in current planning practices are attributed towards a lack of synergies between the two disciplines. The lack of synergies is predominantly the result of individual (discipline) tool development and policies, with insufficient accommodation for synergies and alignment of instruments from the two disciplines. This can be described as silo-planning approaches undertaken by each discipline. The silo-planning approaches can be associated with the different legislative mandates for each discipline. The silo-planning approaches also contribute towards compatibility and integration difficulties. Difficulties exist in the alignment of instruments offered by the two disciplines of planning and environmental management due to scale differences attribute to the development of instruments for the use on a specific scale. The lack of alignment and synchronisation results in insufficient mutually supportive linkage between the disciplines and subsequently contributes towards shortcomings in exploiting potential cross-cutting functions of instruments (Turpie, 2009:54-56; Claassen, 2009). These shortcomings result in municipal planning failing to be of any assistance in tackling the undesirable developments and unsustainable development trends (Cilliers et al., 2014:261). The focus is accordingly on challenges from a local level or city-level perspective by which several local level planning challenges exist.

Environmental instruments can be developed for application on different scales. For instance, EMFs can be developed on local municipal scales, district municipal scales, provincial scales and regional scales (Cilliers, 2015:64). Municipal planning, however, is conducted on a local scale. Scale differences and potential scale distortion (map base information) as a result of cascading spatial informative instruments to a local level is a challenge that needs to be overcome (Retief & Cilliers, 2015a:191) if environmental instruments are to be informative to municipal planning. The alignment of environmental management tools from Provincial Conservation plans/ spatial instruments, Bioregional plans from district levels and Provincial C-

plans, with Municipal SDFs, can be challenging as information developed for larger scale maps becomes unsuitable to be used in municipal SDFs or city scape spatial planning tools. This requires, among other, refinement of instruments from each discipline to form informative instruments, tool or documents on a local level to be used in land-use planning and management.

The alignment of instruments on a local level also requires knowledge and resources. However, a lack of funding and municipal capacity concerning knowledge and personal skills remains a stumbling block for many local municipalities to align and synchronise planning and environmental management tools (Hendler & Wolfson, 2013:28; Retief & Cilliers, 2015b:563). This includes an absence of guidelines and practice based examples (precedents) as examples on how instruments could be aligned and integrated. In the complex land-use planning and management system refinement is necessary to accommodate the alignment of environmental management and municipal planning (Cilliers et al., 2014:267; Retief & Cilliers, 2015b:576). Moreover, it is recommended to establish an environmental management function within a municipality to have proficient personnel to advice planners (Retief & Cilliers, 2015b:576).

Municipalities should, therefore, build capacity to understand how successful alignment between the municipal planning and environmental management can be achieved (Retief & Cilliers, 2015b:577). Additionally, the suite of instruments available and the information offered requires a successful platform such a strategic decision-making structure, from different disciplines to build on each other and avoid duplication (Cilliers et al., 2014:267) as well as to address “inefficiency in decision-making and mandates” (Retief & Cilliers, 2015b:577). Retief and Cilliers (2015b:585) emphasises the need for “cooperative governance” if optimal interfaces between environmental management and municipal planning are to be achieved. The challenge is to create a platform for municipal decision-makers, offering guidance through a simplified tool, for planners to consult during land-use decision-making.

Moreover, several key challenges exist to integrate environmental consideration into municipal planning through the use of available instruments. These challenges are accordingly discussed for strategic environmental consideration into land-use management and for project level environmental instruments in relation to land-use management.

4.3.2 Challenges for strategic environmental management instruments in relation to land-use management

Retief and Cilliers (2015b) identify several challenges for strategic environmental management in relation to land-use management. The main challenges concerning to strategic environmental assessment (SEAs), environmental management frameworks (EMFs) and conservation planning (C-planning) are indicated within Table 4-6.

Table 4-6: Challenges for strategic environmental management instruments in relation to land-use management

Strategic environmental management tool	Challenges
Environmental management frameworks (EMFs)	<ul style="list-style-type: none"> • Conflicting mandates: due to environmental mandates vested at provincial and national government levels, while municipal planning is vested at a local level. The challenge, therefore, remains to integrate “EMF outcomes” into municipal SDFs and other land-use management policies. Essentially pointing to alignment of tools instigated by different departments and spheres of government • “Defining sensitivity”: A universal key to indicate sensitivity is required as well as a common definition of sensitivity. This will ensure the synchronisation of instruments by using commonly agreed indicators enabling comparisons to be made. For municipal planning purposes, this includes a simple legend key and common terminology to be developed to illustrate the scale (level) of sensitivity in a particular area/ cadastral unit. Moreover, sensitivities defined should be cascaded down to city-scale • Capitalising on public participation: “EMFs could benefit significantly from integrating public participation components into IDP and SDF processes”. However, integrating “public participation to components into IDP and SDF processes remain a challenge (Retief & Cilliers, 2015b:581).
Conservation planning (C-planning)	<ul style="list-style-type: none"> • While C-plans indicate “where to conserve”, the process of achieving conservation goals as well as the implementation thereof in land-use planning and management are vague. Therefore, general conservation action is an issue. According to Knight et al. (2008) (<i>In Retief & Cilliers, 2015b:582</i>) the “research implementation” gap contributes to the overall “knowing-doing” or ‘research implementation’ gap experienced in terms of a multidiscipline approach to land-use planning and management. • Real world experience in integrating systematic conservation (assessment) outcomes into municipal planning is limited. One approach is to integrate conservation planning outcomes into in land-use planning policies. However, the full effectiveness thereof remains to be seen. • Moreover, Retief and Cilliers (2015b:582) state that the “exact manner in which C-planning fits into different spheres of decision-making” and especially land-use management needs clarification. • In terms of land-use planning (spatial planning) the outcomes of C-planning instruments requires integration into SDFs and EMFs which subsequently relies on alignment of tools to avoid duplication. This requires expertise and resources • Furthermore, balances must be achieved between “biodiversity conservation targets”, open space, high valued agricultural land and development goals to avoid potential conflicts. Achieving a balance requires information of both disciplines. This is no easy task as the identification of these areas could have commenced on provincial level or by a different municipal department and reflected in contradictory plans/documents or policies. Inconsistencies (a lack of synchronisation) are possible due to stand-alone documents formulation that does not express a (shared) common vision for an area. Scale differences used by different frameworks/plans in C-plans to identify areas also hamper synchronisation.

Source: Compiled from Retief & Cilliers (2015b:577-582); SANBI (2015); van Wyk (2012a:294-295).

While land-use planning and management can be used to provide mutual support to environmental management, several challenges exist. Table 4-7 describes the challenges for project level application of environmental instruments in relation to land-use management.

Table 4-7: Challenges for project-level environmental instruments and land-use management

Aspect	Description
Alignment of Municipal SDFs and EMFs for project-level authorisation- with municipalities as commenting authority	<p>The alignment of instruments and fast tracking of decision-making remain a challenge due to the different mandates and decision-making authorities for municipal planning and environmental management.</p> <p>Retief and Cilliers (2015b:583) recommend the alignment of municipal SDFs and EMFs to guide land-use management. In effect this means synergies (alignment) between the instruments on a strategic level in anticipation of project level authorisation. Thereby “potential conflicts should be dealt with at a strategic level” (Retief & Cilliers, 2015b:583), prior to project level authorisation to avoid potential opposing views for an area and differences the two strategic instruments when it comes to land-use decision-making. However, not all conflicts can be resolved on strategic level, municipalities are also involved in the environmental process as participants being “commenting authorities” (Retief & Cilliers, 2015b:583) and should make use of the opportunity to voice the intended development vision for the municipality.</p>
Sustainability factors included in project-level decision-making	<p>Includes a mutual drive for sustainability through responsible decision making and the relevant land-use and environmental authorisation processes. Sustainable development principles are included in land-use planning and management and environmental management policies and a complex legislative system (Cilliers et al., 2014:262). Thereby cognition and dedication to sustainability factors provide a mutual context to provide mutual support. The alignment of environmental management and municipal planning should lead to data and information being shared which will contribute towards corresponding decisions on project-level leading to less conflict and opposing views when it comes to project level decisions (Cilliers, 2015:51, 145; Retief & Cilliers, 2015b:585-586).</p>
Alignment of authorisation processes	<p>Due to a lack of research on the alignment of environmental and land-use authorisation processes, it is difficult to foresee how project level environmental authorisation can be aligned and integrated into land-use authorisation processes (Retief & Cilliers, 2015b:585; Steenkamp, 2009:6, 35). Additionally environmental management and municipal planning may have opposing views for a specific area (Cilliers, 2009). However, possibilities do exist for the alignment of authorisation applications. Some of the critical issues that need to be resolved are public participations; collective commitments between disciplines; time delays; opposing views and objectives and; the ability to synchronise planning processes and communication (Steenkamp, 2009:35). Refer to Chapter 5 for more on the Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA) and possible alignment of different authorisation applications. At this point it must be noted that the likelihood of the possibility of alignment of different authorisation applications improved with the enactment of SPLUMA. SPLUMA explicitly provides for the potential of aligning authorisation processes.</p>

Source: own compilation from Retief & Cilliers (2015b), Steenkamp (2009:35); van Wyk, Kidd, (2011), van Wyk (2012b:448-456,449-452).

The following section focused on the support offered by land-use management to environmental management.

4.4 Support offered by land-use management to environmental management as reason to align the two disciplines

Adopting and using land-use instruments to provide assistance to environmental protection are fundamental to play a cross-cutting and supportive role to environmental management and protect environmental attributes. Firstly municipal planning offers mechanisms to enforce development control to achieve a balanced approach between development needs and environmental protection. Secondly, municipal planning can restrict environmentally detrimental activities from taking place through the management of land-use and enforcement of development controls, thereby serving as an environmental management, protection and conservation tool. Thirdly on a strategic and policy level municipalities must include environmental aspects in their spatially based instruments to guide and control development, to minimise environmental impacts and manage development in environmental sensitive (natural) areas. These spatially based instruments can influence land-use applications and therefore inform land-use decision-making and granting of land-use rights. Integrating environmental concerns within land-use planning and management practices has several benefits. The following benefits are identified (Cilliers et al., 2014:260,264-266; Du Toit & Cilliers, 2015:779-780; Nel et al., 2015a:48; NWU-CEM, 2016; Retief & Cilliers, 2015b; SANBI, 2015:2)

- Land-use plans give effect to strategic planning and implements land-use controls in cognition of strategic planning visions. This include land-use management should give effect to SDFs;
- Municipalities are in the position to use land-use management plans to allocated/ grant land-use rights on land parcels (cadastral units) through zoning, dual zoning (overlay zoning as well as setting development controls for environmental purposes. This includes allocating zonings for exclusive environmental or open space purposes as defined in the SDF or MOSS. The SDFs and MOSS can be informed by environmental instruments such as C-plans, EMFs (including EMFs integrated into/aligned with SDFs) and MOSS;
- Zoning offers limits to allowable land-use rights on land parcels, which subsequently can be utilised to control development. Moreover, development controls can be utilised to restrict detrimental activities by managing land-uses, preventing unwanted land-uses and encouraging certain types of behaviour on a land parcel;
- Granting of land-use rights can be subjected to certain conditions. Conditions includes development controls and parameters set in the zoning certificates of a property, to limit the development footprint and by limiting allowable areas to be developed and the type and intensity of land-use;

- Provides the opportunity to render ecosystem services through open space systems as well as land parcels zoned for open space to promote the biological resilience capacity (urban ecology) of urban areas;
- EMF and C-plans inform decision-making on land-use change and township establishment by identifying environmental attributes and sensitive areas;
- Development controls (servitudes and building lines) can be used to protect environmental attributes and sensitive areas identified on a land parcels. No go areas can be used to protect water features, environmental attributes and other 'sensitive topography';
- Decision-making authorities are required to consult instruments especially the SDF (on municipal development visions, objectives and environmental sensitivities) offering guidance to decision-makers and promoting responsible decision making during land-use authorisation decision-making, to mainstream sustainability and other policy and legislative directives during land-use applications;
- The process of land-use change (rezoning, consent use, removal of restrictive title deed conditions), as well as township establishment, provides the opportunity to raise and reflect upon the impacts of human activities on the environment. Land-use planning and management systems to accommodate for environmental concerns to be raised. Moreover, conditions can be established to manage development to protect the environment and control future development. These conditions include inserting restrictive conditions in title deeds and registration of environmental servitudes,

The challenges for the alignment of municipal planning to environmental management, the benefits of support offered by municipal planning to environmental management were mentioned in this section. The next section focused on the potential linkages between the environmental management and municipal planning as possibilities for the alignment.

4.5 Alignment possibilities between environmental management and municipal planning within the current legislative framework

This section firstly explored the linkages and alignment possibilities between environmental management and municipal planning instruments within the current legislative framework. Municipal planning and environmental management are undertaken on two parallel processes under the two different mandates that need to be maintained. In the second instance this section discussed the use of municipal planning instruments as cross-cutting spatially based local environmental management instruments (refer to Section 4.5.2). The alignment possibilities and the cross-cutting spatially based application of the instruments answer the question on how alignment between environmental management and municipal planning can be achieved.

4.5.1 Alignment possibilities between environmental management and municipal planning

The suite of environmental management and municipal planning (land-use planning and management) instruments (Chapter 4.2) has been mentioned. The possibility of aligning of environmental management and municipal planning instruments has also been mentioned in Chapter 4.5. However, municipal planning and environmental management remain the competence of different spheres of government (Retief & Cilliers, 2015b:585). Municipal planning is the competence of local government, while environmental management is allocated to national and provincial spheres of government (Nel et al., 2015a:45; Freedman, 2014:568). Subsequently planning and environmental management instruments are developed in a parallel process, however, do not need to be in “conflict” (Retief & Cilliers, 2015b:585). There is also a strong drive for interrelations and alignment between disciplines to rule out potential conflicts and capitalise on the mutual support offered by the different instruments from each sphere (Cilliers et al., 2014:267; Claassen, 2009: 921-923; NWU-CEM, 2016). However, the alignment of municipal planning and environmental management includes various processes and legislation. Again the alignment is based on the suite of instruments available and based on the claim that environmental management is informative to land-use planning and management (municipal planning). Accordingly, this section identifies linkages and alignment possibilities in terms of the current legislative framework.

Figure 4-2 below illustrates the linkages and alignment possibilities between municipal planning and environmental management including linkages between instruments within the current legislative framework. The two parallel processes are undertaken based on the mandate for municipal planning and environmental management and includes various processes and legislation. Due to municipal planning and environmental management running parallel processes, alignment between the disciplines is recommended whereby they can provide mutual support to one-another (Cilliers et al., 2014:264; Retief & Cilliers, 2015b:585). The suite of municipal planning and environmental management instruments as discussed in Chapter 4.2 is illustrated in Figure 4-2.

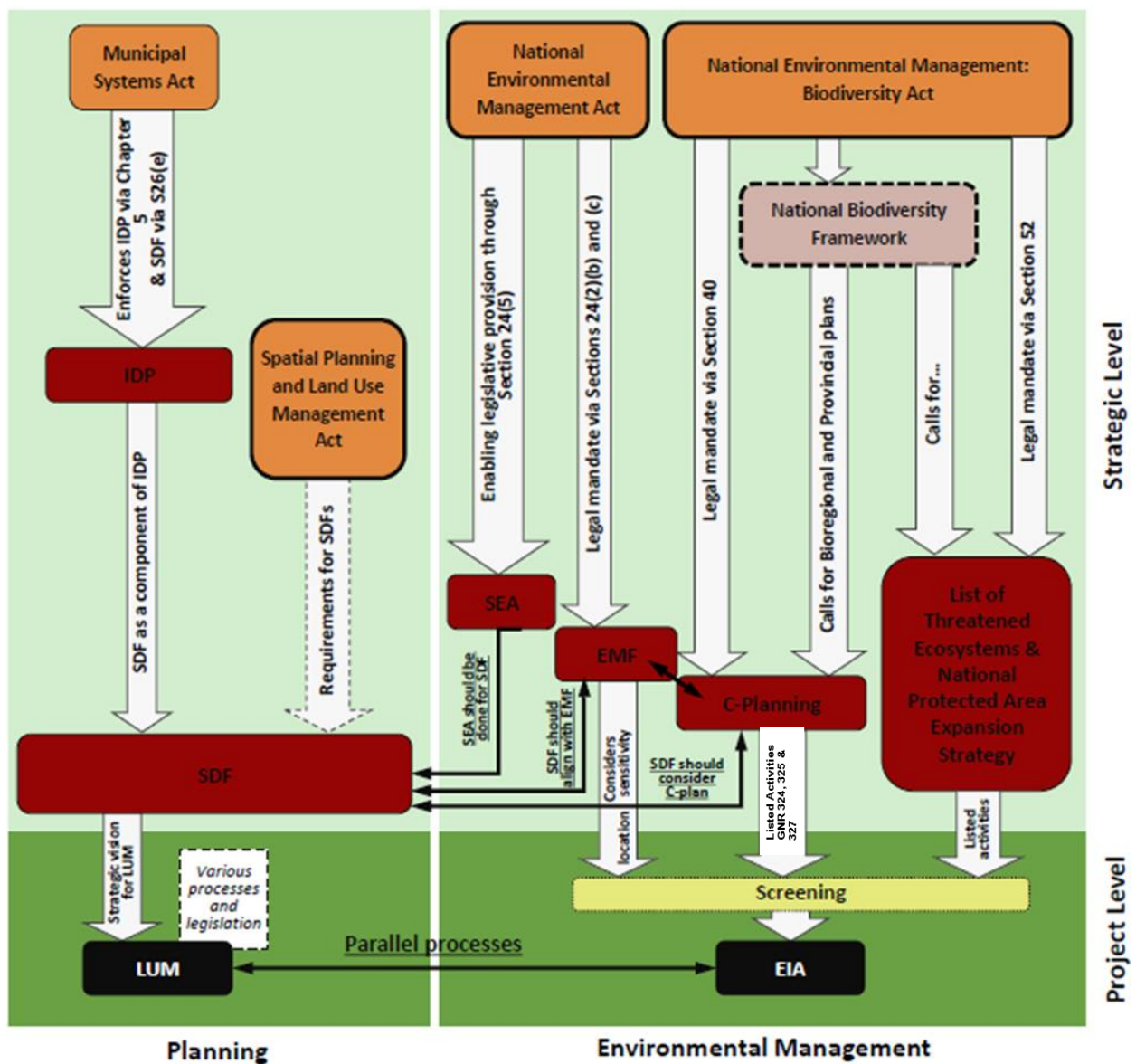


Figure 4-2: Parallel processes to planning and environmental management
 Source: NWU-CEM (2013:232).

Formulated in terms of the Municipal Systems Act 32 of 2000, the SDF is a component to the IDP and the main spatial instrument used within municipalities. The SDFs are enforced via Section 26(e) of the Municipal Systems Act, 32 of 2000 (Du Toit & Cilliers, 2015:773; NWU-CEM, 2013:232). Additionally, the Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA) provide for basic generic elements by setting requirements and standard contents for the SDF (NWU-CEM, 2013:232; South Africa, 2013: 32). Refer to Chapter 5.5.2 for details on the requirements including strategic assessment of the SDF and provisions for the different types of SDFs. Moreover, the SDF serve as a strategic vision to inform land-use management. Land-use management schemes must give effect to the SDF. Refer to Chapter 5.5.3 for more on land use management and the status of SDF to inform land-use management under SPLUMA.

Parallel to municipal planning instrument formulation is the process of environmental management with several spatially informative environmental management instruments formulated and implemented. Instrumental for the formulation and enforcement thereof is the National Environmental Management Act, 107 of 1998 (NEMA) and the National Environmental Management: Biodiversity Act 10 of 2004 (NEMBA) (NWU-CEM, 2013:232). The National Environmental Management Act, 107 of 1998 provide for two important instruments, the strategic environmental assessments (SEAs) and environmental management frameworks (EMFs) (Cilliers, 2015:23; NWU-CEM, 2013:232). Moreover, the National Environmental Management: Biodiversity Act, 10 of 2004, supported by the National Biodiversity Framework, drives C-planning and calls for a list of threatened ecosystems and ensures for a National Protected Area Expansion Strategy (NWU-CEM, 2013:232; Patterson, 2015:738). Also on a project level environmental authorisation may be required. .

EMFs, C-plans and listed threatened ecosystems and areas identified in the National Protected Area Expansion Strategy are used during screening for environmental authorisation (Cilliers, 2015:51,179; NWU-CEM, 2013:232). For this research the strategic environmental management instruments are limited to SEAs, EMFs and C-planning. Moreover, on a project level NEMA provides for the regulation of certain listed activities, described in the three NEMA Listing Notices (GN R327, R325 and R324) for environmental assessment (Cilliers, 2015:51; NWU-CEM, 2013:232). It is not the purposes of this research to provide a detailed description or a summary of the two different environmental authorisations (Basic assessment and an environmental impact assessment).

SEAs have significant potential to inform SDF formulation (Retief & Cilliers, 2015a:179) and it is expected of municipalities to use SEAs (Retief & Cilliers, 2015a:178) to “identify and deal with environmental issues” (Cilliers, 2015:47). Strategic assessments should be done for SDFs, whereby an environmental assessment is made on the strategic level planning including on the two instruments SDFs and IDPs formulation (Retief & Cilliers, 2015b:577). The SEAs should then form a layer of information and inform the SDF and SDF formulation (Nel et al., 2015b:144; Retief & Cilliers, 2015a:179). Refer to Chapter 5.5.2 for detail on SPLUMA directives and generic components for the SDF.

EMFs “considers location sensitivity” (NWU-CEM, 2013:232) and should be aligned with SDFs, to inform SDFs (Retief & Cilliers, 2015b:580). In many cases EMFs are used in policy documents to inform SDF formulation (Nel et al., 2015b:144) which should ultimately guide land-use decision-making. It is also possible for SDFs to inform EMFs (NWU-CEM, 2013:232) on the development vision of a municipality. It is recommended that EMFs indicate land-uses and activities that would have a significant impact on environmental attributes (Cilliers, 2015:29). Therefore the alignment between the SDF and EMF will contribute towards identifying suitable

land for development and environmentally sensitive areas (Cilliers, 2015:29; Retief & Cilliers, 2015b:579-581).

SDFs should consider C-plans, which inform SDFs and IDPs on critical biodiversity areas and biodiversity conservation targets (Retief & Cilliers, 2015b:582; SANBI, 2014:14). NEMA through Listing Notice 3 (GNR 324) requires that an environmental assessment and environmental assessment must be obtained for activities that falls under C-plans or when zoned or indicated in the SDF as an area for open space. In addition, the possibility exists to integrate C-plans into EMFs and vice versa. However, C-plans will only become effective once they are truly integrated into SDFs and EMFs (Retief & Cilliers, 2015b:582).

On a project level EMFs and C-plans are used as screening mechanisms for environmental assessments for environmental authorisation. A commonality between land-use management and environmental authorisation exist regarding the drive and promotion of the “consideration of sustainability in decision-making” (Retief & Cilliers, 2015b:583) with EMFs informing environmental authorisation process on location sensitivities (NWU-CEM, 2013:232). Therefore the alignment of land-use authorisation and environmental authorisation is the support and promotion to integrate sustainability into decision-making. Information obtained for environmental authorisation processes can be used to inform land-use management especially during land-use change decision-making. Information from land-use management and planning processes can also be used to inform environmental management, as SDFs can provide additional information to environmental instruments and analysis and studies done for land-use applications and inform environmental applications and considerations. However, it is important to note that it is mandatory that factors such as socio-economic impacts needs to be considered in both land-use and environmental authorisation processes (Retief & Cilliers, 2015b:584). This entitles developers to go through two decision-making processes that include socio-economic factors, whereby environmental assessments focus on activities and land-use management on land-use rights applicable to the entire property (Retief & Cilliers, 2015b:584). The difference is that one land-use can include (trigger) several NEMA listed activities.

Process efficiency between the two parallel processes can be improved by integrating and aligning environmental management and land-use authorisation processes. Retief and Cilliers (2015b:585) state that cooperative governance will be instrumental in ensuring alignment of the two processes. SPLUMA through objectives and directives attempts to improve process efficiency and potentially lead to the integration and alignment of parallel processes. However, attaining alignment between the parallel processes in practice remains to be seen (Retief & Cilliers, 2015b:585).

The aforementioned alignment between municipal planning and environmental management will result in mutual support offered by the two disciplines, with emphasis on environmental management instruments being informative to municipal planning and the integration of environmental consideration into land-use planning and management. The following section discusses existing alignment of environmental management and municipal planning as a perspective for the way forward.

4.5.2 Cross-cutting spatially based local environmental management instruments

This section is devoted to municipal planning instruments that may serve as cross-cutting local environmental management and governance instruments. These instruments serve to indicate the possibility of applying environmental consideration into municipal planning. The majority of the instruments under investigation are strategic instrumentations forming part of the spatially based forward outlook instruments.

Land-use planning and management instruments are often used for local environmental management purposes which include spatial development framework (SDFs) and land-use management plans (land-use management schemes) (Nel et al., 2015b:144). These plans are often informed by “layers of environmental information” obtained from informative environmental management instruments such as strategic environmental assessments (SEAs), environmental management frameworks (EMFs), conservation plans (C-planning), media-specific management plans such as development set back lines and estuary management plans, and locally innovative municipal planning instruments such as municipal open space systems (MOSS) or similar planning instruments (Nel et al., 2015b:144; Retief & Cilliers, 2015b:585-586). The above mentioned environmental management instruments are also identified as the most important environmental management tools related to land-use planning and management (Cilliers et al., 2014:266; Nel et al., 2015b:144; Retief & Cilliers, 2015b:575). This is due to its “strategic and spatial dimensions” (Retief & Cilliers, 2015b:575). These strategic environmental instruments, however, require entrenchment on a local level within land-use planning and management (city-level) tools to integrated environmental considerations into municipal planning instruments. This requires the shifting plans from strategic level environmental instruments to municipal level spatial and land-use plans and frameworks (Cilliers et al., 2014; Nel et al., 2015b:144; Retief & Cilliers, 2015b:575). The mentioned instruments have “direct implications” for land-use decision-making (Retief & Cilliers, 2015b:575).

With the suite of instruments identified in the previous section, the aim is to integrate environmental considerations into land-use planning and management within the current framework of environmental management and municipal planning. The notion is to develop pro-

active spatial planning to foster development and guide land-use management through responsible decision-making by planners.

As mentioned earlier, policies and tools “often shift from strategic level provincial or regional plans” to strategic municipal instruments, policies and plans (Nel et al., 2015b:144). The informative value offered by environmental management should be “captured within environmental policies” (Retief & Cilliers, 2015b:577) and reflected by instruments (SEA, EMFs and C-planning) (Cilliers et al., 2014:267; Retief & Cilliers, 2015b:577). The information (databases), tools and policies should, for municipal planning purposes, be transferred to local scale and “inform the compilation” of strategic “municipal frameworks and plans” (Cilliers et al., 2014:267). These municipal strategic planning tools include IDPs and SDFs which in return must inform land-use management and land-use decision-making on a project-level (Cilliers et al., 2014:267; Retief & Cilliers, 2015b:582-584). This includes development controls and decision-making on individual land-use parcels. Therefore, on a project level land-use management and environmental authorisation serve as fundamental interventions (Cilliers et al., 2014:267; Kidd, 2011:212; Retief & Cilliers, 2015b:582-584) to control city scale land-uses and activities.

4.6 Examples of practice-based application of municipal planning as cross-cutting tool

Table 4-8 illustrates practical examples of a collective and supportive approach between environmental management and municipal planning. Environmental management provides valuable information while municipal planning offers local (or city level) spatial tools and development control mechanisms to regulate and control land-use as indicated in the examples.

Table 4-8: Successful integration of environmental consideration into land-use planning and management through the alignment of environmental management and municipal planning

Instruments/tool	Rationale and description	Example
Municipal Open Space Systems- MOSS	Incorporating the MOSS into town planning schemes in order to address (challenges) the enforcement of MOSS. This means that owners within a MOSS area of Durban (eThekweni) need to obtain additional environmental permission/ authorisation from the municipality (authority) to commence development. Local Government plays a proactive trans-disciplinary role in environmental management through municipal planning (eThekweni municipality, 2005:20; Freedman, 2014:584-585).	D-MOSS (Durban- MOSS). Effective incorporation of MOSS into the land-use scheme/ zoning (Du Toit & Cilliers, 2015:777-780; eThekweni municipality, 2005:20).
C-planning (C-plan)	Systematic biodiversity planning captured within spatial or geographic electronic format, indicating protected areas based on prioritised and sensitive environmental attributes. Includes the location and connectivity against development threats (City of Cape Town, 2012).	City of Cape Town (BioNet Plan) (City of Cape Town 2012) whereby C-planning influences land-use application or is backed by certain land-use zoning measures.
Integrating of SDFs and EMFs creates for project level (environmental authorisation & Land-use) decision-making Integration of EMF and related documents as a policy document within SDF	Accommodates for environmental sensitivities and risks within strategic planning including spatial planning, development planning and land-use change decision-making. The subsequent opportunity lies in land-use management authorisation and environmental authorisation (EA) can be conducted on a project-level (Nel et al., 2015a:48-49).	Examples include the Magaliesberg EMF (2010), Waterberg district EMF (2011) and the Ekurhuleni Metropolitan Municipality where EMFs are used as policy documents to inform the municipal SDF (Nel et al., 2015a:48-49; Retief & Cilliers, 2015b:580). The City of Cape Town adopted the EMF as sector/structure plans, into land-use systems, by incorporating the EMF as a layer of information into the SDF (City of Cape Town, 2016b).
Micro-SDF	Environmental analysis from local data/information (proactive planning approach) and EMF to inform micro-SDF formulation. Thus, improving local strategic planning by incorporating valuable input from different disciplines. Data played a pivotal role throughout strategic planning. Subsequent zoning are allocated for development control and conservation (LMV Consulting, 2009).	Verkykerskop micro-SDF (LMV Consulting, 2009) where municipalities embarked on exercises to obtain data including local analysis of environmental sensitivities and subsequently used the data to inform spatial and environmental planning instruments. These instruments were subsequently backed by land-use management.
Title deed endorsements (restrictive conditions within title deeds)	Township establishment process within an estate development-control specific location for (specific) land-use and structure on an erf to protect water features, environmental attributes and 'sensitive topography'	Clarens Golf Estate Development (Nel et al., 2015a:48-49).
Environmental servitude (servitude as part of the planning functions)	Registration of environmental servitudes on a property, to ensure 'no-go' areas (Nel et al., 2015a:48-49).	Middenspruit Leisure Residential Development (Nel et al., 2015a:48-49) Durban low density residential areas eThekweni municipality (2005:20) Open Space Planning systems City of Johannesburg (SANBI 2014:19).

Source: Compiled from various sources

Table 4-8 offer some examples of successful practice based examples of alignment between environmental management and municipal planning (land-use planning and management) by which environmental management instruments furnished land-use planning and management with environmental information and data. Subsequently environmental consideration can be integrated into land-use planning and management.

4.7 Significance of alignment of environmental management and municipal planning instruments

The alignment of environmental management and municipal planning instruments are instrumental for interface creation. Table 4-7 captures the significance of aligning spatial planning, environmental and land-use management instruments for municipal planning practices.

Table 4-9: Significance of instruments for municipal planning (land-use management and planning)

Tool	Significance for municipal planning
SDF	<ul style="list-style-type: none"> • Provide statutory (binding) status to spatial planning within a municipal area of jurisdiction with the potential for additional backing from policies, documents, framework and content (City of Cape Town, 2016a; Nel et al., 2015a:48; Retief & Cilliers, 2015a); • Provides a strategic spatial representation towards forward planning and serve as a municipal blue-print or vision for desired future city profile and guidance towards investment and projects; • Contribute towards a more comprehensive integrated municipal planning approach (Retief & Cilliers, 2015a:179); • Defining the urban edge to limit urban sprawl and set city scale development parameters; • Serves as a mechanism for municipalities to take custodianship of the environment through the integration of environmental instruments as layers within the SDF; • Provides a tool for the control of and preservation of areas for specific uses such as conservation; • Help municipalities to make informed decisions regarding land-use control and guidance during the land-use authorisation processes
EMF	<ul style="list-style-type: none"> • Serves as an environmental management tool, with a legal mandate, and a “screening mechanism” informing decision-makers. Provides guidance to municipal authorities, by being informative to municipal planning, as it defines ‘sensitivity’ (Retief & Cilliers, 2015b:580-581); • Thereby contributing towards responsible decision-making, securing environmental protection and taking cognition to environmental sensitivities (van Wyk, 2012a:294); • captures environmental attributes, the value of the attributes and the relevance thereof through visual representation of areas applicable; • As municipalities are required to assess environmental instruments. It offers guidance (informational value) to land-use management and forward planning (spatial) by defining environmental sensitivities (Retief & Cilliers, 2015b:580-581).
SEA	<ul style="list-style-type: none"> • Informs strategic planning and guide decision-making (Cilliers, 2015:52). • Endeavour integrated environmental management providing opportunities to integrate environmental consideration within municipal planning (Cilliers, 2015:45; Retief & Cilliers, 2015b:578-579). • Analyse the impact of plans, programmes and policies on the environment (Retief & Cilliers, 2015b:577). • Opportunity to improve strategic planning for more desired environmental outcomes and effectiveness (Cilliers, 2015:2; Retief & Cilliers, 2015b:577-579).
MOSS	<ul style="list-style-type: none"> • Form part of private and public open areas- with open space management systems forming part of the broader conservation/ environmental protection tools of local government • Merits to inform spatial planning (including integrated planning) and land-use management systems including influencing land-use applications; • Biodiversity holds environmental value such as environmental “goods and services”. MOSS serve as a tool to protect significant environmental attributes that offer these “goods and services”; • Municipal planning, therefore, is seen as a valuable tool to enforce MOSS as it can be absorbed within municipal planning instruments
IDP	<ul style="list-style-type: none"> • 5-year, continuously reviewed, plan focussing on development needs and priorities within a municipality • A platform for the coordinating different planning such as land-use planning/development (strategic and spatial) planning, transport planning, and infrastructure planning for “development” purposes through integrated development planning • The document covers municipal planning aspects and includes sector based plans,

	<p>projects and the SDF</p> <ul style="list-style-type: none"> • Strategic planning tool informing spatial planning and SDF formulation providing guidance to land-use management (van Wyk, 2012a: 270-274). • Opportunities for municipalities to integrate spatial plans and other spatial information, to inform decision-making around land-use
Conservation plans	<ul style="list-style-type: none"> • C-planning can contribute towards “strategic decision” making and should be aligned with strategic municipal planning tools to provide strategic context for project level decision-making (Retief & Cilliers, 2015b:575) • The strategic environmental information such as critical biodiversity areas and environmental sensitivities are of informative spatial value • Environmental concerns can be integrated into land-use decision making (Retief & Cilliers, 2015:576; SANBI, 2014).
Town planning schemes and Land-use schemes	<ul style="list-style-type: none"> • One of the main arms of planning. Statutory tool used by municipalities to achieve orderly planning, urban planning and development control (over land-use) (UWC, 2007:30; van Wyk, 2012a:279) • Classical land-use management tool for local government over the built environment; • Offers land-use rights, impose conditions relating to a specific land-use while still imposing development controls (South Africa, 2013:9). Schemes include the zoning and regulating the use of land. However, restrict their rights as well through development controls and limits of the allocated zoning; • Statutory land-use application process or consent required in terms of land-use schemes for a departure to development controls imposed by town planning schemes/ land-use schemes and relating zoning; • Thereby schemes place municipalities in the position to control and regulate land-use, and activities, within their area of authority restricting uncontrolled or unwanted development, facilitating and directing land-use management (Kruger, 2014:95); • Subsequently ensure “co-ordinated and harmonious development of an area to which the scheme relates promoting the welfare and safety of the inhabitants”; • Promote the general welfare and prosperity of the people it serves with the “greatest efficiency and economy” (van Wyk, 2012a:279); • ensures alignment with the municipal spatial development framework providing consistency between land-use planning and land-use management instruments (Kruger, 2014: 95; Schoeman, 2010:29; van Wyk, 2012a:291); • Provides the power to enforce governance based measures to take custodianship of what happens where within municipality’s jurisdiction and establishes development parameters (SAPI, 2015); • Fundamental tool to ensure the principle of sustainability is promoted to improve the quality of life by local government (SAPI, 2015); • Provide opportunity to control environmental harmful activities through controlling land-use
Title deeds: servitudes and restrictive conditions	<ul style="list-style-type: none"> • Mechanisms to control land-use imposing land-use restrictions, conditions on land-use as well as development controls (van Wyk, 2012b; Retief & Cilliers, 2015) • In addition to town planning schemes or land-use schemes development controls can be imposed through title deed endorsements as well • Offers the opportunity to impose ‘restrictive’ building lines and servitudes (Retief & Cilliers, 2015b; SANBI, 2014:19; van Wyk, 2012a).
NEMA Listing Notice 3	<ul style="list-style-type: none"> • Screening tool and requires environmental authorisation provisions for open space areas and activities in areas identified in C-plans and bioregional plans;

Source: Compiled from various sources.

4.8 Conclusion

The aim of this chapter was to determine an interface between environmental management and municipal planning can be established whereby municipal planning offers mutual support to environmental management. The notion adopted is that environmental management instruments are informative to land-use planning and management. Accordingly, the emphasis was placed on considering, aligning and the mainstreaming of environmental management instruments within planning practices. This requires exploring the status quo framework of instruments including challenges, the application of instruments, and identifies possible linkages

between environmental management and municipal planning based on instruments available within the two distinct parallel processes of municipal planning and environmental management.

Municipal planning and environmental management disciplines offer a wide range of instruments on strategic and project level. Some tools have an explicit legal mandate while others are open for adoption by municipalities. The range of environmental instruments also has direct implications for land-use planning and management and offers valuable information.

Several challenges exist for the alignment of environmental management and municipal planning including challenges for environmental management instruments in relation to municipal planning instruments. The significant challenges for the integration of environmental management instruments into municipal planning can be attributed towards: different legislative mandates for municipal planning and environmental management leading to parallel processes for development of instruments; silo-planning approaches between environmental management and municipal planning due to individual approaches within the parallel process for each discipline; the lack of synchronisation and difficulties in terms of aligning environmental management and municipal planning; dealing with a lack of spatial information due to instruments developed for application on different scale result in incompatible instruments for city scale application; avoiding duplication of information and processes, as well as building human and financial capacity.

Despite these challenges municipal planning offers significant support to environmental management. Literature as well as practice based examples reflect that municipal planning and environmental management increasing alignment evolving to a stage where they offer mutual supportive interface possibilities by shifting strategic provincial and regional level instruments down to city scale spatial-and land-use management plans. Environmental management is a valuable resource of information, while municipal planning can ensure environmental consideration is integrated into land-use decision-making. This includes offering spatial tools to environmental management as environmental management requires a spatial approach to define sensitivities and attributes. Secondly, municipal planning grants land-use rights through zoning, however, also sets development parameters such as development controls and restrictive title conditions. Title deed endorsements may be used to set additional development controls, which can be used to prevent development in certain areas. Moreover, dedicated zoning can be provided for environmental management purposes, whereby land-use rights are granted to land parcels such as open space or conservation.

It was established that procedural “alignment” and “synchronisation” is recommended as parallel processes are undertaken within the existing legislative framework for each discipline (Retief & Cilliers, 2015b:585). SDF provides valuable opportunity to align with informative environmental

management instruments for land-use management to give effect to. The alignment is, however, based on various processes and legislation. The potential for alignment between environmental management and municipal planning predominantly lies on a strategic level. C-planning, EMFs and SEA are informative to spatial planning and land-use management. Therefore, alignment of municipal planning and environmental management holds significant opportunity for municipal planning to integrate environmental consideration, through quality spatially informative environmental management input, into land-use decision-making (Retief & Cilliers, 2015b:585).

Finally, the chapter is concluded with practised based examples on the utilisation of municipal planning instruments to control activities (land-use), limiting land-use rights and set development controls in support of environmental management (refer to Section 4.7). The notion that environmental management is informative to land-use planning and management (municipal planning) is supported by practice-based research and examples whereby environmental consideration is integrated within municipal planning. Practiced based examples prove that interface between municipal planning and environmental management is possible. Environmental considerations can, therefore, be entrenched in land-use planning and management processes and potentially promote conformance to the vision of SPLUMA directives as described in the following chapter.

CHAPTER 5: OVERVIEW AND IMPLICATIONS OF THE SPATIAL PLANNING AND LAND USE MANAGEMENT ACT, 16 OF 2013

“Someone’s sitting in the shade today because someone planted a tree a long time ago”- Warren Buffet

5.1 Introduction

The previous chapter discussed the alignment between municipal planning (land-use planning and management) and environmental management. This chapter focused, still on a theoretical level, on the current reality in terms of the most recent legislation introduced, the Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA). The Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA), enacted in July 2015, is part of the recent planning reform with significant changes to land-use planning and management system. Understanding the implications of the recent planning and environmental law reform requires considering of the recently enacted and partial implementation of the Spatial Planning and Land Use Management Act, 16 of 2013, hence the first part in answering the following research question:

“What entails the recent planning and environmental law reform in South Africa?”
–Research question 4-

Accordingly Chapter 5 focused on the implications, principles and reform of municipal planning with the enactment of the SPLUMA. Moreover, this chapter considered environmental considerations within municipal planning as part of the recent planning and environmental law reform. The structure of this chapter is illustrated in Figure 5-1.

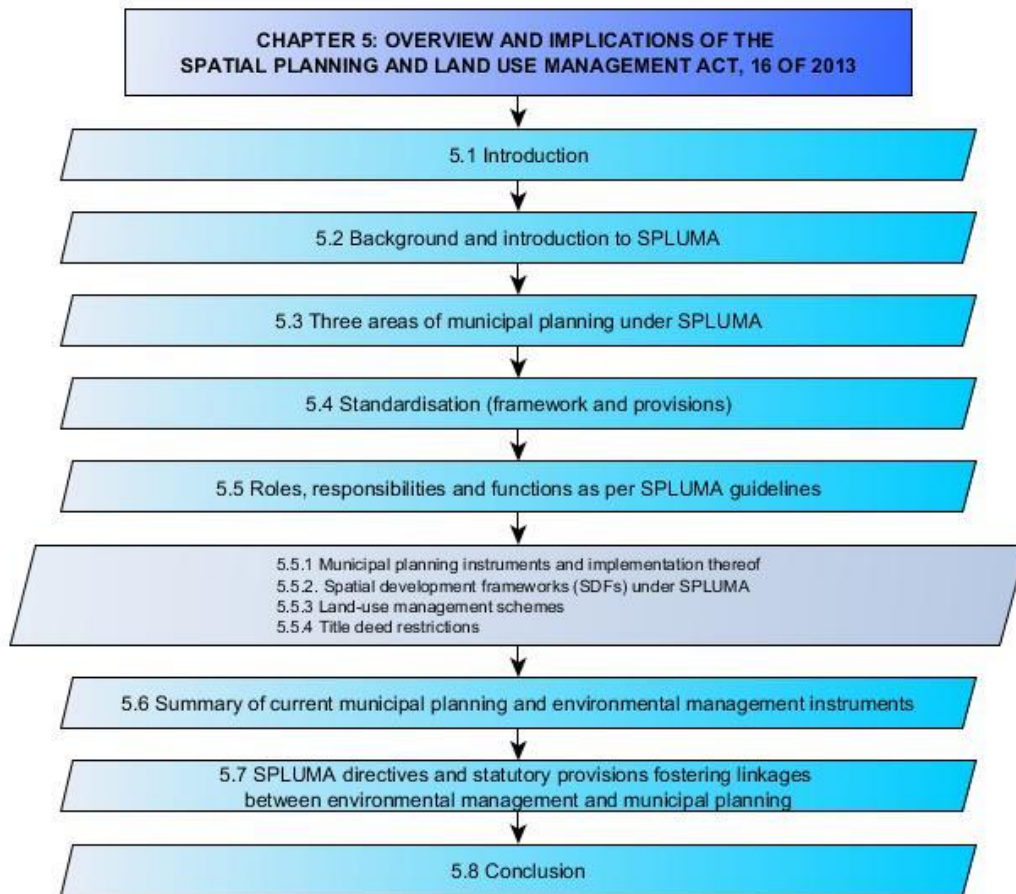


Figure 5-1: Outline of Chapter 5.

Source: Own construction (2017).

5.2 Background and introduction to SPLUMA

The Spatial Planning and Land Use Management Act 16 of 2013, (SPLUMA) was promulgated a century after the infamous Native Land Act, 27 of 1913 and marked a new era of ‘municipal planning’ in South Africa. SPLUMA came into operation in 2015, more than a decade after the introduction of the Spatial Planning, Land Use Management and Land Development Bill of 2001 marking the the slow progress in establishing a national planning framework (Retief & Cilliers, 2015b:563). SPLUMA repeals the following laws in whole: the Removal of Restrictions Act 84 of 1967, the Physical Planning Act 88 of 1967, the Less Formal Township Development Act 113 of 1991 and the Physical Planning Act 125 of 1991. Moreover, current planning systems based on the different provincial ordinances and old order legislation, will be progressively phased out as municipalities embark on preparing new planning systems under SPLUMA (Kruger, 2014; Retief & Cilliers, 2015a:566; van Wyk, 2012a). This includes an emphasis on environmental considerations within municipal planning practices, the inclusion of new (spatial) development principles as well as a reform of the land-use management systems.

Thereby several changes were introduced by SPLUMA. Firstly SPLUMA offers a more inclusive planning system and guides development by providing explicit development principles for

responsible and sustainable spatial planning. Secondly a national framework dedicated to a uniformity, proficiency, “equitable and efficient” spatial planning and land-use management (LUM) system (including the relationship between spatial planning and land-use management) is established. Thirdly SPLUMA promotes development aimed at creating better living spaces (Du Toit & Cilliers, 2015:773; Kruger, 2013:2014-94-95; Retief & Cilliers, 2015a:584; van Wyk, 2012a:52-54). SPLUMA includes objectives of “economic growth, social inclusion, efficient land development with “minimal impact on public health, the environment” while serving as a vanguard for natural resources protection from detrimental impacts and “protection of property rights” (van Wyk, 2012a:287). Emphasis is placed on addressing past spatial discriminated planning, complex and fragment planning and the development of a single land-use scheme for the entire municipal area. SPLUMA further envisions uniformity and effectiveness in land-use planning and development, enabled through a comprehensive planning system (Retief & Cilliers, 2015b:584) and includes provision for the “integration and alignment of authorisation processes” in particular with environmental authorisation. As such, SPLUMA serves as a powerful, national framework, setting basic principles, for and a mechanism to guide land-use decision-making, to control development while securing (protecting) the objectives and adherence to SPLUMA directive principles. Therefore SPLUMA serves as a “master plan for creating better living spaces” strengthening the quest for solutions to unsustainable settlement patterns and the enhancement of spatial sustainability (Kruger, 2014:94).

SPLUMA promotes responsible planning practices in the planning profession by dictating development (directive) principles (Kruger, 2014:95; South Africa, 2013:19; van Wyk & Oranje, 2014:356). The directive principles include: a) spatial justice, b) spatial sustainability, c) efficiency, d) spatial resilience and e) good administration (Kruger, 2014:95; South Africa, 2013:19; van Wyk & Oranje, 2014:356).

In addition to municipalities, SPLUMA provides national and provincial roles and functions. This includes applicable planning instruments formulation (Berrisford & De Visser, 2015:9; Kruger, 2014:95). Building on strategic and project-level planning, SPLUMA reassures the active role to be played by municipalities including the utilisation of available instruments; and potentially implementing innovative or voluntary instruments as tools for “equitable and efficient spatial planning” (Kruger, 2014; South Africa, 2013:2). Furthermore, Municipal Planning Tribunals are to be established with definite mandates and roles which will play a pivotal role in terms of the application and amendment to development controls, restrictive conditions applicable on land parcels and planning authorisation processes that fall outside the competence of the relevant municipal planning department such as land development applications that falls outside the Municipal Spatial Development Framework. This section explores the changes brought to the planning system with a specific attention to instruments used in municipal planning.

5.3 Three areas of municipal planning under SPLUMA

SPLUMA provides for three distinct areas in municipal planning forming the main functions of municipal planning. The three legs are a departure from the (debatable) traditional (classified) two legs (components or areas) as mentioned in Chapter 3.2.2. SPLUMA divided municipal planning into three definite areas (legs) of planning called: a) spatial planning, b) land-use management and, c) land development management (van Wyk, 2012a:128-132; 268-322; van Wyk, 2012b: South Africa, 2013). SPLUMA has specific provisions for applications to amend or remove restrictive title deed conditions to be lodged with and handled by municipalities. Spatial planning refers to land-use planning or forward planning typically indicated in the SDF. Land-use management refers to the mechanisms to control land-use and typically include land-use schemes. Refer to Chapter 3.2.2 for a more detailed discussion of the previously debated areas applicable to municipal planning. Moreover, SPLUMA makes provisions for categorising land-use change applications (rezoning, removal of restrictive conditions or consent uses or a combination of the aforementioned) into two different categories. These two categories require different processes to be followed.

Figure 5-2 below illustrates the three functional areas or also known as sub-disciplines of 'municipal planning'.

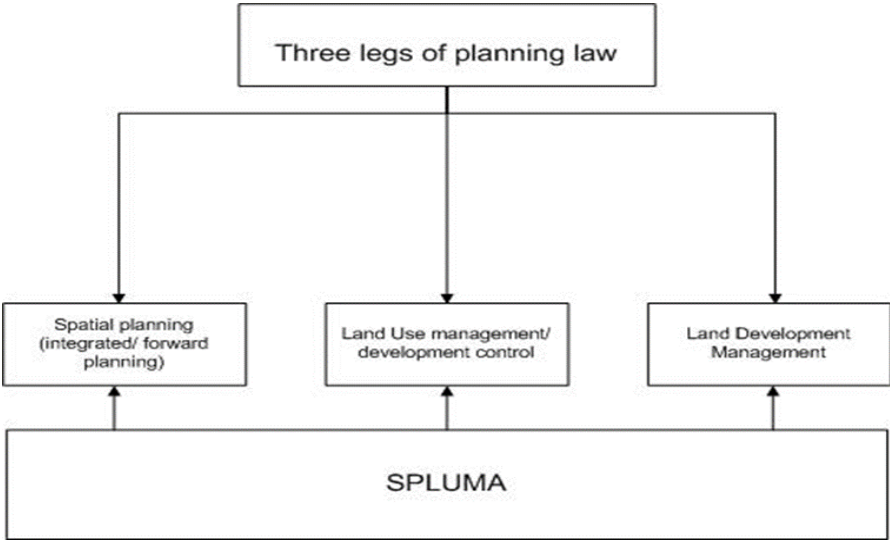


Figure 5-2: Three areas of municipal planning
 Source: Own construction (2017)

The three areas of planning serve as the basis for defining a clear distinction between the sub-disciplines or areas of municipal planning and provides for easy classification of instruments. These areas of municipal planning are, however, interrelated and linked to one another (Retief & Cilliers, 2015b:563) as discussed in Chapter 3.2.2. Table 5-1 indicates the core areas (fields or legs) of municipal planning according to SPLUMA including a description of the relevant areas and associated chapters in SPLUMA.

Table 5-1: Summary of the core areas (legs or components) of ‘municipal planning’ in terms of SPLUMA

	Spatial Planning	Land-Use Management	Land Development Management
Description	<p>Spatial planning includes the “idealized” land-use arrangements within a municipal area (including urban-rural phasing),. Secondly elements is the statutory administrative arrangements as an indicative and control mechanism to the desired urban profile (Claassen, 2009: 921). This contains both a strategic planning and informative (forward planning) elements as reflected within instruments on a spatial cadastral nature. This “blueprint” (plan creation) for future land-use (including current scenario) by indicating the desired growth and spatial pattern/from guide decision-making.</p>	<p>LUM comprises of land-use schemes with mechanisms of a system regulating and controlling land-use and conferring land-use rights through land-use schemes. This includes provisions for the control (regulating) of a land-use right by which land-use parameters and conditions to a land-use right are set. All land owners and land-users are bound by the relevant scheme under which a property falls. In addition it sets limits to a land-use right by defining each land-use (zoning) and associated permissible uses. The schemes also set scheme regulations which sets out the procedures and conditions relating to the use and development of land, amendment to land-use schemes and the required public participations processes (South Africa, 2013:36). Moreover, land-use schemes make provision for different categories of land-use applications subjected to different regulations and procedures.</p>	<p>Land development management controls and regulate change of the use of land and deviations from allocated zoning and permitted land-uses. Land development management consists of statutory development control mechanisms applicable to individual properties that set development controls and limits to land-use rights. These mechanisms bounds property owners to certain development controls and, therefore, set limits to land-use rights with.</p> <p>A departure from, suspension, amendment or removal of development controls and changes to land-use are subjected to statutory “procedures and decision-making processes” (South Africa, 2013:2). Moreover, the granting of land-use rights may be subjected to conditions imposed. This includes the development controls agreed upon/set during rezoning and the new zoning right or consent use granted. Moreover, amendment or removal of restrictive conditions forms part of land development management setting additional development controls. Certain land developments require approval from a municipal planning tribunal to be appointed as set up to handle certain land-use applications and deviations from spatial plans.</p>
Instruments/ control mechanisms /procedure	<p>Comprise of policies and statements including strategic plans and frameworks such as the Integrated Development Plan (IDP) and the spatial component thereof the Spatial Development Framework (SDF). These instruments guide decision-making and investment and therefore the development of a municipality. Moreover spatial planning is linked to land-use management. SDFs should according to SPLUMA inform land-use management and development applications.</p>	<p>Land-use schemes and development procedures dealing with changes in lawful land-uses. What is important is that LUM must give effect to a municipal SDF.</p>	<p>Provides for executive authority on municipal planning matters. However, focus more on administrative aspects, including authorities, structures of planning tribunals and authorities, applications, and processes/procedures to be followed for the deviation from development controls and changes to land-use. Furthermore,land development management makes provisions for the removal or amendments to ‘restrictive conditions’. Land development management includes conditions and regulations for the management of township establishment, conditions of establishment, subdivisions and consolidation of land, amendments to land-use schemes and title deed restrictive conditions.</p>
SPLUMA, 2013	Chapter 4	Chapter 5	Chapter 6

Source: Compiled from Claassen (2009: 921); Freedman (2014:586); Kruger, (2014); Retief & Cilliers, (2015a:168); Retief & Cilliers (2015b:563); South Africa (2013:12); Todes (2012:159); van Wyk (2012a:57).

On a strategic level, the SDF (spatial instrument) forms the core instrument for spatial planning. Land-use schemes serve as a project-level control mechanism, allocating land-use rights while simultaneously limiting land-use and development rights through allowable and compatible uses as determined by the land-use scheme. Moreover, restrictions including restrictive conditions and servitudes (title deed endorsements) impose additional development controls (Nel et al., 2015a:48-49; van Wyk, 2012a:305).

5.4 Standardisation (framework and provisions)

As mentioned earlier in this chapter, SPLUMA will eventually standardise the land-use management and (spatial) planning system in South Africa (Retief & Cilliers, 2015b:563) and serve as a “framework” (law) for planning (Berrisford & De Visser, 2015:9). The following main components or aspects, related to this research, are the main interventions brought along under the SPLUMA system (Du Toit & Cilliers, 2015:773; Kruger, 2014:95; Retief & Cilliers, 2015b: 563; van Wyk, 2012a:54):

- a) The development of Spatial Development Frameworks (SDFs) on all spheres of government and different scales (national, provincial, regional and municipal SDFs); including the pertinent municipal SDF and its relevant components which must give effect to land-use schemes;
- b) The establishment of principles in planning, as well as provisions for potential norms and standards (in terms of regulations) applicable to “municipal planning”;
- c) Land-use schemes for the entire municipal area which include rural areas within a municipal boundary as well as traditional land (traditional councils), such as former homelands. Thereby SPLUMA provides for a departure from and toiling away with the complex and multiple town planning schemes established during the pre-SPLUMA planning system;
- d) A planning system consisting of uniform procedures and processes around project-level land development applications and related processes. SPLUMA provides for land-use change applications into two categories that are subjected to different application processes and time frames. Moreover, SPLUMA promotes the aligning of authorisation applications with the National Environmental Management Act 107 of 1998 (NEMA). Without a combined authorisation developers, based on regulations, are required to “go through two decision-making processes” (Retief & Cilliers, 2015b:584).

It is important to note that the components mentioned above set a framework of requirements and mandates applicable to municipal planning. In addition, SPLUMA provides a clear distinction between the roles of different spheres of government. The mandate for the removal, amendment or any alteration of title deed restrictions is now a local government function in all provinces, a function previously predominantly carried out by provincial governments. Explicit

provisions are made for open space and parks as well as pro-active provisions for municipal planning to take cognition of environmental tools. Refer to Annexure 1 for more on pre-1994 legislation, legislation applicable during the transition phase during the 1990s, and legislation applicable in a period post-2000. SPLUMA Schedule 3 offers a table indicating laws repealed by SPLUMA (NWU-CEM, 2013:230; South Africa, 2013:72).

Table 5-2: SPLUMA Schedule 3: Repeal of Laws

No. and year of law	Short title	Extent of repeal
Act No. 84 of 1967	Removal of Restrictions Act	The whole
Act No. 88 of 1967	Physical Planning Act	The whole
Act No. 113 of 1991	Less formal Township Establishment Act	The whole
Act No. 125 of 1991	Physical Planning Act	The whole
Act No. 67 of 1995	Development Facilitation Act	The whole

Source: South Africa (2013:72)

In addition, SPLUMA initiated several changes to the municipal planning system. The significant changes initiated by SPLUMA are indicated in Table 5-3 below.

Table 5-3: Main changes initiated by SPLUMA in terms of municipal planning tools

Tool/ instrument	Pre-SPLUMA	SPLUMA compliant
Land-use management scheme	A municipal area could be governed by more than one land-use scheme.	Manage a single land-use scheme for the entire municipal area
Removal of restrictive conditions	Predominantly provincial authorising authority in terms of the Removal of Restrictive Conditions Act, 84 of 1967.	Local land-use authorising authority- Municipal Planning Tribunals
Municipal SDFs	Predominately prepared through the Local Government: Municipal Systems Act, 32 of 2000 (MSA).	MSA and SPLUMA (generic aspects of a SDF)

Source: Own compilation (2017)

The framework set by SPLUMA creates clear linkages between the two areas of land-use management and spatial planning. Thereby municipalities must develop and maintain a single land-use scheme, which must give effect to the SDF. This should contribute towards toiling away with fragmented planning systems and uncertainty experienced in the pre-SPLUMA complex and cumbersome municipal planning systems (Kruger, 2014; Retief & Cilliers, 2015b:585; van Wyk, 2012a:53).

Essentially, SPLUMA makes a return to pre-1990 forward planning thinking, which is based on 'master planning' approach to urban profile creation and development phasing. This includes guidance from and advances in SDFs (strategic level) as well as wall-to-wall land-use schemes (project level) for managing and controlling development. In addition environmental considerations within planning (guidance through informative environmental instruments) is promoted (Kruger, 2014:94; Nel et al., 2015a:48; van Wyk, 2012a:52-54).

5.5 Roles, responsibilities and functions as per SPLUMA guidelines

SPLUMA allocated certain roles and functions for all spheres of government (national, provincial and local). National and provincial governments generally fulfil advisory roles to municipalities, by providing monitoring and support (Berrisford & De Visser, 2015). SPLUMA also introduced the concept of 'national interest' projects as well as room for the establishment of norms and standards (regulations) for local planning functions. National and provincial governments may prepare SDFs for spatial guidance (Berrisford & De Visser, 2015; Kruger, 2014:95). Moreover, additional instruments which include provincial SDFs and regional SDFs may be developed and can assist municipal spatial planning. Provincial governments may further implement provincial laws and regulations while municipalities may develop land-use planning and management by-laws in line with SPLUMA (De Visser, 2015: 5-10; Freedman, 2014; Kruger, 2014:94-95). Table 5-4 indicates the important roles and functions with emphasis on instruments, of the different spheres of government required in terms of SPLUMA.

Table 5-4: The main roles and responsibilities under SPLUMA

National and provincial government	<ul style="list-style-type: none"> • To fulfil a supporting and monitoring role • Prepare SDFs (regional SDF and provincial regional SDF) for additional spatial guidance to municipal spatial planning
Local government (municipalities)	<ul style="list-style-type: none"> • Prepare and adopt a municipal SDF and manage a land-use scheme (municipal council). SDF to play a significant role during rezoning and amendment/removal/altercation of restrictive conditions. During land-use management processes the SDF must be consulted • Municipal Planning Tribunals-mandates contained in Section 41 of SPLUMA. Mandates include among the authorisation to amendment or removal of restrictive conditions and land-use (change) conditions, township establishment, and to approve the subdivision and consolidation of land parcels.

Source: Own compilation (2017)

5.5.1 Municipal planning instruments and implementation thereof

Table 5-5 provides a summary of the current planning system (enactment of SPLUMA) and categorise the key instruments on different levels.

Table 5-5: Planning System under SPLUMA

	National	Provincial	Local
Spatial planning (land development planning)	National SDFs	Provincial SDFs	Municipal SDFs developed under the MSA with additional content, principles and guidelines offered by SPLUMA. Must take cognition of environmental instruments
Land-use management	SPLUMA-norms and standards	Additional provincial legal frameworks	A system to regulate land-use by means of land-use schemes - providing for wall-to-wall zoning schemes for the entire municipal area. Must take cognition of environmental instruments. Must give effect to SDFs and IDPs.

Source: Adapted from and Kruger (2014), South Africa (2012), South Africa (2013); van Wyk, (2012a:52, 287).

Spatial planning and land-use management form the core functions of municipal planning and the basis of statutory planning. Accordingly land-use management and spatial planning instruments are discussed.

5.5.2. Spatial development frameworks (SDFs) under SPLUMA

While Spatial Development Frameworks (SDFs) are a mandatory instrument in terms of (and driven by) the Municipal Systems Act, 32 of 2000, additional detail and (generic) guidance on the content and preparation of SDFs are provided by SPLUMA (van Wyk, 2012a:275; Retief & Cilliers, 2015:179; Nel et al., 2015a:48). The following important aspects are reflected within SPLUMA. The SDF should form the basis of municipal planning (Kruger, 2014:95; van Wyk, 2012a:276). While SDFs play a high value role within municipal planning, it still does not provide/confer rights. However, SDFs does have merits during land-use applications decision-making processes and land-use schemes must give effect to SDFs. Decision-making authorities and Municipal Planning Tribunals must consider the municipal SDF when deciding on a land-use change and land-use authorisations applications and take special cognition of “sustainable use of agricultural land” (Kruger, 2014:95; South Africa, 2013:50).

The municipal SDF is also pro-active to balance development pressures and environment protection needs (Kruger, 2014:94-95). Thereby, SDFs must give effect to general directives and development (directive) principles contained in SPLUMA. Explicit provisions are made within SPLUMA as a requirement of SDF to take cognition of applicable environmental instruments. Moreover, SPLUMA requires municipalities to conduct an assessment of the “spatial location of environmental sensitivities” (Retief & Cilliers, 2015b:578) as part of the spatial development frameworks preparation processes. Furthermore, it is mandatory for municipal SDFs to include a strategic assessment of environmental sensitivities, high-value attributes and qualities within a municipal area including pressures and opportunities (Kruger, 2014:94-95; South Africa, 2013:24).

The following SDF requirements are of importance to municipal planning (NWU, 2013:229; South Africa, 2013:24):

- Must give effect to development (directive) principles
- Must take cognisance of environmental management instruments
- Municipal SDFs must include a strategic assessment of environmental pressures and opportunities as well as environmental sensitivities and attributes. This include high valued agricultural land.

5.5.3 Land-use management schemes

As previously mentioned in terms of SPLUMA municipalities must develop and adopt a single land-use scheme which includes replacing all previous ‘old order’ schemes (Kruger, 2014; van

Wyk, 2012a:292). Thereby SPLUMA in layman terms describes land-use schemes as documents used for regulating land-use and land development, by allocating land-use rights and conditions relating to a specific land-use purpose (South Africa, 2013:9) for the entire municipal area. When a municipality adopts a land-use scheme all “land owners and users of land” in a municipal area are obliged to adhere thereto (Kruger, 2014; van Wyk, 2012a:291-292) including the state. Another important aspect of land-use schemes is the requirement to align with the municipal spatial development framework. This provides consistency and alignment with spatial planning (Kruger, 2014: 95; Schoeman, 2010:29) which solidifies the enforcement of spatial development frameworks and measures to address, control, regulate and restrict land-uses (van Wyk, 2012a:291). Moreover, land-use schemes are regarded as a fundamental tool to ensure the principle of sustainability is promoted to improve the quality of life (SAPI, 2015). Land-use management arguably serves as the most imperative statutory instrument local government has at their disposal to ensure their vision is spatially reflected as well as to ensure custodianship of the environment.

The potential of land-use schemes as a tool to enforce municipal visions is one of the main outcomes of this research. SPLUMA dictates that land-use schemes must “take cognisance of environmental management instruments as adopted by the relevant environmental management authority” (South Africa, 2013:36). Additionally the relevant authorities and Municipal Planning Tribunals must when considering applications reflect on environmental issues that could affect the environment (South Africa, 2013:36).

The following important requirements for land-use schemes are identified (NWU, 2013:230; South Africa, 2013: 34-36):

- Municipalities must prepare and manage a single land-use scheme for the entire area;
- Must take cognisance of environmental management instruments;
- Municipal Planning Tribunals must reflect on environmental issues and considerations.

5.5.4 Title deed restrictions

SPLUMA defines land development management as a dedicated area within municipal planning which includes the processes to amend or remove development controls and land-use change applications. The dedicated provisions provide certainty in terms of areas of planning. Municipal Planning Tribunals (local) forms a central role (authority) within land development management and allocates functions previously predominantly reserved to provincial governments with the exception of some provinces. This entitles “procedures and decision-making processes” (van Wyk, 2012a:57; South Africa, 2013:50-54). For purposes of this research emphasis is placed on the prominent land development management instrument restrictive conditions set in title deeds (van Wyk, 2012a:57,247,305). Land development management encapsulates amendments

which include the removal, suspension or alteration of restrictive title deed conditions, subdivision and consolidation of land (urban) and any conditions for approval from Municipal Planning Tribunals (South Africa, 2013). For more detail on the instrument refer back to Chapter 4.2.2.3.

5.6 Summary of current municipal planning and environmental management instruments

Table 5-6 provides a summary of municipal planning and environmental management instruments in the post-SPLUMA planning system. The most relevant, from a municipal planning perspective, legislation is provided as well as the (legislative) local powers for the relevant instrument. Refer back to Chapter 3.6 for more detail on local powers and municipal planning as a functional area of local government competence.

Table 5-6: Classification of instruments

Instrument/ Tool	Relevant legislation/statute	Secondary statute/legislation applicable	Type of instrument/ tool	Legislative Powers
Municipal Planning	Constitution, 1996	SPLUMA and ordinances	Classical	Original
Town planning schemes (old)	Ordinances	-	Classical	Assigned
LUM schemes	SPLUMA	Provincial legislation can be adopted and provide further room for by-laws to be developed regarding 'site specific aspects.'	Based on Classical land-use management function	Assigned
Restrictive title conditions	National & Ordinances (old)	Gauteng Removal of Restrictive Conditions Act, 3 of 1996 (Gauteng)	Classical	Assigned
	SPLUMA (new)- Removal of title deeds local in terms of SPLUMA	Gauteng Removal of Restrictive Conditions Act, 3 of 1996 (Gauteng) LUM by-laws under SPLUMA	Classical	Assigned
MOSS	NEMA GNR 324: Listing Notice 3 (2017) (SPLUMA in terms of municipal planning)	SPLUMA	Strategic (applicable with SDF)	Assigned
Environmental Management Frameworks (EMFs)	Open for adoption, however, can subsequently have legal mandate	MSA, SPLUMA, NEMA-GNR 324 Listing Notice 3	Voluntary/strategic	Assigned / Adopted voluntary
C-planning tools (including open space management plans, bioregional plans, biodiversity plans)	No explicit legal mandate (Retief & Cilliers, 2015:178)	NEMA GNR 324 Listing Notice 3 (2017)	Voluntary for integrated development planning	Voluntary
IDPs	MSA	SPLUMA	Strategic	Assigned
NEMA Regulation Listing Notice 3 (zoning & spatial instruments)	NEMA GNR 324 (2017)	SPLUMA (environmental instruments), MSA	Voluntary	Assigned
SDFs	MSA	SPLUMA	Strategic & spatial	Assigned

Sources: South Africa (2000a: 25); Freedman (2014:569-585); Nel et al. (2015a; 48-49); Retief & Cilliers, (2015b:575-585); van Wyk (2012a); South Africa (2013:16); South Africa (2014).

With a summary of current planning instruments provided and the relevant powers, the following section is devoted to development directives and explicit provision for environmental

management. Planning practices and the development and application of the aforementioned instruments should give effect and take cognation of the directives and statutory provisions. The intended outcomes are to drive more responsible planning practices and change the unsustainable settlement patterns of cities.

5.7 SPLUMA directives and statutory provisions fostering linkages between environmental management and municipal planning

SPLUMA is regarded as a non-environmental class of legislation with direct environmental relevance (Du Plessis & Nel, 2015:21). This is due to SPLUMA containing “explicit or implied environmental provisions in spatial instruments and land-use planning instruments” (Du Plessis & Nel, 2015: 20). The linkages and cross-cutting functions between environmental management and municipal planning are mainly dedicated to statutory spatial directive principles, roles and functions, sustainability policies and legislative requirements with emphasis on instrument development. Subsequently, many municipal planning, including operational planning, instruments such as SDFs forms part of the suite of “spatially based local environmental governance instruments” performing cross-cutting functions (Nel et al., 2015b:144). More explicitly, SPLUMA encourages progressive interface development with the requirement that land-use schemes and municipal SDFs must take into account environmental management instruments (Kruger, 2014:94; South Africa, 2013). This enhances mutual and supporting objectives. Additionally, the use of servitudes and restrictive conditions within title deeds possess development controls (Nel et al., 2015a:48-49) and may be used for environmental protection purposes.

Table 5-7 provides a summary of important development principles and attributes as well as the implications and benefit thereof to municipal planning. The summary indicates possible linkages between municipal planning and environmental management as enforced by SPLUMA directives. Additionally the benefits for environmental application purposes are captured. SPLUMA serve as a tool to drive strategic national considerations (policies, plans etc.). For purposes of this research, the discussion of national considerations is limited to those of importance to municipal planning. Alignment with other legislation and national policies and plans for decision-making, including environmental legislation and the MSA is required in terms of SPLUMA (Kruger, 2014:94-95; van Wyk & Oranje, 2014:184).

Table 5-7: Possible linkages between municipal planning and environmental management provided by SPLUMA.

SPLUMA Clause	Requirement or important aspect	Benefit/ implication
Fundamental development (directive) principles (SPLUMA Section 7)		
Section 7 (a)	Spatial justice	Development and planning must contribute towards addressing urban spatial imbalances and invest in previously neglected urban and rural areas. Includes all areas within a municipal jurisdiction.
Section 7 (b)	Spatial sustainability	Emphasis is placed on prioritising the protection of agricultural land. Consistency and synchronisation with environmental management tools are promoted. This includes the integration between different planning and environmental management instruments and procedures. Defining and enforcing the urban edge are prioritised. Necessary infill development and higher density development is promoted to combat urban sprawl. Thereby planning respects the environment.
Section 7 (c)	Efficiency	Reduced financial, socio-economic and environmental impact, improved functioning of cities and utilisation of existing resources.
Section 7 (d)	Spatial resilience	Improve flexibility with planning and the spatial resilience by respecting the capacity to absorb economic and environmental shocks.
Section 7 (e)	Good administration	Efficient, effective and responsible decision making by applying integrated planning approaches based on strategic and integrative thinking approaches.
Environmental application		
Section 7 (a)(iv)	Former homeland areas	Land-use management systems that are flexible to accommodate and secure development needs while including environmental considerations for the upliftment of rural and former homeland areas
Section 7 (b)(ii)	Protection of valuable agricultural land	Protects valuable resources by protecting agricultural land-use. This includes strengthening the role of the SDF in guiding the direction of urban growth, enforcing the urban edge as a parameter and promotes infill development.
Section 7 (b)(iii)	Guaranteed Environmental Management instruments	Provision for environmental management priorities to be signified within municipal planning. Environmental management optimising land-use for environmental purposes. Environmental management is, therefore, an important informative tool to spatial planning.
Section 7 (c)(ii)	Decision-making needs to consider environmental impacts	Balance between environmental concerns and development needs
Section 7 (d)	Spatial resilience for environmental shocks	Protection of communities that are vulnerable to economic and environmental shocks. The ability of ecosystems to overcome environmental shocks is promoted
Section 12 (1)(h)	Needs to incorporate environmental objectives into SDFs	Land-use planning that balance and prioritise environmental conservation and development needs. Thereby a clear spatial vision can be created and strategies formulated accordingly.
Section 12 (1)(m)	Ensures environmental management instruments are considered	Promotes environmental considerations and environmental management is included in land-use management and planning.
Section 12 (1)(n)	National legislation and policies on the protection of agricultural resources	Ensures responsible spatial planning by aligning with national legislation and policies especially in terms of agricultural resources.
Section 21 (a)	Municipal SDF must give effect to principles and norms and standards set out in Section 2 of SPLUMA	Principles driving the vision for planning in South Africa including spatial planning outcomes and sustainability.
Section 21 (j)	Municipal SDFs must include a variety of environmental considerations including sensitive environmental areas and valuable agricultural	Include an analysis of the biophysical environment (South Africa, 2014b:69) for considering the protection of ecological and agricultural valuable areas. This is to be done through mainstreaming environmental tools and plans within spatial planning.
Section 24 (2)(b)	Consideration of environmental management instruments and environmental legislation	Providing that land-use should recognise environmental concerns and limits arbitrary application of land-use schemes over environmental instruments.
Section 25 (1)(d)	Land-use schemes must ensure minimal impact on the environment and natural resources	Ensures environment considerations are included within land-use schemes and land-use decision-making. Promotes a level playing field with environmental, social and economic aspects.
National applicable considerations		
Section 14	National spatial development frameworks	Offers additional spatial information to municipal spatial planning. Serve to guide decision-making and alignment with national vision including 'national interest.'
Section 14 (b)	National policies, priorities, plans and legislation	The National Development Plan should be reflected in national SDFs, and other relevant policies and legislation
Section 14 (f)	Environmental management instruments must be considered	National SDFs must take cognisance of environmental instruments adopted by the competent authority including bioregional and conservation plans

Source: Compiled from South Africa (2013); Kruger (2014:94-95); van Wyk & Oranje (2014:358-362).

5.8 Conclusion

The enactment of the Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA) is the first part of the recent planning law reform in South Africa which is considered for purposes of this research.

This chapter firstly provided background on SPLUMA. SPLUMA serves as a national framework act, replacing several old dispensation of land-use planning and management acts. Several provisions are made whereby municipal planning must take cognition to environmental instruments. SPLUMA explicitly defines the different areas (also referred to as fields) of planning as land-use management, spatial planning and land development management.

SPLUMA contributed towards the standardisation and establishment of a framework through certain interventions. This includes spatial planning over all three spheres of government (national, provincial, and local). SPLUMA drives national spatial and development directives with room for national set of norms and standards for land-use planning and management. All old dispensation town planning schemes must eventually be replaced with a single land-use scheme for the entire municipal. The notion is that a single land-use scheme will reduce the complexities in land-use management as many municipalities have multiple town planning schemes for different areas within a municipality. Furthermore, the possibility exists for combined authorisation processes with environmental management departments.

SPLUMA adds generic standardisation elements and requirements for SDFs. Land-use management must also give effect to municipal spatial planning. Moreover, SDFs and land-use schemes must take cognition of environmental instruments. This set the need to identify possible interfaces between municipal planning and environmental management as identified in the previous chapter. This is in line with the drive for integrated planning to drive responsible decision-making in municipal planning as previously mentioned under the theoretical basis of this research.

The Spatial Planning and Land Use Management Act, 16 of 2013 mark a new era of planning in South Africa. With the theoretical basis established, the rest of the research was devoted to empirical study, closure to this research, and further research and way forward. The next chapter (Chapter 6) is the departure of the empirical investigation which reflected on the application of the science of municipal planning in practice. Two case studies were critically reviewed, summarised and discussed as examples of municipalities enforcing land-use management and land development control to restrict potentially environmental harmful behaviour.

CHAPTER 6: EMPIRICAL INVESTIGATION (PART A): CASE STUDIES OF ETHEKWINI (DURBAN) AND THE CITY OF CAPE TOWN

“Innovation is change that unlocks new value”- Jammie Notter

6.1 Introduction

From the theoretical investigation captured in preceding chapters it was concluded that the alignment of environmental management and municipal planning will result in leveraging the mutual benefits that both the disciplines hold. Possibilities exist for the integration of environmental consideration in municipal planning in lieu of alignment of environmental management and municipal planning and the Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA) directives. Subsequently, environmental management instruments can be used to furnish land-use planning and management with information. Moreover, the previous chapter provided an overview of the changes in municipal planning system under the Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA). This chapter captured the second part of the recent planning reform and considered the recent planning reform based on two case studies. The municipal planning (land-use planning and management) system needs to consider and adapt to the implications of the mentioned case studies which include municipal planning in case law.

This chapter focused on two purposefully selected case studies, the eThekweni (Durban) and City of Cape Town case study, as a departure of the empirical investigation. This included a qualitative review and summary of existing literature and documents to emphasise lessons learned as well as swot analysis on the two case studies. Together with the previous chapter on the enactment and partial implementation of the Spatial Planning and Land Use Management Act, 16 of 2013, this chapter related to the research question:

“What entails the recent planning and environmental law reform in South Africa?”

–Research question 4–

Arguably the two case studies indicated the possibility of municipal planning’s openness and contribution towards local environmental management. Therefore, these cases ultimately indicated that municipal planning instruments serve a fiduciary land-use planning and management (city planning and management) tool to secure responsible urban growth and land-use practices, while providing for the protection of valued and sensitive environmental areas and attributes. The structure of this chapter is illustrated in Figure 6-1.

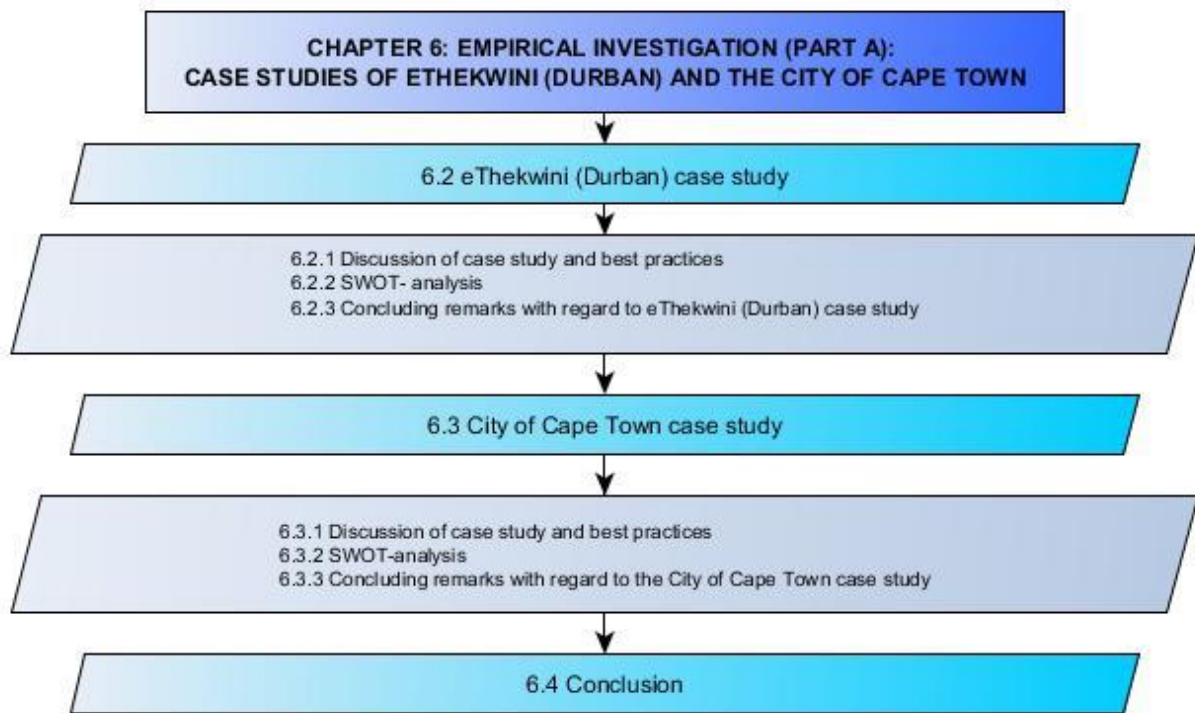


Figure 6-1: Outline of Chapter 6
Source: Own construction (2017)

6.2 eThekwini (Durban) case study

Actions taken by the eThekwini Metropolitan Municipality, which includes the City of Durban, made the city one of the best examples of initiative and mutually supportive application of development controls (setting development parameters) and land-use planning and management for the protecting of environmental sensitivities and municipal environmental outlook (Cilliers et al., 2014:262; Du Toit & Cilliers, 2015:777). Durban is situated in an environmentally sensitive area with high ecological value (Cilliers et al., 2014:262). The municipality integrated environmental consideration into land-use planning and management by integrating their municipal open space system (MOSS) into their land-use management plan. The issue within the eThekwini (Durban) case study was the ability of municipalities to perform a local environmental management function through the use of municipal planning instruments. The case study is based on the municipality capitalising on their incidental powers to secure environmental protection through reliance on land-use planning and management tools. Accordingly the case study of eThekwini (Durban) is discussed.

6.2.1 Discussion of case study and best practices

According to Nel et al. (2015a:48) the Durban- Municipal Open Space System (D-MOSS) serve as an example on how a municipality can succeed in preventing undesirable development which does not fit their land-use plans and prevented potential environmentally harmful behaviour. Arguably this case study serves as the latest innovative example of cross-

disciplinary practice by a municipality that was successfully enforced. The Durban Municipal Open Space System (D-MOSS) developed from an initial policy directive, called the eThekweni Environmental Service Management Plan (Nel et al., 2015a:49). The eThekweni Environmental Service Management Plan was aimed at creating an interlinked system of biodiversity valuable open spaces rendering ecosystem services and protecting the city's natural resources (Freedman, 2014:584; Nel et al., 2015a:49). Additionally the Environmental Management System (EMS) of Durban aims to integrate social, economic and environmental aspects into planning processes (Du Toit & Cilliers, 2015:759) emphasising the multi-dimensional aspects of planning. Moreover, Local Agenda 21, a global action plan, designed for local level implementations focused on human impacts on the environment was adopted by the City of Durban and subsequently reflected within the City's policies and environmental objectives (Du Toit & Cilliers, 2015:778). The D-MOSS, an offspring of the city's "policy formulation and action planning", explicitly includes significances such as biological considerations "aimed to protect the city's natural areas and resources because they were regarded as providing vital ecosystem services" (Du Toit & Cilliers, 2015:778). The available environmental information provided by the D-MOSS offers guidance and "inform strategic and project-level development planning" (Du Toit & Cilliers, 2015:760) serving as an informative tool to municipal planning (Nel et al., 2015b:144).

However, while the plan was in existence, the city still required the means to enforce the Durban - Municipal Open Space System (D-MOSS) (Nel et al., 2015a:49). In 2010 the City Council adopted a resolution to amend the town planning scheme to integrate the D-MOSS within the town planning scheme (land-use management) (Freedman, 2014:584; Nel et al., 2015a:49). The council's resolution ensured for the town planning scheme to enforce "split zoning" on land parcels accommodating for open space zoning as a land-use in its own right (Snijman & Petterson, 2015:296). Thereby the D-MOSS served as an informative tool for the city's land-use management systems to include environmental consideration and the outcomes of the city's environmental plans. By incorporating the D-MOSS into their town planning scheme, the city actively prevents residents/land that falls within the D-MOSS, from undertaking any development prior to obtaining permission from the municipality. Permission includes "environmental authorisation" in terms of the town planning scheme (land-use management) (Freedman, 2014:584; Nel et al., 2015a:49). Even after environmental authorisation has been obtained from the city, land development is "subjected to strict controls aimed at protecting the ecological goods, and services the land provides" (Freedman, 2014:584). Thereby, managing activities that may affect "sensitive areas and features" within the city, protecting "common natural goods" (Glasson & Marshall, 2007:5) in-line with the objectives of municipal planning (Glasson & Marshall, 2007:5; Nel et al., 2015a:85) and "achieve environmental objectives" (Snijman & Petterson, 2015:297). However, some critique was raised on the inadequate local urban ecological and environmental data to inform the formulation of the D-MOSS (Du Toit &

Cilliers, 2015:778). Critique on the Durban-MOSS included that the development of the MOSS was based on desktop studies on cities from other countries (Du Toit & Cilliers, 2015:778). Freedman (2014:592) also stated that the probability of future litigations is high and that the impact of the D-MOSS on future investment can also be questioned. However, in the pertinent legal case (Le Sueur and Another v eThekweni Municipality and Others (2013)) associated with the Durban case study, the courts provided clarity on municipal planning functions and serve to show that municipal planning instruments can be employed to restrict land-uses that can have a detrimental impact on the environment (Nel et al., 2015a:48). Table 6-1 captures the relevant instruments that were used in the Durban case study for restriction of environmentally harmful behaviour through the use land-use management and planning. Instruments are accordingly explained in terms of the value and outcomes thereof. Secondly the informative spatial instrument used to provide informative support to land-use management is discussed. The table also gives the value of each instrument played in this specific case study. Lastly the outcomes of the innovative application of instruments are discussed.

Table 6-1: Instruments used in Durban case study to secure an interface with environmental management

	Land-use control	Spatial tool
Tool used for creating interface with environmental management	Town planning scheme (Original power)	D-MOSS
Value	Statutory land-use control instrument to manage and set parameters to land-use rights	Identifying sensitive environmental attributes and environmental objectives- relying on incidental powers for environmental goals/protection
Outcomes	Managing and restricting land-use rights (development parameters) by means of the town planning scheme (as original power) proof to be fundamental to secure environmental protection. Together with assigned and incidental powers restricting potentially environmentally harmful activities as seen in the judgment of the Le Sueur v eThekweni Municipality 2013 JDR 0718 (KZP).	

Source: Own compilation from Freedman (2014:592); Du Toit & Cilliers (2015:778) and Nel et al. (2015a:48-49, 85).

6.2.2 SWOT- analysis

As part of the review and summary of the case study a SWOT-analysis was accordingly conducted on the land-use planning and management system of the City of eThekweni (Durban) in terms of restricting potential environmentally harmful behaviour (land-use). Table 6-2 captures the particulars of the case study.

Table 6-2: SWOT-analysis of land-use management and planning system in eThekweni (Durban)

Strengths	Weaknesses
<ul style="list-style-type: none"> • Respectable resource allocation for environmental and biological research. • Extensive mapping exercises conducted by the City which are utilised within spatial planning. • Precedent in South Africa in terms of environmental and spatial planning instrument development and formulation by a municipality. • A history of driving and implementing the Local Agenda 21 mandate • Experience in sound environmental information being generated, and environmental reporting, over the years utilised in spatial planning and environmental management systems. • Proper status quo and state of the environment analysis of the municipality have been conducted. • Well-established and proven strategic planning and environmental management instrument aimed at protecting environmental attributes and driving environmental objectives. • D-MOSS is integrated into the land-use plan with subsequent innovative use of zoning. • The incidental power to be used for environmental protection is confirmed. 	<ul style="list-style-type: none"> • The D-MOSS has received criticism; arguable as it is a first round of work in South Africa, for relying on international ecological data to determine the value of 'ecological goods and services' (environmental information prioritisation). • Further research is required in terms of prioritising and identifying environmental attributes. • Lack of funding hampers further and holistic environmental research including socio-economic aspects. • The integration of different line departments or sectors is unclear which may result in different opinions. • A lack of alignment in terms of driving environmental policies and plans including a collective vision with municipal planning decision-making. • This include trade-offs between municipal planning objectives, development and environmental vision and objectives. • Land for expansion and further development might become a problem.
Opportunities	Threats
<ul style="list-style-type: none"> • Proven and sound means with zoning and the D'MOSS can be applied to other land parcels to protect environmental harmful behaviour from taking place. • Opportunity to attract investment for expansion of mapping and other spatial tools, as tools are proven to be of value. • Further contributions of multi-discipline approach and tool development might be seen. Still remains one of the pioneers/innovators of modern innovative planning tool development. 	<ul style="list-style-type: none"> • Might lead to uncertainty in terms of property value and development potential. • Can be a deterrent for investors and development, subsequently leading to retract and inadequate political backing. • The need for development might also lead to withdrawal of or removal of development controls. Illegal/ unauthorised developments remain a challenge to maintain the urban vision of a municipality.

Sources: Own compilation from Cilliers et al (2014:264, 277-780), Du Toit & Cilliers (2015:768)

6.2.3 Concluding remarks with regard to eThekweni (Durban) case study

This case study illustrated that environmental management can be informative to, and environmental consideration can be integrated into, land-use planning and management (Nel et al., 2015a:49; Freedman, 2015:592). The D-MOSS was aligned and integrated into the city's land-use management systems to "innovatively and creatively manage and protect" natural resources (Freedman, 2014:592; Nel et al., 2015a:85). Subsequently municipal planning contributes towards environmental management by protecting open spaces. The implication of the case study is that municipalities may use land-use management to enforce their open space

plans by preventing development on areas affected by the open space areas prior to obtaining permission by the municipality (Nel et al., 2015a:48). This is an incidental municipal power as described by Freedman (2014:591-592). Refer to Section 3.6 for more on the functions and powers of municipalities. Moreover, the case study illustrates the drive by the city of Durban for the “sustenance of the natural and built environment” (Du Toit & Cilliers, 2015:780) or the quest for a balanced approach between environmental protection and development. The likelihood of similar future developments in the field is high as other municipalities will potentially adopt similar measures (Freedman, 2014:592). The pertinent case study of the City of Cape Town which included the content of land-use management and development control are discussed in the following case study.

6.3 City of Cape Town case study

The City of Cape Town marks one of the most prominent examples on the enforcement of land-use management to prevent development that does not fit their land-use management plans. One of the pressing issues driving the City to adopt a strong stance is the fragile and highly valued biodiversity; and the need to conserve and protect sensitive and valued environmental attributes (Cilliers et al., 2014:264). As a result the City has conducted some of the best mapping and spatial tool development in South Africa (Cilliers et al., 2014:265-267; Mosdell, 2015:976-977). Due to unauthorised land-uses reacted in the interest of protecting the environment by emphasising the limits in land-use rights and the required land-use authorisation processes for land-uses that which does not fit the allocated zoning. The issue was around the relevance of land-use management by municipalities and the applicable zoning after mining rights have been granted from another sphere of government. In the case study the municipality through the reliance on its original and assigned powers (Freedman, 2014:569) entrenched “its autonomous land-use authority” by restricting mining to land “which is zoned for that purpose” (Mosdell, 2015:976). Behaviour is thereby restricted that can have a detrimental impact on the environment (Nel et al., 2015a:48). The case study is accordingly discussed.

6.3.1 Discussion of case study and best practices

In practices the nature of activities (for example mining, agriculture, business etc.) may constitute a variety of authorisations before an activity may take place (Freedman, 2014:569,576; Mosdell, 2015:976-977; van Wyk, 2012b:298). A land-use in terms of a land-use scheme may include several listed environmental activities and regulated activities. This point to complexities within practice as multiple authorisation processes may be required for a single activity. Noteworthy for this case study, is that land-use authorisation, environmental authorisation and mining authorisation encompass the mandates of different authorisation authorities from different government levels. Therefore, in the specific case study of (Maccsand case) three important authorisation aspects can be identified in terms of functional terrains of

environmental management, mining and land-use planning and management. The first aspect is the land-use management point, secondly is the environmental authorisation and thirdly mining rights or mining permit. Whereas mining is “an exclusive competence of the national sphere of government” (van Wyk, 2012b:300), land-use planning and management is the competence of local government. In the Maccsand Case the property was zoned in terms of the provincial land-use management legislation (van Wyk, 2012b:298; Humby, 2015:193). Additionally, mining as an activity is subjected to environmental authorisation in terms of environmental management legislation which in this case lied with the Western Cape Provincial Government (Mosdell, 2015:976). Moreover, mining also requires a mining licence or permit from national government. All these authorisations are limited, and land-use authorisation and zoning (and its restrictions and development parameters) do also apply to mining (Mosdell, 2015:976).

The City of Cape Town (Maccsand case) case study provides valuable insight into the power of land-use control as part of municipal planning governing land-use. The position of a municipality “as autonomous land-use authority” is confirmed including the municipalities’ “statutory obligations to protect the environment” by courts (Mosdell, 2015:976). The City had to defend the enforcement of land-use management as part of their exclusive local government functional competence on municipal planning (Mosdell, 2015:976). The facts are as follow: The area within which mining was conducted was zoned as ‘Public Open Space’ and ‘rural’ within the residential neighbourhood of Mitchell’s Plain (van Wyk, 2012b:299). Maccsand (Pty) Ltd obtained mining authorisations from the national department in terms of the Mineral Petroleum Resources Development Act 28 of 2002 (van Wyk, 2012b:298). However, Maccsand did not obtain the associated land-use authorisation (applied by the town planning scheme) in terms of the Provincial Land Use Planning Ordinance 15 of 1985 (C) operational at the time (Humby, 2015:193; Mosdell, 2015:296; van Wyk, 2012b:299). Maccsand failed to notify the City of commencement of mining activities (van Wyk, 2012a:195). The planning ordinance prohibited any land-use that does not conform to the relevant zoning (Humby, 2015:193; Mosdell, 2015:976; van Wyk, 2012b:300). Furthermore, the municipality stressed the need to protect the sand dunes from mining including “endangered vegetation” founded on the slopes of the dunes (Mosdell, 2015:977). In this case study the conducting of mining activities were unlawful as prior land-use authorisation for mining from the City was not obtained (Mosdell, 2015:976; van Wyk, 2012b:298-299). Subsequently, the City approached the courts to have the relevant town planning scheme (zoning) declared applicable to mining and that mining can be restricted to land zoned for the purpose of mining (Mosdell, 2015:977). The outcomes of the court case confirmed the powers of town planning schemes (and relevant zoning requirements) to control land-use (Nel et al., 2015a:48; van Wyk, 2012b:299-300) which can also “proactively protect natural resources” (Mosdell, 2015:977). Although mining authorisation has been obtained, it does not exempt persons conducting activities from obtaining land-use and environmental

authorisations before mining can commence (van Wyk, 2012a:120; van Wyk, 2012b:300). Therefore, mining authorisation did not ‘trump’ municipal planning on land-use management and therefore the statutory land-use provisions are applicable to mining (van Wyk, 2012b:299). Nel et al., (2015a:48) stated that the Maccsand case is proof of a municipality that “succeeded in preventing development in their areas of jurisdiction that does not fit in with their land-use management plans”. Municipalities are, therefore, in the position to enforce land-use plans, prevent development that does not fit these plans and accordingly refuse to approve land-use applications (Mosdell, 2015:976; Nel et al., 2015a:48).

Table 6-3 illustrates the instruments that were used in the Cape Town case study explained in terms of value and outcomes. In the first instance Table 6-3 indicates the relevant instrument use. Secondly the value of the applicable land-use management instrument is described. Lastly a brief summary is provided on the outcomes, with implications for the planning profession, based on the City of Cape Town and the applicable Maccsand (2012) case.

Table 6-3: Instrument used in Cape Town case study to secure interface

	Land-use management
Instrument used to restrict environmental harmful land-uses	Town planning scheme as a land-use change mechanism to manage land-use and to restrict land-uses to its allocated zoning. The land parcel was allocated a zoning of public open space.
Value	Affords land-use rights as well as limit this right, in conformance with town planning schemes/ land-use schemes. Zoning is a statutory a land-use change mechanism to manage land-use and to restrict land-uses to its allocated zoning. Thereby the City of Cape Town prevented development that did not fit their land-use plans. Furthermore, environmental consideration can be included within the field of municipal planning as the enforcement of zoning was usefully employed to restrict mining that can have a “detrimental effect on the environment” (Nel et al., 2015a:48).
Outcomes	Municipalities are “autonomous land-use” authorities, which can be utilised to protect the environment from unwanted and potentially detrimental land-uses (activities). Land-use control can be usefully employed to secure desirable urban/ development profile, through the enforcement of zoning and control over land-uses. Thereby land-use schemes and applicable zoning can be used to secure responsible land-use practices within a municipality’s area of jurisdiction.

Source: Mosdell (2015:976) and van Wyk (2012a:197).

6.3.2 SWOT-analysis

As part of the review and summary of the case study – a SWOT - analysis was conducted to determine the strengths, weaknesses, opportunities and threats of land-use management and planning in the City of Cape Town. The SWOT-analysis of the City’s planning system is depicted in Table 6-4 below.

Table 6-4: A SWOT-analysis of the City of Cape Town’s land-use management and planning system

Strengths	Weaknesses
<ul style="list-style-type: none"> • Well-established and resourced planning department with an environmental resource department within its Environmental, Economic and Spatial Planning Directorate” (Mosdell, 2015:971). • A pioneer in terms of mapping exercise undertaken in South Africa by a municipality. • Additionally zoning schemes are already developed and utilised to protect natural attributes, environmental sensitive areas and heritage resources. • Strong tourism sector focused on the natural resources, therefore, is of value for the City to protect and preserve environmental attributes. • Strong legal history with many “case law pertaining” to environmental and planning aspects “emanates from” the City of Cape Town. • Pressure from communities, business and individuals lead to the City acknowledging its competence to fulfil and environmental governance role and undertake a comprehensive custodianship role. • The City continuously drives urban ecological and environmental research and mapping exercises to inform spatial planning. • Strong external support including financial support to help cover costs the City occurs in the pursuit of a strong planning tools and environmental objectives. 	<ul style="list-style-type: none"> • An inefficient urban form due to past spatial planning practices contributes towards the spatial fragmentation and pressure on environmental resources experienced. • Moreover, the current values of properties closer to economic opportunities contribute to urban sprawl and development in the urban fringe where property and land parcels are more affordable or desired. • Rigid planning might also lead to problems to accommodate further expansion and the availability of land for development close to economic centres. • A history of disputes exists between the city’s council and administration over resources allocated for environmental management and environmental tool formulation. • Therefore, potential changes in the political climax may result in a withdrawal of support and funding of mapping exercises and planning tool development. • External funding is the major source of financial support tool development and the pursuit of environmental objectives and the in-house budget does not cover all cost incurred.
Opportunities	Threats
<ul style="list-style-type: none"> • The opportunity exists to capitalise on already established participation and funding from the private sector and community involvement. • Resources and information available could improve the mapping and spatial instruments on environmental sensitive areas, high potential agricultural land and environmental attributes. • The expansion of resource base and voluntary involvement of developers to insert restrictive conditions within title deeds and or during township development can contribute towards environmental protection and securing the vision of the City. • Infill development and higher density development is earmarked in certain areas as well as city renewal programmes, which might lead to protection of environmentally sensitive land parcels from development. • Moreover, this will lead to the utilising existing infrastructure and relief development pressure on undeveloped/natural areas. 	<ul style="list-style-type: none"> • Reliance on external funding for tool development can be regarded as a weakness, as the availability of resources and limited funding in the future might lead to a lack of updating and development of tools. • This can lead to out-dated planning tools. The political atmosphere and potential changes in attitude towards allocating resources to environmental objectives and a lack of pursuing enforcement, might lead to an unbalanced prioritisation between development needs and environmental protection. The reliance on external support and funding might lead to future shortcomings in the ability to maintain and update spatial tools. Uncontrolled/ unauthorised and illegal developments remain a threat to enforcing spatial visions.

Source: Own Compilation from Cilliers et al (2014:264), Du Toit & Cilliers (2015:768), Freedman (2014:569-570), Mosdell (2015:970-971; 976-977), Rautenbach et al (2015:821).

6.3.3 Concluding remarks with regard to the City of Cape Town case study

The City of Cape Town case study emphasised the importance of town planning scheme (modern land-use management scheme) to regulate land-uses and preventing development that does not fit a city's land-use plans and to protect the natural environment (open spaces) against unscrupulous development. The town planning scheme gave effect to the City's spatial plans which integrated environmental consideration into the spatial plans and land-use plans.

The issue around the City of Cape Town case study is evident in the relevant *Maccsand* (2012) court case and included the status of land-use approvals (relevant town planning scheme) in relation to mining and environmental approvals. The applicable court ruling therefore emphasises municipalities' ability to regulate land-uses such as mining through zoning. Therefore owners of land granted with mining rights are still subjected to statutory environmental and land-use authorisations (Van Wyk, 2012b:300). This court ruling "entrenched the position of local government as an autonomous sphere of government constitutionally mandated to govern land use" (Mosdell, 2015:979). The implication of this court case is that zoning can be used to restrict land-use to its current zoning in terms of the land-use scheme and confirms the powers of municipalities to enforce their land-use management plans which may also be able to restrict potentially harmful environmental and unwanted land-uses by enforcing zoning. A departure from the allocated zoning requires an amendment to the land-use scheme (town planning scheme) through land-use authorisation processes (Nel et al., 2015a:48; Mosdell, 2015:979; Van Wyk, 2012b:300). Thereby land-use management plans may be used in mutual support of environmental management and for integrating environmental consideration into land-use planning and management decision-making (Nel et al., 2015a:48-49; Kidd, 2011:209). Arguably environmental consideration would form part of local development aspects considered, seeking responsible planning practices for sustainable urban growth (Mosdell, 2015:982).

6.4 Conclusion

This chapter provided practical examples on how land-use planning and management were used to secure desirable land-use patterns that also take cognition of the environment, strengthening the case in favour of alignment between environmental management and municipal planning. In both case studies municipalities have succeeded in preventing unscrupulous developments that did not fit their land-use plans and could have a detrimental impact on the environment. The successful enforcement of land-use management in the two case studies underscores the innovative approaches to prevent environmentally detrimental behaviour and emphasis the potential to balance development needs and environmental protection.

Accordingly Chapter 7, the second part of the two part empirical investigation, will reflect on the application of the science of municipal planning drawing on practice through questionnaires distributed to purposefully selected planners in practice in an attempt to determine their views on the on the planning reality and challenges experienced.

CHAPTER 7: EMPIRICAL INVESTIGATION (PART B): QUESTIONNAIRES AND EXPERT INTERVIEWS

7.1 Introduction

The preceding chapters captured the recent planning and environmental law reform. Moreover, there are examples of successful alignment between municipal planning and environmental management (Refer to Table 4-8) for municipalities to consider. This chapter consisted of quantitative and qualitative research methods in the form of questionnaires and semi-structured expert interviews and reflected on the application of municipal planning in practice. The questionnaires with purposefully selected planning practitioners and semi-structured expert interviews considered and related to the research question:

“What are the professional views regarding the planning reality and challenges relating to integrated planning?”

-Research question 5-

The structure of this chapter is illustrated in Figure 7-1 which forms Part B of the empirical investigation.

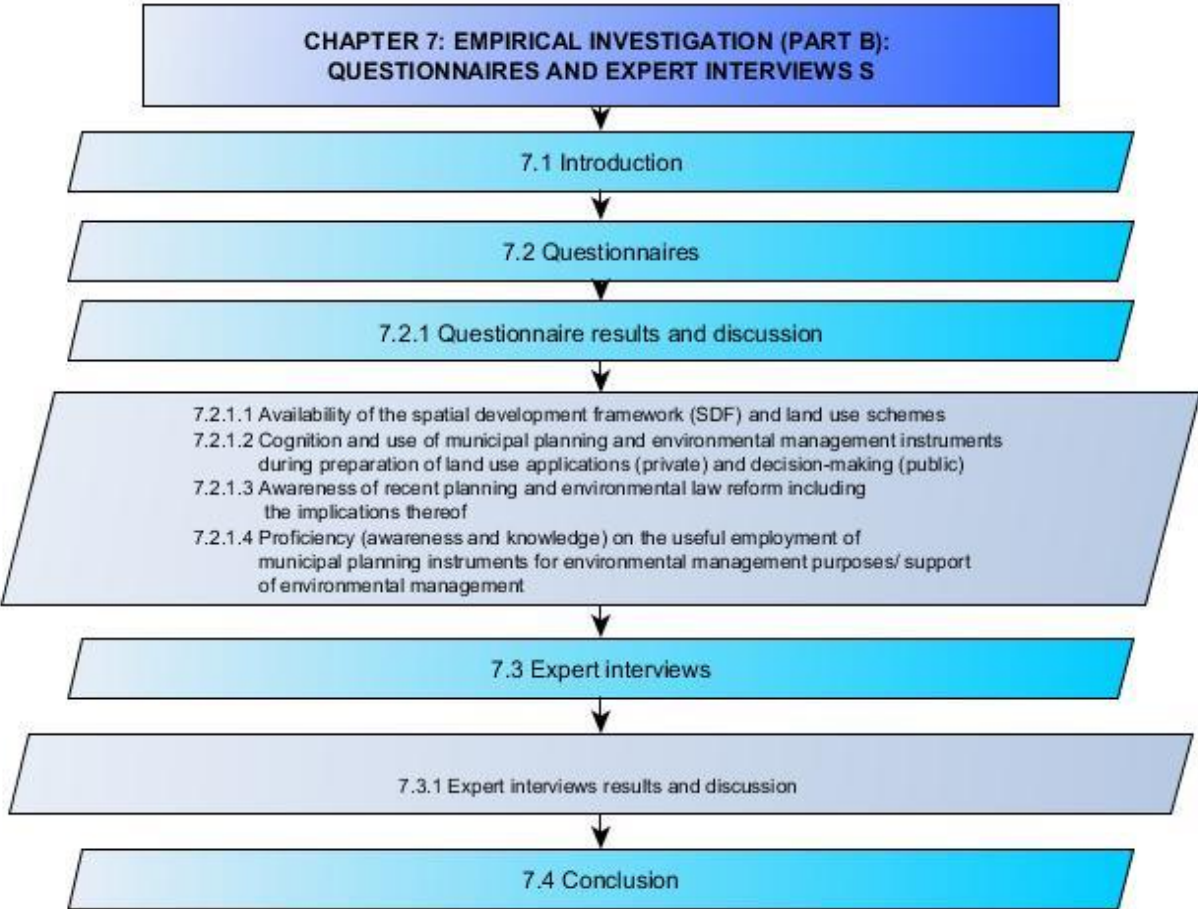


Figure 7-1: Outline of Chapter 7

Source: Own construction (2017)

By questioning planning practitioners their proficiency (awareness and knowledge) in terms of the municipal planning instruments and their views on the current planning reality and challenges was determined. Questioning planning practitioners also provided insight into planning practitioner's knowledge of recent planning and environmental law reform.

Semi-structured interviews were used to identify and discuss the professional views of the planning realities and challenges relating to integrated planning and how alignment between municipal planning and environmental management be improved. Accordingly, the findings and results of the questionnaires and semi-structured expert interviews are documented.

7.2 Questionnaires

In an attempt to draw on current planning practitioners a questionnaire was distributed to purposefully selected planning practitioners in terms of a purposeful sample method and based on a selection criteria (refer to Chapter 1.5.3.2).

7.2.1 Questionnaire results and discussion

The findings of the questionnaires as completed by purposefully selected planning practitioners were thematically summarised in terms of:

- Availability of municipal spatial development frameworks (SDFs) and land-use schemes,
- Cognition and use of municipal planning and environmental management instruments during the preparation of land-use applications (private) and decision-making (public).
- Awareness of recent planning and environmental law reform including the implications thereof.
- Proficiency (awareness and knowledge) on the useful employment of municipal planning instruments for environmental management purposes/ support of environmental management.

Refer to Annexure 2 for more on the data from the survey and Chapter 1.5.3 for more on the research design and methodology of the questionnaires. The important findings of the questionnaires are summarised accordingly.

7.2.1.1 Availability of the spatial development framework (SDF) and land-use schemes

The development of a single land-use management scheme is an explicit requirement of the Spatial Planning and Land Use Management Act (SPLUMA), 16 of 2013. Table 7-1 shows that 70% of participants indicated that they conduct work in a municipality that has developed a single land-use management scheme. Accordingly the notion is adopted that municipalities are at least partially implementing SPLUMA.

Table 7-1: Municipalities governed by a single land use scheme

5.	Has your municipality developed a single land-use scheme?	Yes	70%
		No	30%
		Not sure	0%

Table 7-2 shows that 35% of participants indicated they “sometimes”, 10% of participants indicated they “often” and 15% of participants indicated that they “very often or always” encountered conflicts/inconsistencies between land-use schemes (or town planning schemes) and the SDF. Also 25% of participants indicated they “rarely or never” and 15% “not often” encountered conflicts/inconsistencies between the SDF and land-use plans. Therefore, 60% of participants have experienced instances where the SDFs and land-use plans were not aligned.

Table 7-2 Inconsistencies between SDFs and land-use plans

	Rarely or never	Not often	Some-times	Often	Very often or always	Skipped Questions	Mean	SD
To what degree do you encountered conflicts/ inconsistencies between the SDF and town planning scheme/ land-use scheme?	25%	15%	35%	10%	15%	0%	2.75	1.372

In terms of SPLUMA, municipalities must consider environmental management instruments (Refer to Chapter 5.5). Therefore, the outcomes of environmental management plans should be reflected in land-use plans and municipal SDFs. 70% of participants indicated that municipalities ensure alignment between environmental management policies/plans/frameworks and land-use management instruments. Whereas only 10% of participants indicated that their municipalities do “not often” ensured alignment between land-use management instruments and environmental management policies/plans/frameworks.

Table 7-3: Alignment between land-use management and environmental management instruments

	Rarely or never	Not often	Some-times	Often	Very often or always	Mean	SD
9. To what degree does your municipality ensure alignment between land-use management and environmental management policies, plans and frameworks from different departments/ line-management?	0%	10%	20%	40%	30%	3.9	0.968

The next section focused on the cognition and use of municipal planning instruments during the preparation of land-use change applications and decision-making.

7.2.1.2 Cognition and use of municipal planning and environmental management instruments during preparation of land-use applications (private) and decision-making (public)

Findings from the survey as seen in Table 7-4 shows that 25% of participants “often” and 75% of participants “very often or always” consult the SDF during land-use change and rezoning applications.

Table 7-4: Self-reporting on consulting of spatial development frameworks (SDFs)

	Rarely or never	Not often	Some-times	Often	Very often or always	Skipped Questions	Mean	SD
6. To what degree do you consult the SDF during land-use change/ rezoning applications?	0%	0%	0%	25%	75%	0%	4.75	0.444

As seen in Table 7-5 the strong ‘agreed’ (“often” and “very often and always”) response suggests that the SDF is consulted during land-use change/rezoning applications by the private and public sector.

Table 7-5: Self-reporting on the use of SDFs by private and public sector participants

		To what degree do you consult the SDF during land-use change/rezoning applications?	To what degree do you consult the SDF during land-use change/rezoning applications? (Percentage of the relevant sector (private or public))
Which of the following applies to your current position?	1. Private sector	20% - Often	20%
		55% - Very often or always	80%
	2. Public sector	5% - Often	26.7%
		20% - Very often or always	73.3%
			Values rounded to one decimal

When read together with SPLUMA directives and requirements, this would suggest that spatial plans form a significant role in land development applications. This supports the view of Nel et al. (2015b:143-144) that the SDF is a “spatially based local environmental governance instrument” and is extensively used in practice.

Also participants indicated that the environment is important to the planning profession (Question 13) and that planners do consider the environment during land-use change applications (Question 15) (refer to Table 7-6). This would suggest that planning practitioners consider the environment as crucial to the planning profession and that participants consider the environment during land-use change applications and decision-making. This emphasised the important role spatially based instruments such as the SDF, EMF and MOSS have on land-use applications and decision-making by informing planners on environmental sensitivities and high potential agricultural land. When considering participants responses on the use of the SDF (refer to Table 7-5) it is implied that the SDF is a formidable instrument to integrate environmental consideration in land-use change decision-making as it is extensively consulted by planning participants.

Table 7-6: Environmental consideration by participants

	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree	Skipped question	Mean	SD
13. The environment is of great concern to my profession	0%	0%	0%	15%	35%	50%	0%	5.35	0.745
15. Planners do take cognisance of (consider) the environment, during rezoning applications/land-use change	0%	0%	0%	20%	55%	25%	0%	5.05	0.686
17. Law (legislation) forms an important part of the planning profession	0%	0%	0%	5%	35%	60%	0%	5.55	0.605

Results of the survey, as illustrated in Figure 7-2 and Figure 7-3 suggest that participants from both the private and public sector do provide value to environmental attributes that are contained in the SDF, MOSS and EMF during land-use applications. However, 60% of participants from the public sector (refer to Figure 7-2) and 33% of participants from the private

sector (refer to Figure 7-3) stated that they “very often or always” provide value (consider) environmental attributes contained in the SDF, MOSS and EMF during land use applications.

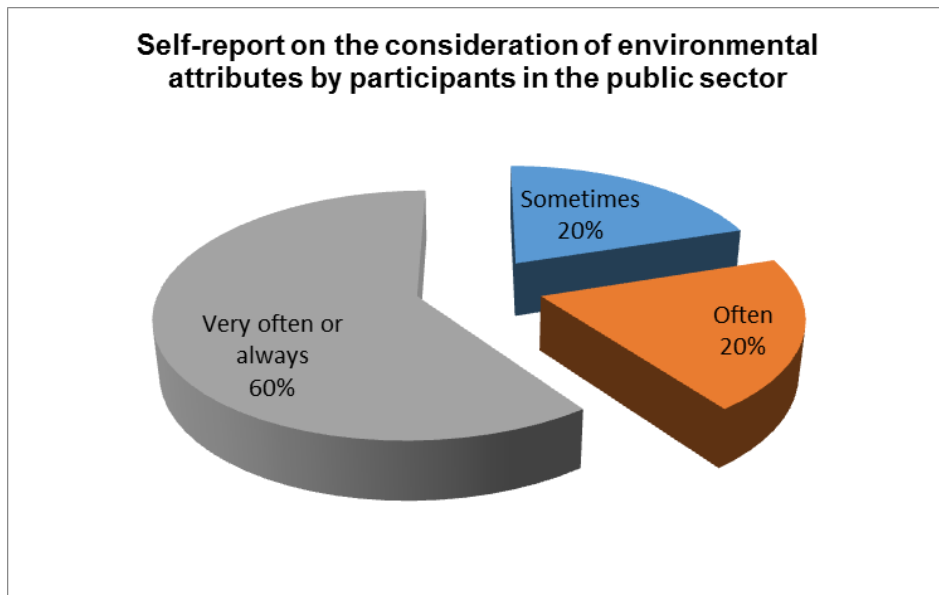


Figure 7-2: Self-report on the consideration of environmental attributes by participants in the public sector

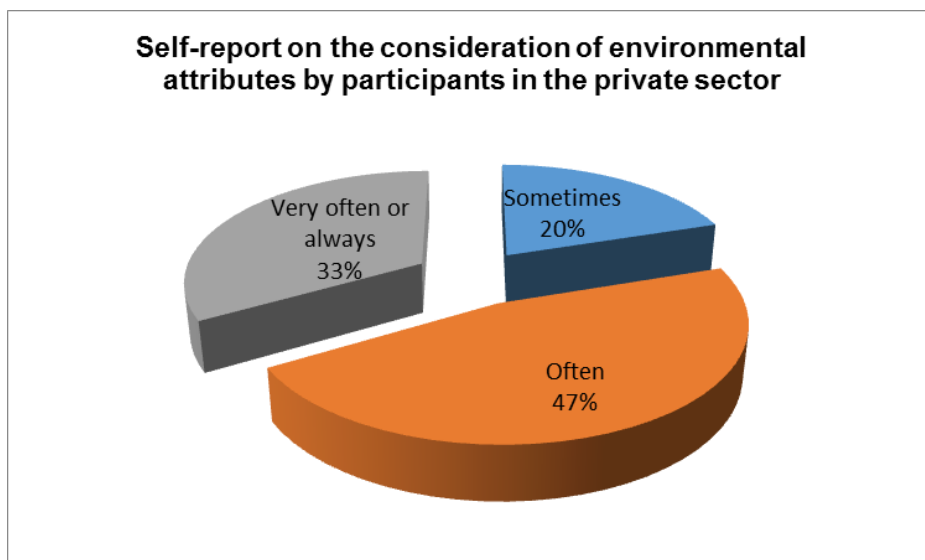


Figure 7-3: Self-reporting on the consideration of environmental attributes by participants in private sector

However, as shown in Table 7-7, 20% of all participants do “sometimes” provide value (consider) environmental attributes contained within the SDF, MOSS and EMFs. Considering the directives and requirements of the Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA) environmental management instruments must be considered during land development processes.

Table 7-7: Participants consideration of environmental attributes per sector

To what degree do you provide value to environmental attributes (e.g. Wetlands) contained within the SDF, MOSS, EMFs or any other spatial applicable instruments when considering/preparing a land-use change/ rezoning application?		
Which of the following applies to your current position?	1. Private sector	15%- Sometimes
		35% - Often
		25% - Very often or always
	2. Public sector	5% - Sometimes
		5% - Often
		15% - Very often or always

The following section provides the findings on the awareness of recent planning and environmental law reform including the implications thereof.

7.2.1.3 Awareness of recent planning and environmental law reform including the implications thereof

The recent planning and environmental law reform have several implications for the planning profession. Questioning planning practitioners provided an indication of their cognition of the recent planning and environmental law reform and awareness of the implications thereof. In an effort to determine the relations between participants’ awareness of recent planning and environmental law reform and the implications thereof, correlations were conducted based on the Spearman’s technique. The correlation coefficient is a mean (measure) to evaluate the strength of correlations (relationship) between participants’ responses to answers (variables) and used to quantify the extent of similarities between the variables (answers from self-reporting) (De Winter et al., 2016:273-276).

Firstly planners were asked to indicate to what extent law (and legislation) informs the planning profession with Question 16 subsequently focused on planning practitioners’ awareness of the recent court decisions on municipal planning (municipal planning in case law) as it contributed towards the recent planning and environmental law reform. SPLUMA also formed part of the recent planning and environmental law reform introducing several directives and requirements which have a significant impact on the planning profession. The Spearman’s technique was used to determine the relationship between (make correlations between) Question 16, Question 17 and Question 19 (Refer to Table 7-8).

A medium practical visible relationship exists between participants view on the importance of law to the planning profession (Question 17) and their familiarity with SPLUMA directive, principles and requirements (Question 19). However, a small negative, no practical significant relationship (correlation) exists between the importance participants considers law plays in the planning profession and their familiarity/awareness on recent court decisions (Question 16). A medium (or moderate) practical relationship exists (~0.490) between Question 17 and Question 19. This suggested that planning practitioners who stated that law forms an important part of the planning profession also indicated that they are up to date with the aspects (directives and

requirements) of SPLUMA. However, no significant relationship exists (~0.252) between Question 16 and Question 17, which suggest that participants who indicated that law forms and important part of the planning profession were not necessarily aware of municipal planning in case law. This would imply that planning practitioners might not be aware of the implications of the two case studies discussed in Chapter 6. Therefore a knowledge gap might exist, as these case studies (municipal planning in case law) offers valuable insight into the “useful employment” of municipal planning instruments to restrict “environmentally detrimental behaviour” (Nel et al., 2015a:48).

Table 7-8: Relationship between awareness of recent planning reform and view of the importance of law

	Item		Q17	Q16	Q19
Spearman's rho	Q17 – Law (legislation) forms an important part of the planning profession?	Correlation Coefficient	1.000		
	Q16- I am up to date with recent court decisions around municipal planning and environmental considerations?	Correlation Coefficient	-0.252	1.000	
	Q19 – I am familiar with the (directive) principles and requirements contained in SPLUMA	Correlation Coefficient	0.490	0.168*	1.000

In terms of SPLUMA environmental management instruments must be considered in land-use planning and management (Refer to Chapter 5.5). A large practical significant relationship exists (~0.684) between the participants’ responses to their familiarity with SPLUMA directives (Question 19) and the requirement to take environmental instruments into consideration (Question 21) (Refer to Table 7-9). Therefore the survey (questionnaires) revealed that participants who indicated that they are aware of SPLUMA requirements and directives (Question 19) are aware that environmental management instruments must be considered during land-use change/ township applications.

Table 7-9: Participants' awareness on the need to consider environmental instruments

	Item		Q19	Q21
Spearman's rho	Q19- I am familiar with the (directive) principles and requirements contained in SPLUMA	Correlation Coefficient	1.000	
	Q21 – Under SPLUMA municipalities must consider/ take cognisance of environmental management Frameworks (EMFs) and Municipal Open Space Systems (MOSS)	Correlation Coefficient	0.685	1.000

7.2.1.4 Proficiency (awareness and knowledge) on the useful employment of municipal planning instruments for environmental management purposes/ support of environmental management

Accordingly the questionnaires attempted to determine if planning practitioners were aware of the use of land-use planning and management instruments (municipal planning instruments) including development controls for environmental management purposes (refer to Table 7-10). A strongly ‘agreed’, with more than 50% of participants indicating they “sometimes”, “often “and “very often or always”, response was obtained from participants on the use of restrictive title deed conditions, zoning of open spaces and designation of open space or conservation in the

SDF in support of environmental management. However, 10,5% of participants indicated that servitudes could “rarely or never” and 15,8% indicated that servitudes are “not often” used for environmental management purposes. Therefore, the survey revealed that there are participants who are not aware of the use of servitudes as a development control mechanism.

Table 7-10: Participants' knowledge on the use of municipal planning instruments for environmental management purposes

		Rarely or never	Not often	Some-times	Often	Very often or always	Skipped Question	Mean	SD
22.	To what extent can restrictive conditions registered within title deeds (of properties) during township establishment process be used for environmental protection purposes	0%	26.3%	21.1%	31.6%	21.1%	1	3.47	1.124
23.	To what extent can servitudes registered on a property be used for environmental management purposes	10.5%	15.8%	36.8%	26.34%	10.5%	1	3.11	1.150
24.	To what extent will “open space” zoning require additional environmental authorisation before an activity can commence on such specific site/ cadastral unit	0%	10.5%	26.3%	36.8%	26.3%	1	3.79	0.976
25.	To what extent will the designation of an area for conservation purposes within the municipal SDF require additional environmental authorisation before an activity can commence	0%	5.3%	26.3%	36.8%	31.6%	1	3.95	0.911

To measure if the more experienced planners (Question 2) (based on years in their current position) are more aware on the use of development controls and spatial planning for environmental management purposes correlations between experience and knowledge on the use and implications of municipal planning instruments in support of environmental management (conservation and protection of environmental significant areas) (Questions 22 - 25) were determined. No practical significant relationship exists between the years planning practitioners are in their current position and their awareness of development controls for environmental management purposes. In fact a negative medium practical visible relationship exist between the years planning practitioners’ find themselves in their current position and the use of restrictive conditions in the title deed for environmental management purposes. A large, practical significant relationship exists between the use of different development controls (Question 22 and Question 23). Suggesting that planning practitioners’ have practically provided similar answers on the use of registered title deed conditions and the use of servitude for environmental management purposes. A large practical significant exist between open space zoning (Question 24) and areas identified for conservation purposes in the SDF (Question 25) and the need to obtain environmental authorisation for developments. This suggests that planning practitioners provided practically similar answers to Question 24 and Question 25. There is no evidence to suggest more experienced planning practitioners are more aware of the

usefully employed for environmental management purposes and preventing environmentally harmful behaviour. Moreover, there is no significant practical evidence that suggest that the more experienced planning practitioners are more aware of additional environmental authorisation required for developments located in areas identified as conservation in the SDF.

Table 7-11: The relationship between participants’ experience and the use of municipal planning instruments for environmental management purposes

			Q2	Q22	Q23	Q24	Q25
Spearman's rho	Q2- How many years have you been in your current position?	Correlation Coefficient	1.000				
	Q22 - To what extent can restrictive conditions registered within title deeds (of properties) during township establishment process be used for environmental protection purposes	Correlation Coefficient	-0.307	1.000			-
	Q23 - To what extent can servitudes registered on a property be used for environmental management purposes	Correlation Coefficient	-0.194	.735**	1.000		
	Q24 - To what extent will “open space” zoning require additional environmental authorisation before an activity can commence on such specific site/ cadastral unit	Correlation Coefficient	0.192	-0.204	-0.061	1.000	
	Q25 - To what extent will the designation of an area for conservation purposes within the municipal SDF require additional environmental authorisation before an activity can commence	Correlation Coefficient	0.289	-0.269	-0.198	.709**	1.000

These findings on the use of municipal planning instruments stands in contrast with the recent planning reform based on the two case studies of eThekweni (Durban) and the City of Cape Town, practice based examples and SPLUMA directives and provisions (Chapter 5.7) Refer to Chapter 6.2 and Chapter 6.3 on the use of municipal planning instruments for environmental management purposes and Chapter 4.6 for more on on practised based examples. This would suggest that a knowledge/knowing doing gap exists in the awareness of planning practitioners on the use of development controls and municipal planning for environmental management purposes and would imply that planning practitioners’ knowledge on the use of municipal planning instruments can be improved. Table 7-12 indicates the questionnaire objectives as well as the significant thematic findings.

Table 7-12: Questionnaire objectives and findings

Potential value of questionnaire	Finding
Experiences in terms of the use of municipal planning and environmental management instruments in practice,	<ul style="list-style-type: none"> • The SDF is widely consulted during land-use change applications • Environmental management policies/plans/frameworks are generally aligned with municipal planning instruments • Most municipalities have developed a single land-use scheme
Consulting (use) of municipal planning and environmental management instruments during preparation of land-use applications (private) and decision-making (public),	<ul style="list-style-type: none"> • The SDF is extensively consulted during land-use applications • value is provided significant basis on environmental attributes contained in the SDF, MOSS and EMFs
Awareness of recent planning and environmental law reform including the implications thereof	<ul style="list-style-type: none"> • The majority of participants are not up to date with recent cases of municipal planning (municipal planning in case law) • Participants indicated that they are familiar with SPLUMA requirements and directives • Participants are aware that in terms of SPLUMA environmental management instruments needs to be considered/ take cognisance of during land-use change applications
Proficiency (awareness and knowledge) on the useful employment of municipal planning instruments for environmental management purposes/ support of environmental management	<ul style="list-style-type: none"> • Participants are generally aware that zoning (land-use schemes) and the SDF can be used for environmental management purposes. • However, only a limited number of participants know that restrictive title conditions and servitudes (title deed endorsements) can be used for environmental management purposes

Source: Own compilation from survey findings (2017)

From the survey it can be concluded that the SDF is a formidable instrument to integrate environmental consideration for land-use planning and management. Moreover, planning practitioners could be made aware of the use of servitudes for environmental management purposes as well as the implications of the court cases of municipal planning in case law.

The following section of the second part of the empirical investigation focused on the status quo and challenges relating municipal planning and was obtained through expert interviews.

7.3 Expert interviews

In a multi-method empirical investigation expert interviews were used to further investigate the proficiency (awareness and knowledge) of planning practitioners in relation to the status quo and challenges relating to the integration of environmental considerations into land-use planning and management in practice. Refer to Chapter 1.5.4 for more on the methodology and research design for expert interviews. Accordingly the results are summarised and include a discussion of the results.

7.3.1 Expert interviews results and discussion

Table 7-13 depicts a summary of the results captured from the five (5) semi-structured interviews conducted. The summary of best practice principles and guidelines is based on the objectives of the semi-structured interviews. Semi-structured interviews were summarised according to the common themes which was identified from the transcripts. Thereby a “thematic framework” was formed “informed by the expert interviews transcripts” and the aims of the semi-structured interviews (Mackenzie et al., 2013:4).

The two important questions directed to expert interviewees were:

- How can shortcomings in the proficiency (awareness and knowledge) and challenges planning practitioners have with consulting environmental management instruments be addressed, so they are able to consider and integrate environmental consideration into land-use decision-making?
- How can alignment between environmental management and municipal planning be improved to integrate environmental information/data (environmental consideration) into land-use management and planning?

Responses from experts are accordingly thematically summarised from the transcription of expert interviews. Refer to Annexure 3 for more on the interviewees. A summary of the findings is listed according to the themes.

Table 7-13: Best practice principles and guidelines from expert interviews

Terminologies
<ul style="list-style-type: none"> • Planners experiences difficulties in understanding the outcomes of environmental management documents, plans and policies. Planners are not environmentalist and do not understand the terminologies used in environmental documents, how to interpret documents, plans and policies and environmental management objectives in terms of land-uses. • They often do not have an environmentalist/ environmental management practitioner available to them who can assist with any uncertainties around environmental management aspects. • It, therefore, becomes a strenuous and time consuming process for planners to determine the outcomes of environmental management instruments, plans and policies.
Resources – Human & tools
<ul style="list-style-type: none"> • Planners do not have access to all applicable environmental management instruments and it is thus difficult to integrate environmental consideration into land-use management and planning decision-making. • Planners are also unsure if they have the correct or latest environmental management documents. • Planners do not know the development framework they work in and are at times hesitant to make decisions. • Spatial planning instruments especially those of smaller municipalities are out-dated, lacks detail for decision-making on city scale, and are not aligned with environmental management instruments and plans (tools). • Informative environmental spatial instruments, such as EMFs, are most often distorted (poor detail) on a local scale and fail to be of assistance when dealing with a land-use application. This includes the inability to define a single land parcel with available environmental instruments. Mapping exercises and development of spatial data needs to be undertaken to address this shortcoming, however, this requires resources which remains an issue to develop instruments. • Resources remain an issue to develop instruments.
Considering land-use management in the outcomes of environmental plans
<ul style="list-style-type: none"> • Planners should be considered when drafting EMFs and other environmental management instruments. This includes recommendations on compatible land-uses for a specific area. • Moreover, policies should be in place whereby EMFs should accommodate for development. • Policies and plans should consider the knowledge of planning practitioners on environmental management and be formulated for planners to understand and be able to quickly refer to. • It would be helpful if spatial environmental management instruments can be used for decision-making on a city scale.
Municipal planning instrument development
<ul style="list-style-type: none"> • The nature of the planning profession is to think cadastral. However, environmental attributes are not confined to cadastral units. Therefore, environmental management attributes should be superimposed in spatial planning tools. • An ideal would be a single spatial tool, furnished with latest environmental data and information, for planners to refer for decision-making. This plan should guide land-use management. • Providing for open spaces as a dedicated zoning (land-use) in terms of the land-use scheme • Municipalities should have a policy in place to integrate their environmental management plans into their land-use plans to be enforceable.

Source: Own compilation from transcriptions of interviewee's (2017)

As previously mentioned the semi-structured interviews were summarised according to the common themes which were identified from the transcripts. Of these themes identified 80% or more of the participants identified certain themes. 80% of experts interviewed mentioned “terminologies” (planning practitioners are not familiar with and do not understand environmental management terminologies) was a challenge for planning practitioners. All participants (100%) mentioned that resources (human and tools) is a challenge for planning practitioners for the integration of environmental consideration in land-use planning and management. 80% of all interviewees mentioned the need to consider land-use in the outcomes

of environmental management plans whereby environmental plans recommends appropriate land-uses for areas.

Table 7-14: Percentage of expert interviewees that agreed on a theme

Theme	Percentage
Terminologies	80%
Resources – Human & tools	100%
Considering land-use in the outcomes of environmental plans	80%

In addition recommendations were provided to align municipal planning and environmental management. All expert interviewees agreed on the importance of land-use control mechanisms and development controls to prevent potentially environmental harmful behaviour.

7.4 Conclusion

Chapter 7 reflected on the application of land-use planning and management drawing on practice. This was done through a quantitative and qualitative investigation which included questionnaires with purposefully selected planning practitioners and semi-structured expert interviews. Furthermore, recommendations pertaining to expert interviews were considered as guidelines on the way forward for municipal planning to create an interface between municipal planning and environmental management.

The significance of the SDF was revealed as it is widely consulted in practice. However, instances exist where land-use plans and SDFs are not aligned. Moreover, the survey suggested that environmental management instruments are considered during land-use applications. Surveys also revealed the potential need to improve awareness on the significance of development controls to prevent potential environmentally harmful behaviour.

However, the alignment between municipal planning and environmental management as well as integrating environmental consideration into land-use planning and management remains a challenge. Scale differences (in terms of implementation) of environmental management and municipal planning instruments are part of the problem. Participants have limited understanding of environmental management policies, plans and documents. It is also often strenuous and time consuming process for planners to determine the outcomes of environmental instruments, plans and policies.

Professional views are that environmental management policies and instruments should reveal compatible and incompatible land-use for a specific area. Moreover, experts recommend that a single spatial tool should be developed for planners to consult during land-use decision-making that is aligned with environmental management instruments. Competing for potential uses of land such as development versus open spaces/ conservation has been flagged as a challenge in integrated planning. These findings will be further contemplated and discussed in the

following chapter that draws conclusions based on the theoretical and empirical investigations captured in this research.

CHAPTER 8: CONCLUSIONS

8.1 Introduction

The previous chapters focused on the content and functions of municipal planning, the alignment between environmental management and municipal planning, recent planning and environmental law reform, have drawn on the proficiency (awareness and knowledge) of planning practitioners and identified the professional views with regard to the planning reality and challenges relating to integrated planning. Recent planning and environmental law reform maintains the notion that alignment between environmental management and municipal planning will enhance environmental consideration in land-use planning and management practices.

This chapter aimed to address the research questions captured in Chapter 1, providing collective information as unfolded throughout this research. Thereby the literature and empirical investigations are concluded with the aim to address:

“What are the implications of the recent planning and environmental law reform and how did it impact on the South African planning profession?”

-Research question 6-

The structure of this chapter is illustrated in Figure 8-1.

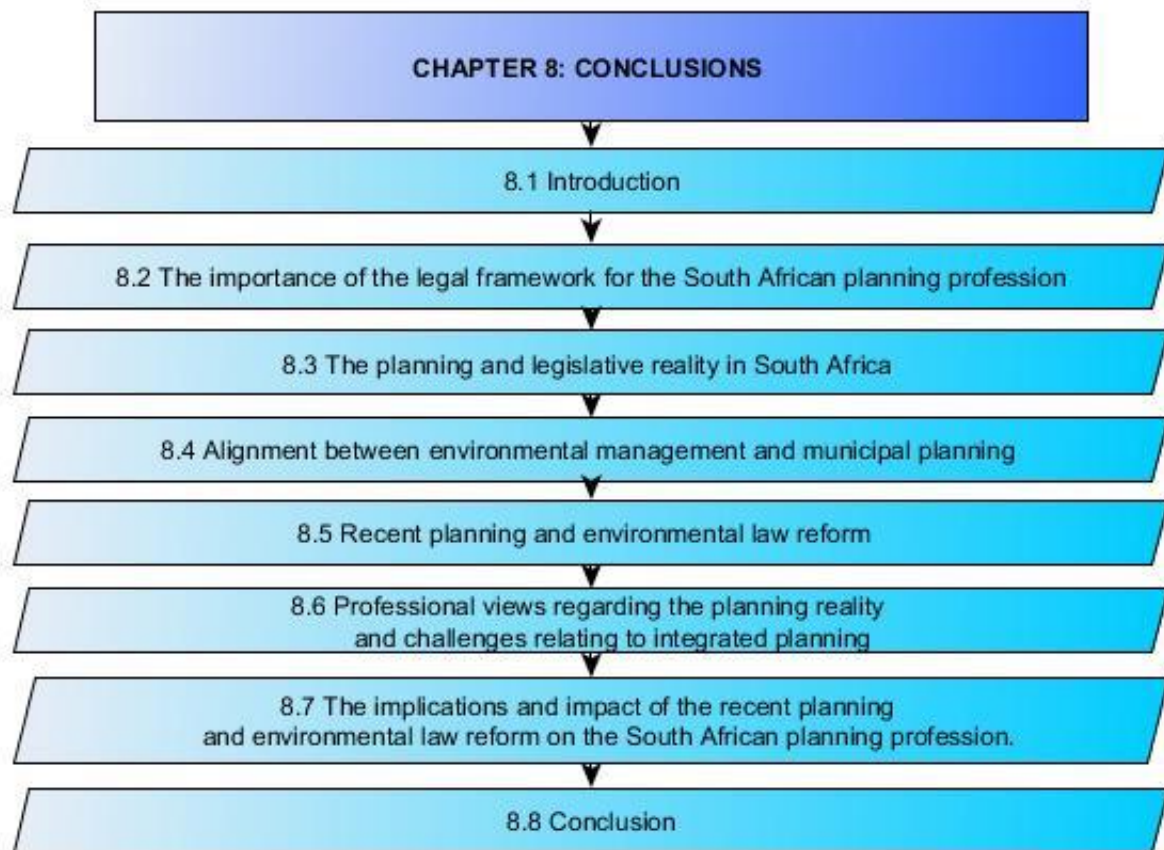


Figure 8-1: Outline of chapter 8

Source: Own construction (2017)

This chapter draws the linkages between research questions (refer to Chapter 1.4) and the relevant chapters as seen in Table 8-1.

Table 8-1: Chapters and the relevance (purpose) to the research

	Primary Research question	Chapter	Purpose/ Rationale	Additional information
Theoretical foundation	• How did the legal framework shaped the planning profession?	Chapter 2: The historical development of planning	Served as the theoretical foundation on the origin and development of planning and how the legal framework shaped the planning profession.	Identified the historical development of planning for orderly development, to deal with rapid urban growth and South Africa's use of land-use management to manage migration, formalising the apartheid system to a post-1994 system focused on integrative development planning
	• What is the current planning and legislative reality in South Africa?	Chapter 3: The South African reality	Introduced the status quo of planning practices in South Africa including the framework, policies, and practices.	The South African planning reality was considered including land-use planning and management systems, challenges, different planning approaches and municipal planning as the competence of municipalities (local government).
	• Is an interface between environmental management and municipal planning possible?	Chapter 4: Alignment between environmental management and municipal planning	Theoretical investigation on interface creation between environmental management and municipal planning (land-use planning and management) and exploring available literature and practical examples.	Identified theoretical recommendations for interface creation between municipal planning and environmental management which considered the suite of municipal planning and environmental management instruments. Moreover, examples of successful integration of environmental management and municipal planning were provided offering examples on how to align municipal planning and environmental management in practice.
	Recent planning reform	• What entails recent planning and environmental law reform in South Africa?	Chapter 5: Overview and implications of the Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA)	The first part of the empirical investigation and considered the implications of the enactment of the Spatial Planning and Land Use Management Act, 16 of 2013 as part of the recent planning reform.
Chapter 6: Empirical Investigation (Part A): Case studies of eThekweni (Durban) and the City of Cape Town			The second part of the recent planning reform and considered practical examples of municipal planning (municipal planning in case law) employed to restrict environmentally harmful behaviour through land-use planning and management and the enforcement of development controls.	Pioneers in the innovative application of municipal planning whereby municipalities "succeeded in preventing development that did not fit" their land-use schemes (Nel et al., 2015a:48) relying on their powers to controls land-use.
Empirical investigation Section B	• What are the professional views regarding the planning reality and challenges relating to integrated planning?	Chapter 7: Empirical Investigation (Part B): Questionnaires and expert interviews	Professional views with regard to the planning reality and challenges for integrated development planning. Included data collection on the current views of planning practitioners for deeper insight into practice. Semi-structured interviews provided guidance to improve environmental consideration in land-use planning and management.	Provided insight into the experiences and proficiencies (knowledge and awareness) of planning practitioners. Moreover, guidance was provided for the alignment between municipal planning (land-use planning and management) and environmental management and to integrate environmental consideration in land-use planning and management.
Conclusion	• What are the implications of the recent planning and environmental law reform and how did it impact on the South African planning profession?	Chapter 8: Conclusion	Concluded on the main findings of each chapter and the implications of the recent planning and environmental law reform for the South African planning profession.	Concluded on municipal planning in case law and the enactment and partial implementation of the Spatial Planning and Land Use Management Act, 16 of 2013 and also focused on preventing environmental harmful behaviour through land-use planning and management and considering environmental management instruments in municipal planning.
Recommendations		Chapter 9: Recommendations	Chapter 9 provided recommendations to improve the alignment between environmental management and municipal planning, recommendations on the findings of each research question, the way forward as well as recommended further research opportunities.	

8.2 The importance of the legal framework for the South African planning profession

Exploring the history, contents and functions of land-use planning and management offered insight into the value and origins of municipal planning. Land-use planning and management guide development, manage land uses and control development through land use change mechanisms for orderly development and to restrict environmentally harmful behaviour. Modern planning in South Africa finds roots from mostly colonial (English) practices. The English land-use planning system was in response to urban problems associated with the Industrial Revolution which prompted policy makers to introduce planning laws. However, poor air quality, polluted cities and the idea of planning for better living environments were a paradox to the political desires. In South Africa, land-use planning and management were for many years used to promote spatial segregation and to manage migration patterns of the different racial groups (Retief & Cilliers, 2015b:565). However, planning has evolved into a formidable tool to promote desirable urban structure and responsible land-use through strategic guiding tools and statutory land-use management and land-use change mechanisms. In particular is the integrated development planning practice implemented since the 1990s and the abolishment of racial based legislation since the 1990s. Moreover, “municipal planning” has been included in the Constitution of the Republic of South Africa, 1996 which is a “relevant functional area” of municipalities. However, in South Africa, a combination of pre-1994 and post-1994 laws exists because new laws were introduced while many old laws were not repealed. Refer to Chapter 2.4 for more on the evolution of the South African planning system, racially based planning laws and the legislative complexities. The South African legal framework was instrumental for the introduction of various policy implementation instruments such as housing and development policies, development visions, enforcement of development controls, to control migration patterns and manage township establishments.

8.3 The planning and legislative reality in South Africa

Land-use planning and management in South Africa is not a straightforward matter. Since the 1990s the land-use planning and management system has gone through extensive reform processes. While some laws have been repealed, many older planning laws are still being used. Several new laws have also been enacted since 1994. Refer to Chapter 2.4 for more on the South African planning laws. This includes national legislation, provincial ordinances as well as partially repealed laws including those developed for specific race groups and areas such as the Black Communities Development Act, 4 of 1984. This combination of old and new laws has led to a cumbersome and complex land-use planning and management system with multiple laws (Retief & Cilliers, 2015b:585). Municipalities and land-use decision-makers are also faced with several challenges. The challenges include limited municipal resources, planning instruments in

need of serious review, a lack of expertise and the need to toil away with complex and fragmented land-use management system.

Municipalities have constitutionally entrenched legislative and executive powers to regulate land-use. Powers of municipalities include original, assigned and incidental powers. Municipal planning is an original power of municipalities and a key element to municipal action for fulfilling responsible land-use practices (Nel et al., 2015a:48). This functional competence is instrumental to the objective of effective land-use for entrenched environmental purposes described in Chapter 3.3.4. These powers include the ability to ensure environmental consideration is integrated into land-use planning and management as well as incidental environmental protection by using land-use change mechanisms to “restrict behaviour that can have a detrimental effect on the environment” (Nel et al.,2015a:48). These powers and the relevant instruments form the basis of this research as it entitles municipalities to use municipal planning to fulfil a mutually supportive role to environmental management and environmental custodianship.

Municipal planning should be guided by integrated planning and multi-disciplinary approaches. Urban systems are complex and managing and considering the impacts of development (land-use) is part of the legislative mandate for land-use planning and management. The integrated development plans (IDPs) and spatial development frameworks (SDFs) are the two main instruments used in integrated development planning. These instruments should guide day-to-day decision-making of municipalities which include environmental, socio-economic and resource use, budgeting and development in a municipality. Multidisciplinary planning approaches include the notion that integrating environmental consideration into land-use planning and management will lead to more holistic perspective for decision-making. Within complex urban environments, the disciplines should utilise the supporting and informative functions of environmental management. There are concerns over the lack of environmental consideration within municipal planning, the silo-planning approaches between environmental management and municipal planning and the lack of alignment between them.

8.4 Alignment between environmental management and municipal planning

Municipalities are increasingly taking action to secure mechanisms to restrict behaviour that may have a detrimental impact on the environment (Cilliers et al., 2014:260; Freedman, 2014; Nel et al., 2015a:48-49). This includes integrating environmental consideration into land-use planning and management. Environmental management requires a spatial approach to protect environmental attributes, sensitivities and conserve areas of environmental importance (Claassen, 2009:921-925; Turpie, 2009:54-56). The nature of municipal planning is one of a “continues process” of securing forward planning, land-use management and creating the

required tools to achieve a balance between “competing demands” for land (Cilliers et al., 2014:265). The mandates for environmental management and municipal planning decision-making lies with different spheres of government (Retief & Cilliers, 2015b:585) and is regulated by different institutional and legislative frameworks. This often leads to silo planning approaches of municipal planning and environmental management (Cilliers et al., 2014:260-261,268; Claassen, 2009:921). However, environmental management is informative to a municipal planning (Cilliers et al., 2014:268; Nel et al., 2015b:144; Retief & Cilliers, 2015b:585). An interface between environmental management and municipal planning is possible through procedural alignment and will foster integrated planning.

The notion that environmental considerations should be integrated into municipal planning was implied by the practise base examples. In these examples development controls and land-use change mechanisms were used to control activities on a property and prevent development in a specific part of a property to ensure the protection of environmental attributes and sensitive areas.

8.5 Recent planning and environmental law reform

The recent planning and environmental reform include the enactment and partial implementation of the Spatial Planning and Land Use Management Act, 16 of 2013 and two purposefully selected case studies that entail municipal planning in case law.

SPLUMA contains directives and requirements that explicitly provides for the integration of environmental consideration into municipal planning. In terms of SPLUMA municipalities must consider environmental management instruments in land-use planning and management which include open space systems and the protection of high potential agricultural land. Administering the amendments/removal of restrictive title deed conditions is a now a mandate of local government (Refer to Chapter 5.5.4).

Findings from the purposefully selected case studies of eThekweni (Durban) and Cape Town and the relevant case law offered practical examples and confirmed the ability to prevent potential environmental harmful behaviour through land-use planning and management. In both case studies, the courts ruled in favour of the municipalities to prevent “environmentally harmful behaviour” through “instruments in the domain of the executive powers of a municipality” (Nel et al., 2015a:48). Refer to Chapter 3.6 for more on municipal planning as a function of local government. In the eThekweni (Durban) case study environmental considerations were integrated into spatial planning by adopting a municipal policy integrated the municipal open space plan into the town planning scheme. The City of Cape Town also prevented mining that did fit in with their town planning scheme (land-use management plan). To conclude findings from the case studies emphasised the possibilities for municipalities to develop and implement

measures, as autonomous land-use management authorities, to entrench environmental considerations in municipal planning. Subsequently, environmental protection was offered through land-development management and land-use authorisations that are required for a departure to land-use rights (Mosdell, 2015:976). These practised based examples provide for new beginnings for research in the science of municipal planning to be usefully employed in support of environmental management.

8.6 Professional views regarding the planning reality and challenges relating to integrated planning

Findings from the questionnaires draw on current practices and potential proficiency (awareness and knowledge) of planning practitioners and the professional views on the planning reality and challenges relating to integrated planning. Findings suggest that the SDF is widely consulted during land-use changes and rezoning applications. Participants do take cognition of environmental management instruments and do consider the environment as a concern for the planning profession. Participants also indicated that inconsistencies exist between land-use plans and spatial planning. Participants are not up to date with recent court decisions of municipal planning in case law. Moreover, there is a need to improve planners' proficiency (awareness and knowledge) on the use of development controls, servitudes in particular, in support of environmental management. This suggests that further training or workshops are needed to improve planning practitioners' proficiency on the use of municipal planning instruments to prevent environmentally harmful behaviour through land-use management.

Findings from semi-structured interviews revealed several challenges to integrate environmental consideration into land-use planning and management practices. Planners are not environmental practitioners and do not understand environmental policies and documents. Findings also suggest that there are inadequate facilitation and resources to planners handling land-use applications to consider environmental aspects. The professional views are that planning practitioners do not have access to all environmental management instruments and that planning practitioners are uncertain what the outcomes of environmental policies, instruments documents entails and do not understand environmental terminologies. Expert interviewees suggest that environmental management plans, policies, documents and instruments must consider the limit knowledge the average planning practitioner have in terms of environmental management and accordingly advice on appropriate or recommended land-uses for an area. Expert interviewees also suggest that the EMF should accommodate development by providing suggested areas for development and appropriate land-uses for properties. Expert interviewees also recommended a single municipal spatial document that is aligned with environmental management instruments for planners to consult when considering a land-use application.

8.7 The implications and impact of the recent planning and environmental law reform on the South African planning profession.

This research focused on the enactment and partial implementation of the Spatial Planning and Land Use Management Act, 16 of 2013 (Chapter 5) and two case studies that include municipal planning in case law (Chapter 6).

In the City of Cape Town case study, with the relevant *Maccsand* (2012) case law, the powers, content and functions of municipal planning were confirmed. This includes land-use management through town planning to grant land-use rights, however, also sets land development parameters through land-use schemes and development controls. The City of Cape Town with the relevant case law (*Maccsand (Pty) Ltd v City of Cape Town and Others* 2012(4) SA 181 (CC)) was decided in the Constitutional Court of South Africa. Therefore, this case is binding throughout South Africa and provides clarity on the content of the functions of municipal planning (Humby et al., 2015:193, 212; van Wyk, 2012b:295). In the eThekweni (Durban) case study, with emphasis on the *Le Sueur* (2014) case, the town planning scheme was innovatively used to incorporate the municipality's open space plan. Subsequently split zoning is imposed on properties and the town planning scheme was used to prevent development on properties affected by the open space plan without prior authorisation from the municipality.

The planning profession is compelled to drive for urban sustainability. The enactment of the Spatial Planning and Land Use Management Act, 16 of 2013 introduced development directives in the planning profession and the requirement that environmental management instruments must be considered. The profession must also play an active role to restrict behaviour that can have a detrimental effect on the environment. Therefore, environmental sensitivity and risks must be integrated in land-use planning and management. This will lead to alignment of municipal planning and environmental management.

8.8 Conclusion

This research has made an important contribution towards understanding the implications of recent planning and environmental law reform on the South African planning profession. Based on the literature and empirical studies the primary research questions were answered. Conclusions were drawn, with specific reference to the implications of the recent planning and environmental law reform for the South African planning profession and the need for alignment of municipal planning and environmental management. This research concluded that an interface between environmental management and municipal could be established. 'Procedural alignment' rather than 'integration' may be more appropriate for creating an interface between municipal planning and environmental management. Moreover, the professional views

regarding the current realities and challenges were considered, and the proficiency of participants and recommendations for improvement were discussed.

Recommendations were made based on these conclusions and a synthesised proposal and are presented in Chapter 9.

CHAPTER 9: RECOMMENDATIONS

9.1 Introduction

While recent planning and environmental law reform encompass the alignment of environmental management and municipal planning, there are several challenges to successfully integrate environmental consideration into land-use planning and management in practice. These challenges include inadequate alignment between municipal planning and environmental management and a “cumbersome and complex planning system” (Retief & Cilliers, 2015b:585) and ineffective strategic tools. Moreover, the empirical investigation identified that theory and practice are still far apart - as the proficiency (awareness and knowledge) of practising planners on the use of development controls can be improved upon. This chapter provided recommendations for improving the interface between environmental management and municipal planning. The recommendations consider parallel process to municipal planning and environmental management relating to relevant policy and legal frameworks as illustrated in Figure 4-2. The aim was to optimise the use of the suite of environmental management and planning instruments to improve forward planning and land-use decision-making. Moreover, in terms of enhancing the alignment between planning and environmental management, specific areas for future research were also recommended.

In the first instance, this chapter proposed organic steps to refine linkages between environmental management and municipal planning and to shift information from strategic environmental and planning levels down to a project-level. Secondly, recommendations are provided to improve the knowledge gaps and challenges experienced by planning practitioners. Thirdly this chapter proposed means on how to address and incorporate the implications of recent planning reform in the South African planning profession in an organic and structured manner to guide strategic planning processes. This was followed by a conceptualised approach as a platform to integrate environmental considerations into land-use planning and management. Finally, this chapter provided recommendations for future research.

9.2 Refining linkages - Cascading information/data from strategic level to project level planning

The aim of this section is to propose an approach to refine linkages between municipal planning and environmental management to integrate environmental consideration into land-use planning and management practices. The cross-cutting nature of spatial tools, including local spatial tools, offer opportunities for spatially based local environmental management and governance (Nel et al., 2015b:143-144). Therefore, data and information need to be cascaded down to a municipal or city-level. In practice, environmental management tools such as conservation plans

and environmental management frameworks are often shifted down to a local level to form layers in the municipal spatial development framework or open space management plans (Nel et al., 2015b:144). However, with a multitude of information and resource constraints would require an organic approach to avoid duplication of information and ease the processing of information to secure mutual support between environmental management and municipal planning.

To enhance linkages between environmental management and municipal planning on a local level requires a planned and organic approach encompassing environmental management and municipal planning tools. Accordingly proposed steps for alignment between environmental management and municipal planning (land-use planning and management) are proposed. The planned approach should be based on steps to transfer research and data by aligning municipal planning and environmental management instruments and to integrate open space management plans into land-use planning and management. Figure 9-1 proposed a simplified schematic representation to integrate environmental consideration into land-use planning and management and whereby the two disciplines of municipal planning and environmental management provide mutual support to one another.

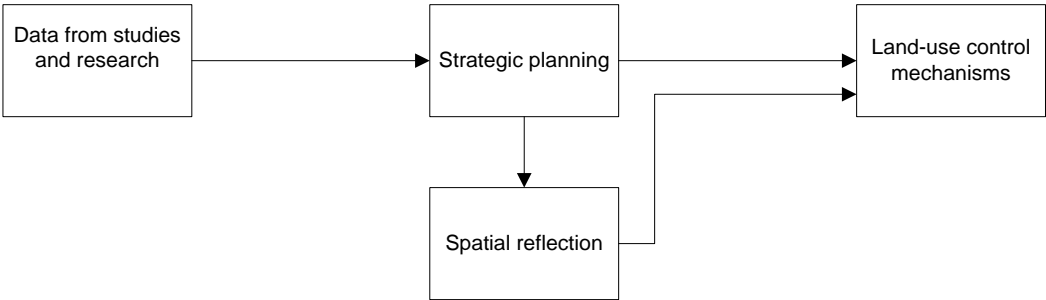


Figure 9-1: Proposed steps for securing a supportive interface between municipal planning and environmental data/research and avoid duplication
 Source: Own construction (2017)

The proposal is based on academic literature to transfer information and align instruments to solidify planning practices and decision-making (Cilliers et al., 2014:263, 265; Nel et al., 2015b:143-145). Environmental management information and data should also be integrated into land-use management and planning. The first step (after determining the status quo) is to obtain research data (environmental) and if needed conduct mapping exercises and transfer all available data and information. This can include the alignment of environmental instruments with municipal level strategic planning tools to furnish strategic planning with information on environmentally sensitive areas, areas for conservation and high potential agricultural land. Integrated development and strategic planning approaches and principles should be employed with the objective of developing sound management and guiding spatial plans. Spatial planning tools such as the SDF should indicate among other environmental sensitivities and environmental outcomes of environmental management instruments on a detailed scale and

identify environmental attributes and sensitivities on a site (project scale). Furthermore, a single guiding tool (spatial indicative tool) should be developed based on the collection of information (accumulation of information) offered by different spatial instruments. These instruments should be informed by sound policy documents to secure their statutory status and integrate the spatial instruments into land-use planning and management decision-making. The spatial tools should guide (inform) decision-making and be translated into workable land-use control mechanisms for desired land-use profiles and policy objectives (Berrisford, 2011:247; Cilliers et al., 2014).

9.3 Knowledge gaps and best practice principles or guidelines

The application and use of environmental management tools require knowledge and expertise. The availability of tools does not necessarily imply it will be utilised. This can be attributed toward a lack of knowledge by planning practitioners on how to employ such tools. Research suggests that an environmental function within a planning department (Mosdell, 2015:971; Retief & Cilliers, 2015a:576) improves the cognition of environmental aspects. This statement was also supported by the findings of expert interviews included in this research. Based on the empirical research on two purposefully selected case studies identified the value of a dedicated (in-house) environmental management department within the planning directorate. This offers the opportunity to obtain advice from environmentalist within land-use decision-making processes or strategic planning and policy formulation. Moreover, cooperative structures between environmental management and municipal planning will ensure additional mutual support between environmental management and municipal planning.

Questionnaires indicate that there is scope to improve the knowledge of planning practitioners in terms of the recent planning and environmental management reform and the use of land-use management and planning to restrict environmental harmful behaviour. Two important aspects were emphasised. Firstly planners in practice have indicated that their cognition of recent developments and planning reform of municipal planning in case law is limited and the use of development controls for environmental management purposes. Moreover, expert interviews suggested that planners at municipalities handling land-use applications do not have the resources, facilitation or experience in dealing with environmental aspects in planning practices. Moreover, planners are uncertain about environmental implications of policies, instruments and documents as well as environmental terminology. It has been stressed that a single spatial plan should be developed for guidance on land-use decision-making. On a strategic level, the outcomes of environmental management instruments and documents should recommend compatible or desired land-uses for specific areas in order for planners to understand and make land-use decisions accordingly.

9.4 Organic approach in dealing with recent planning reform for municipalities

Recent planning reform and developments require an organic approach in processing the impacts and changes. Within a project phase of amending current strategies or plans, or developing new strategies or plans the following conceptualised approach (as guidance) is provided. The following figure is proposed to conceptualise the impacts of the recent planning reform and developments.

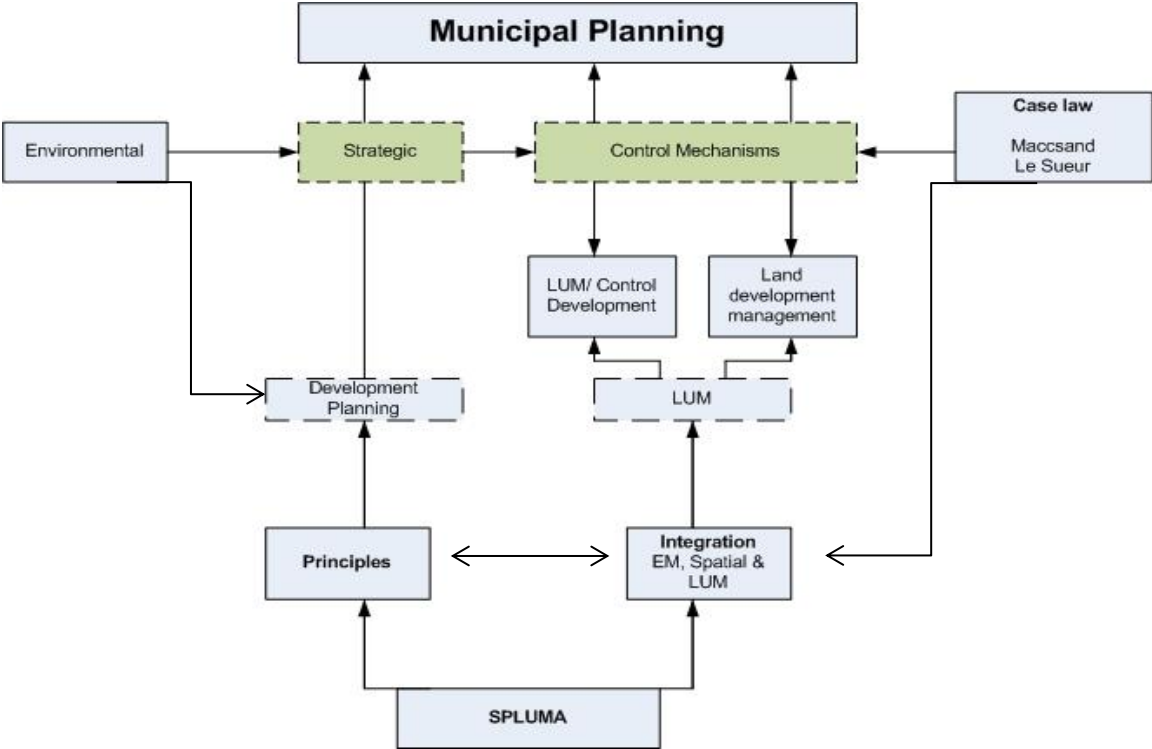


Figure 9-2: Conceptual approach to process recent reforms within the current planning systems

Source: Own construction (2017)

The three legs of planning under SPLUMA should be explored to align with environmental management and incorporate environmental considerations. The other recent developments (captured in the two case studies in Chapter 6) provided information on successful integration practices in South Africa. These examples should serve as pioneers, and initiate similar innovative applications by other municipalities in South Africa.

9.5 Integrating environmental consideration into land-use planning and management

Based on the literature investigation, a proposed process to strengthen linkages between disciplines, based on the suite of instruments available, can be divided into three distinct phases. These phases build on the environmental management and municipal planning tools and include a) environmental management: discovery and informative instruments, b) operational municipal management strategic planning tools and, c) land-use management and

spatial plans (NWU-CEM, 2016). Table 9-1 serve as a summary of different instruments and indicates the phases based on the linkages as identified in literature.

Table 9-1: Phases based on the linkages for alignment between environmental management and municipal planning

Environmental management: discovery & informative instruments	Municipal management (strategic)	Land-use management and spatial plans
Informative environmental management tools	Strategic municipal (management) planning tools and operational instruments (IDPs and SDFs)	Municipal planning tools- land-use schemes, additional spatial plans and policies, land development management (title deed endorsements imposing restrictions to development)
The informative environmental management instruments (comprises of discovery and data based strategic tools) include environmental research and environmental management spatial instruments, hence the informative nature of environmental management instruments. These instruments include Municipal Open Space Systems (MOSS), Environmental Management Frameworks (EMFs) and Conservation plans (C-plans) indicating environmental sensitive areas or municipal land conservation objectives.	Strategic municipal management instruments include the ambit of the IDP with its sector plans), municipal policies and strategies, and the SDF. The importance of the SDF, as an integrated and comprehensive spatial tool, has been stressed with the absorption possibilities for other environmental management instruments, spatial plans and policies (Retief & Cilliers, 2015a:580).	Land-use planning and management (spatial) offer statutory status for implementation or enforcement backing. These instruments can be classified into a) land-use management, b) title deed endorsements instruments, c) NEMA Listing Notice 3. Title deed endorsements (land development management) include restrictive conditions (in title deeds) and environmental servitudes. Listing Notice 3 enforces additional environmental authorisation

Source: Own compilation (2017)

These phases offer municipalities an opportunity to adopt and align environmental management tools and furnish municipal planning with information on environmentally sensitive areas, conservation areas and high potential agricultural land.

In an effort to synthesise key learning points on the alignment of municipal planning and environmental management and the notion that environmental management being informative to municipal planning, a conceptual framework was developed as part of the recommendations of this research. The framework adopted is based on the classical plan-do-check-act phases (P-D-C-A) of the Deming cycle (Nel et al., 2015b:98-99). Figure 9-3 serves as a conceptual illustration of the recommended approach to follow. The defined linkages between the disciplines are based on a process of; information and data gathering (discovery), strategic planning and lastly land-use management and enforcement. The proposed structure, of a management process, is adopted from a municipal planning perspective by which each sector and discipline builds on another. The aim is to ensure environmental management

considerations are entrenched within municipal planning, through the alignment of the disciplines and relevant instruments.

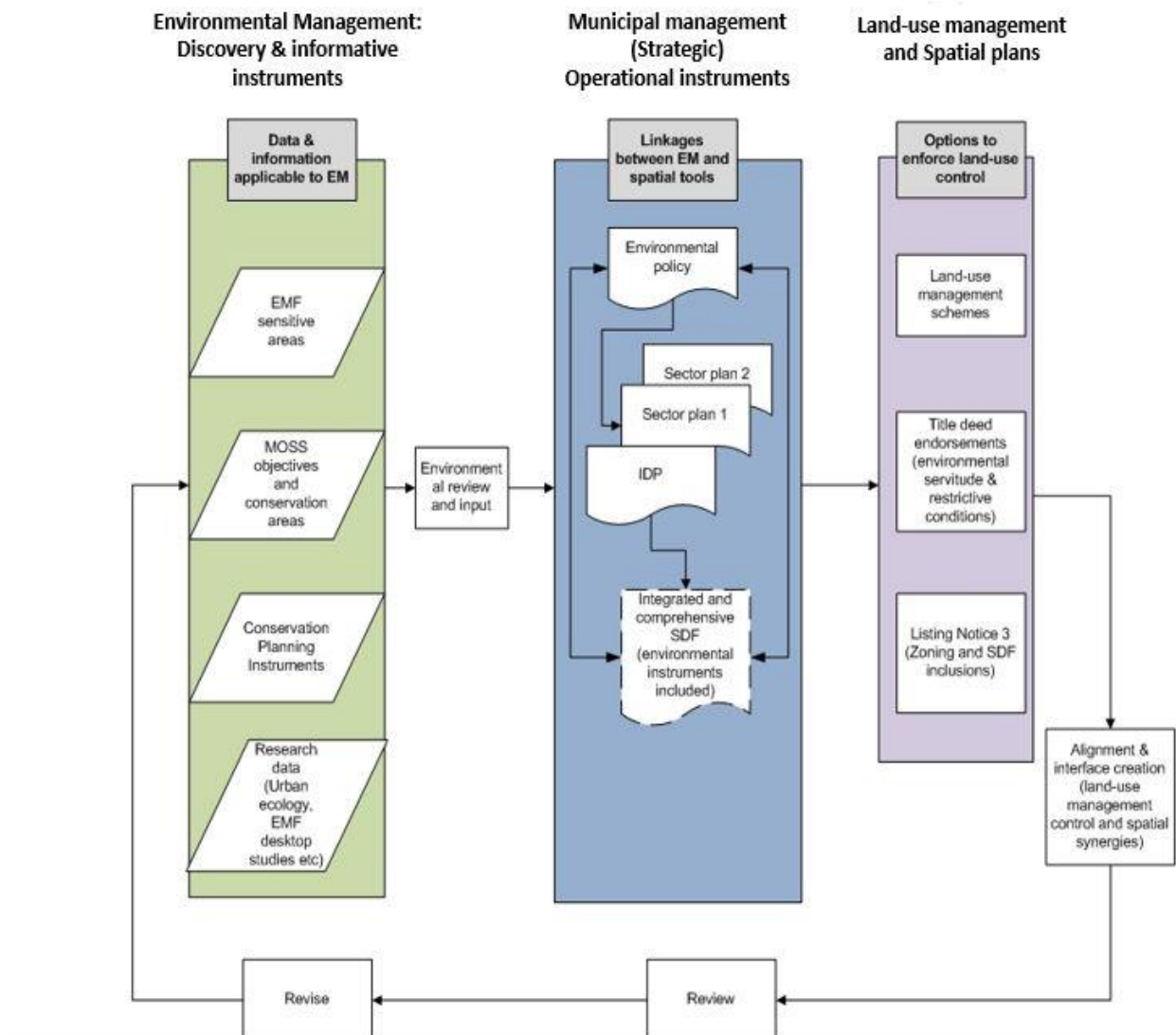


Figure 9-3: Schematic illustration to integrate environmental consideration into land-use planning and management

Source: Adapted from NWU-CEM (2016)

The combination of environmental management instruments affords comprehensive spatial information and data as each environmental management instrument is uniquely suited. Land-use management instruments are instrumental in preventing environmentally harmful land-uses, as these mechanisms enforce development controls; sets land-use/development parameters and limit land-use rights. Therefore development can be managed and restricted in certain locations in support of environmental protection. This includes development controls such as servitudes registered on a property, enforcement of building lines, and other project level (site level) parameters.

Additionally, the National Environmental Management Act, 107 of 1998 (NEMA) Listing Notice 3 provides for additional environmental authorisation processes applied to geographical areas which, within the urban setting, include areas zoned open spaces and or open space systems indicated within the SDF or conservation areas. Lastly, the Deming management cycle based on a plan-do-check-act (P-D-C-A) cycle ensures continued review of policies and plans and where needed shortcomings are addressed through the management of amendments (Nel et al., 2015b:98-99). With the enactment of the Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA) and fulfilment of SPLUMA directives and requirements the possibility exists the abovementioned proposal will be ever increasingly implemented by municipalities.

9.6 Recommendations for further research

Great strides have been made by municipal planning and environmental management in developing innovative means to adapt to the modern and complex spatial scenarios. Within the limits of this study, it is deemed worthwhile to point to potential future research opportunities.

9.6.1 Public Trust doctrine and sustainability

Further research could be conducted on municipal planning and local environmental management and governance including academic writings on the potential use and impact of the ‘public trust doctrine’ in line with the objectives of SPLUMA. The preamble of SPLUMA and SPLUMA development directives has on the preface similarities with aspects of the ‘Public Trust doctrine’ outcomes. The ‘public trust doctrine’ encompasses the possibility to be applied to the South African sustainability context on a local governance level (Freedman, 2015). The majority of the aspects mentioned are identified within the preamble of SPLUMA and gleaned from existing literature identifying the possible linkages. The recommendation on the public trust doctrine is solely based on the similarities between the public trust doctrine and the objectives of SPLUMA and it may have no substance or credibility in law. Refer to Table 9-2 for possible linkages or similarities between the public trust doctrine and the objectives of SPLUMA.

Table 9-2: Possible future research on the 'Public Trust doctrine'

<p>Public Trust doctrine</p>	<p>The public trust doctrine is evident in environmental management legislation. Section 2 (4)(o) of NEMA states that ‘the environment is held in public trust for the people, use of environmental resources must serve the public interest and the environment must be protected as the people’s “common heritage” (Freedman, 2015:273). According to Retief and Cilliers (2015b:585) on paper SPLUMA “seems to be compatible with Section 2 principles of NEMA” emphasising the sustainable use of land. In the light of the recent planning reform with municipal planning in case law linkages between SPLUMA, NEMA principles it appears that there are possible linkages between the recent planning reform and the Public Trust Doctrine. The possibility also exists for the public involvement in securing orderly and desired development.</p>
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The Constitution of the Republic of South Africa, 1996		
Section	Description	Reference
Constitution S 7	Duties on the state with regard to the Bill of rights	“the state must respect, protect, promote and fulfil the rights in the Bill of Rights” (Specific reference must be made to the Section 24 environment and the state that includes local government) as well as Section 25 on property.
S 24	Environmental rights	Everyone has a right to – (a) An environment that is not harmful to their health and well-being and (b) To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that- prevent pollution and ecological degradation promote conservation; and secure ecological sustainable development and use of natural resources while promoting justifiable economic and social development.
Constitution S 25	The property clause provides that citizens may take action to secure and maintain the environmental integrity of public goods and protects the citizens and their properties.	“to ensure the protection of property rights including to take measures designed to foster conditions that enable citizens to gain access to land on an equitable basis”.
Constitution S 26	Sustainable human settlements and spatial patterns	“to have the right to adequate access to housing which includes an equitable spatial pattern and sustainable human settlements”.
Constitution S 27 (1)(b)	Agriculture and water resource management	“to ensure the state must take reasonable measures, within its available resources, to achieve the progressive realisation of the right to sufficient food and water”.
Constitution S 231	International law instruments- Treaties and conventions	Focus on the enactment of treaties and conventions. Emphasis is placed on the Brundtland Report. Local Agenda 21 (1992), Local Action 21 (2002). This can be linked to eThekweni (Durban) case studies.

Sources: Freedman (2015), NWU-CEM (2015), South Africa (1996), South Africa (2013).

9.6.2 Research on regional planning, agricultural and rural land

This study emphasised preventing environmentally harmful behaviour through restricting and managing land-uses. However, high valued agricultural land outside the urban edge requires pro-active protection. High valued agricultural land needs to be protected which require that some form of instruments or tools to guide and inform a land-use planning and management. A simplistic scale can be used to indicate high, medium or low valued agricultural land. The further research must consider the role of regional planning to offer spatial guidance to municipalities for environmental protection. This includes a regional vision of conservation and development

9.6.3 Future research to enhance the alignment between environmental management and municipal planning

The empirical investigation revealed some weaknesses pertaining to the recent planning and environmental management reform and the status quo in practice. Moreover, in terms of taking the alignment debate forward the several areas for future research are recommended as seen in Table 9-3.

Table 9-3: Recommendations for further research

	Primary Research question	Chapter	Recommendations
Theoretical foundation	<ul style="list-style-type: none"> How did the legal framework shaped the planning profession? 	Chapter 2: The historical development of planning	<ul style="list-style-type: none"> Further research on the historical linkages between environmental management and municipal planning
	<ul style="list-style-type: none"> What is the current planning and legislative reality in South Africa? 	Chapter 3: The South African reality	<ul style="list-style-type: none"> The study can be expanded beyond statutory planning mechanisms of the South African system to international examples with Britain of particular interest.
	<ul style="list-style-type: none"> Is an interface between environmental management and municipal planning possible? 	Chapter 4: Alignment between environmental management and municipal planning	<ul style="list-style-type: none"> Research could be expanded to include environmental authorisation processes and environmental management in case law that had implications on the planning profession. Further research on optimising the interface between environmental management and municipal planning in terms of the parallel processes. Future research on designing mechanisms to manage the issue of competing land-uses (e.g. agriculture versus urban development) and designing minimum standards for integrating environmental aspects and considerations into land-use planning and management instruments with emphasis on SDFs and land-use schemes. Future research can be done, from an environmental management perspective focusing on successful examples where environmental management informed land-use planning and management, as this research was conducted from a planning perspective. The focus was accordingly placed on informative value environmental management offers.
	Recent planning reform	<ul style="list-style-type: none"> What entails recent planning and environmental law reform in South Africa? 	Chapter 5: Overview and implications of the Spatial Planning and Land Use Management Act, 16 of 2013 (SPLUMA) Chapter 6: Empirical Investigation (Part A): Case studies of eThekweni (Durban) and the City of Cape Town
Empirical investigation Section A			
Empirical investigation Section B	<ul style="list-style-type: none"> What are the professional views regarding the planning reality and challenges relating to integrated planning? 	Chapter 7: Empirical Investigation (Part B): Questionnaires and expert interviews	<ul style="list-style-type: none"> Larger samples surveys (especially in terms of public sector) could be analysed to obtain a larger quantity of data Research could be expanded to other provinces as this research focused on the provinces of Gauteng and North-West Provinces. This will provide more comprehensive tests of geographical variances. Obtaining a larger sample size of planning practitioners will reduce the potential for sampling error and incomplete questionnaires.
Conclusion	<ul style="list-style-type: none"> What are the implications of the recent planning and environmental law reform and how did it impact on the South African planning profession? 	Chapter 8: Conclusion	<ul style="list-style-type: none"> Future research may explore the implications of the recent planning and environmental reform from a law and environmental management perspective. Future research may explore the implications of the recent planning and environmental management reform within a local environmental governance perspective to drive sustainability.
Recommendations		Chapter 9: Recommendations	<ul style="list-style-type: none"> Further research can be done on the 'neighbour nuisance' (legal) principle present in environmental law and land-use planning and management and the potential to strengthen and reinforce development management and control and limit unwanted development. Further research on how environmental management contributed towards responsible land-use planning and management practices. Further research on the effectiveness of municipalities and their tools regarding integrating the outcomes of environmental plans within municipal planning

9.7 Conclusion

This research aimed to create a first point of departure to consider the implications of recent planning and environmental reform and identify areas to improve interfaces between environmental management and municipal planning.

The aim of this research was:

“to consider the implications of the recent planning and environmental law reform for the South African planning profession in terms of the alignment between environmental management and municipal planning”.

To consider the recent planning and environmental law reform this research considered what entails the recent planning and environmental law reform. Accordingly this research focused on two purposefully selected case studies and the enactment and partial implementation of the Spatial Planning and Land Use Management Act, 16 of 2013. This research also identified the professional views with regard to the current planning reality and challenges relating to integrated planning. The findings of this research showed the need to align environmental management and municipal planning and to integrate environmental consideration in land-use planning and management. Possible interfaces between environmental management and municipal planning were considered and used to develop a proposed organic conceptualisation to integrate the recent planning and environmental law reform into strategic planning practices. A schematic representation provided possible model for municipalities to foster the integration of environmental consideration into land-use planning and management. Moreover recommendations for further research were made to take the alignment and integrated planning debate forward.

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ANNEXURES

Annexure 1: Complexity of Land-use management in South Africa

Legislation Applicable in Period Pre-1994	Legislation applicable in Transition Period	Legislation applicable in Period Post-2000
The Black Land Act, 1913	The Black Land Act, 1913	
The Black Lands (Natal and Transvaal) Release Act, 1925	The Black Lands (Natal and Transvaal) Release Act, 1925	
The Black Lands Adjustment Act, 1931	The Black Lands Adjustment Act, 1931	
The Black Lands Further Release and Acquisition Act, 1927, 1935	The Black Lands Further Release and Acquisition Act, 1927, 1935	
Regulation for the Administration and Control of Townships in Black Areas, 1962	Regulation for the Administration and Control of Townships in Black Areas, 1962	
The Group Areas Act, 1966, 1969, 1972, 1974, 1975, 1977, 1978, 1979, 1982, 1984	The Group Areas Act, 1966, 1969, 1972, 1974, 1975, 1977, 1978, 1979, 1982, 1984	
Physical Planning and Utilization of Resources Amendment Act, 1975	Physical Planning and Utilization of Resources Amendment Act, 1975	
Physical Planning Amendment Act, 1983, 1984, 1985	Physical Planning Amendment Act, 1983, 1984, 1985	
Environment Planning Amendment Act, 1977, 1981	Environment Planning Amendment Act, 1977, 1981	
Rural Coloured Areas Amendment Act, 1983	Rural Coloured Areas Amendment Act, 1983	
The Black Communities Development Act, 1984	The Black Communities Development Act, 1984	
Rural Areas Act (House of Representatives), 1987	Rural Areas Act (House of Representatives), 1987	
The Free Settlement Areas Act, 1988	The Free Settlement Areas Act, 1988	
Transvaal Board for the Development of Peri-Urban Areas Ordinance, 1943	Transvaal Board for the Development of Peri-Urban Areas Ordinance, 1943	Transvaal Board for the Development of Peri-Urban Areas Ordinance, 1943
The Physical Planning Act, 1967	The Physical Planning Act, 1967	The Physical Planning Act, 1967
Land Survey Amendment Act, 1972, 1981	Land Survey Amendment Act, 1972, 1981	Land Survey Amendment Act, 1972, 1981
Environment Conservation Act, 1989	Environment Conservation Act, 1989	Environment Conservation Act, 1989
Agricultural Holdings (Transvaal) Registration Act, 1919	Agricultural Holdings (Transvaal) Registration Act, 1919	Agricultural Holdings (Transvaal) Registration Act, 1919
Black Administration Act, 1927	Black Administration Act, 1927	Black Administration Act, 1927
Local Government Ordinance, 1939	Local Government Ordinance, 1939	Local Government Ordinance, 1939
Advertising on Roads and Ribbon Development Act, 1940	Advertising on Roads and Ribbon Development Act, 1940	Advertising on Roads and Ribbon Development Act, 1940
Natal Town Planning Ordinance, 1949	Natal Town Planning Ordinance, 1949	Natal Town Planning Ordinance, 1949
Land Settlement Act, 1949, 1956	Land Settlement Act, 1949, 1956	Land Settlement Act, 1949, 1956
Removal of Restrictions Act, 1967	Removal of Restrictions Act, 1967	Removal of Restrictions Act, 1967
Public Resorts Ordinance, 1969, 1971	Public Resorts Ordinance, 1969, 1971	Public Resorts Ordinance, 1969, 1971
Free State Township Ordinance, 1969	Free State Township Ordinance, 1969	Free State Township Ordinance, 1969
Subdivision of Agricultural Land, 1970, 1972, 1974, 1977, 1979, 1981, 1984	Subdivision of Agricultural Land, 1970, 1972, 1974, 1977, 1979, 1981, 1984	Subdivision of Agricultural Land, 1970, 1972, 1974,

		1977, 1979, 1981, 1984
Mountain Catchment Areas Act, 1970, 1976, 1981	Mountain Catchment Areas Act, 1970, 1976, 1981	Mountain Catchment Areas Act, 1970, 1976, 1981
Alienation of Land Act, 1981	Alienation of Land Act, 1981	Alienation of Land Act, 1981
Cape Province Land Use Planning Ordinance, 1985	Cape Province Land Use Planning Ordinance, 1985	Cape Province Land Use Planning Ordinance, 1985
Transvaal Town-planning a1991nd Township Ordinance, 1986	Transvaal Town-planning and Township Ordinance, 1986,1991	Transvaal Town-planning and Township Ordinance, 1986,1991
Division of Land Ordinance, 1986	Division of Land Ordinance, 1986	Division of Land Ordinance, 1986
Sectional Titles Act, 1986, 1997	Sectional Titles Act, 1986, 1997	Sectional Titles Act, 1986, 1997
Upgrading of Land Tenure Rights Act, 1991	Upgrading of Land Tenure Rights Act, 1991	Upgrading of Land Tenure Rights Act, 1991
Physical Planning Act, 1991	Physical Planning Act, 1991	Physical Planning Act, 1991
Less Formal Township Establishment Act, 1991	Less Formal Township Establishment Act, 1991	Less Formal Township Establishment Act, 1991
Regional Land Affairs General Amendment Act, 1993	Regional Land Affairs General Amendment Act, 1993	Regional Land Affairs General Amendment Act, 1993
Land Reform: Provisions of Land and Assistance Act, 1993	Land Reform: Provisions of Land and Assistance Act, 1993	Land Reform: Provisions of Land and Assistance Act, 1993
National Heritage Resource Act, 1999	National Heritage Resource Act, 1999	National Heritage Resource Act, 1999
	Land Administration Act, 1995, 1996	Land Administration Act, 1995, 1996
	Local Government Transition Act, 1993	Local Government Transition Act, 1993
	Provision of Certain Land for Settlement Amendment Act, 1993, 1998	Provision of Certain Land for Settlement Amendment Act, 1993, 1998
	Development Facilitation Act, 1995	Development Facilitation Act, 1995
	Gauteng Removal of Restrictions Act, 1996, 1997	Gauteng Removal of Restrictions Act, 1996, 1997
	Housing Act, 1997	Housing Act, 1997
	Land Survey Act, 1997	Land Survey Act, 1997
	Transformation of Certain Rural Areas Act, 1998	Transformation of Certain Rural Areas Act, 1998
	White Paper on Local government, 1998	White Paper on Local government, 1998
	Townships Ordinance Amendment Act, 1998 (Free State)	Townships Ordinance Amendment Act, 1998 (Free State)
	Green Paper on Development and Planning, 1999	Green Paper on Development and Planning, 1999
		Local Government Municipal Systems Act, 2000
		National Land Transport Transition Act, 2000
		Eastern Cape Land Disposal Act, 2000
		Gauteng Transport Infrastructure Act, 2001
		White Paper on Spatial Planning and Land-Use

<p>Key:</p> <p>Repealed</p> <p>Partially repealed</p> <p>Active</p>		Management, 2001
		Local Government: Municipal Planning and Performance Management Regulation, 2001
		Land Use Management Bill, 2002, 2006, 2007, 2008, Now Spatial Planning and Land Use Management Act, 16 of 2013. (Replaced the DFA, ROR, Physical Planning Act in whole)
		Gauteng Planning and Development Act, 2003
		Western Cape Less Formal Township Establishment Amendment Act, 2007
		Provision of Land Assistance Amendment Act, 2008

Source: Retief & Cilliers (2015b:576-579).

Annexure 2: Questions to participants in practise.

The tables below are a summary of the 21 questionnaires completed. Only valid percentages are indicated.

Section A: General information

1.	Your age in years	Younger than 20	0%
		20 – 24 years	10%
		25 – 29 years	20%
		30 – 34 years	20%
		35 – 39 years	5%
		40 – 44 years	25%
		45 – 49 years	10%
		50 – 54 years	10%
	Older than 54 years	0%	
2.	How many years have you been in your current position?	Less than 1 year	10%
		1 – 5 years	30%
		6 – 10 years	15%
		11 – 15 years	10%
		16 – 20 years	15%
		More than 20 years	20%
3.	Which of the following applies to your current position?	Private sector	75%
		Public sector	25%
4.	What is the nature of your current position?	Permanent	75%
		Part time	15%
		Contractor /Ad hoc	10%

Section B: Location information

5.	Has your municipality developed a single land-use scheme?	Yes	1	70%
		No	2	30%
		Not sure	3	0%

		Rarely or never	Not often	Sometimes	Often	Very often or always	Skipped Questions	Mean	SD
6.	To what degree do you consult the SDF during land-use change/ rezoning applications?	0%	0%	0%	25%	75%	0%	4.75	0.444
7.	To what degree do you encountered conflicts/ inconsistencies between the SDF and town planning scheme/ land-use scheme?	25%	15%	35%	10%	15%	0%	2.75	1.372
8.	To what degree do you provide value to environmental attributes (e.g. Wetlands) contained within the SDF, MOSS, EMFs or any other spatial applicable instruments when considering/preparing a land-use change/ rezoning application?	0%	0%	20%	40%	40%	0%	4.20	0.768
9.	To what degree does your municipality ensure alignment between land-use management and environmental management policies, plans and frameworks from different departments/ line-management?	0%	10%	20%	40%	30%	0%	3.90	0.968

		Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree	Skipped Questions	Mean	SD
10.	The land-use scheme/ Town planning scheme provides adequate provisions for open spaces	10%	0%	5%	25%	45%	15%	0%	4.40	1.392
11.	The municipal SDF is currently revised to meet SPLUMA requirements	10%	15%	5%	15%	25%	30%	0%	4.20	1.765
12.	The SDF is used for guidance when considering / preparing a development application	0%	0%	0%	0%	50%	50%	0%	5.50	0.513

Section C: Legislative information

		Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree	Skipped question	Mean	SD
13.	The environment is of great concern to my profession	0%	0%	0%	15%	35%	50%	0%	5.35	0.745
14.	Municipal planning (town planning) has merits/a mandate to control environmental harmful behaviour	0%	0%	10%	10%	45%	35%	0%	5.05	0.945
15.	Planners do take cognisance of (consider) the environment, during rezoning applications/ land-use change	0%	0%	0%	20%	55%	25%	0%	5.05	0.686
16.	I am up to date with recent court decisions around municipal planning and environmental considerations	10%	10%	15%	20%	30%	15%	0%	3.95	1.572
17.	Law (legislation) forms an important part of the planning profession	0%	0%	0%	5%	35%	60%	0%	5.55	0.605
18.	Planning law trumps environmental law, when it comes to development within a municipality	15.8%	26.3%	15.8%	21.1%	21.15%	0%	0%	3.05	1.433

		Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree	Skipped Questions	Mean	SD

19.	I am familiar with the (directive) principles and requirements contained in SPLUMA	0%	0%	0%	10%	50%	40%	0%	5.30	0.657
20.	I believe SPLUMA will bring about positive change (effectiveness) to municipal planning (spatial planning and land-use management)	5%	0%	0%	25%	35%	35%	0%	4.90	1.210
21.	Under SPLUMA municipalities must consider/ take cognisance of environmental instruments such as Environmental Management Frameworks (EMFs) and Municipal Open Space Systems (MOSS)	0%	5%	5%	10%	45%	35%	0%	5.00	1.076
			Rarely or never	Not often	Sometimes	Often	Very often or always	Skipped Question	Mean	SD
22.	To what extent can restrictive conditions registered within title deeds (of properties) during township establishment process be used for environmental protection purposes	0%	26.3%	21.1%	31.6%	21.1%	1	3.47	1.124	
23.	To what extent can servitudes registered on a property be used for environmental management purposes	10.5%	15.8%	36.8%	26.34%	10.5%	1	3.11	1.150	
24.	To what extent will "open space" zoning require additional environmental authorisation before an activity can commence on such specific site/ cadastral unit	0%	10.5%	26.3%	36.8%	26.3%	1	3.79	0.976	
25.	To what extent will the designation of an area for conservation purposes within the municipal SDF require additional environmental authorisation before an activity can commence	0%	5.3%	26.3%	36.8%	31.6%	1	3.95	0.911	

Annexure 3: List of interviewees

Interviewee	Interview method	Relevance & experience
Prof Danie Meyer	Personal discussions	<p>Prof Meyer is a spatial and economic development consultant, with more than 25 years of experience in Local Economic development and strategic planning in both the private and public sector.</p> <p>He has worked for several government departments including the national departments of Rural Development and Land Reform, Constitutional Development and Planning, as well as the local municipalities of Boksburg and Midvaal. As a private consultant, Prof Meyer has conducted work for several local municipalities on spatial and economic development strategies and Local Economic Development studies.</p>
Mr Gregory Setai	Personal discussion	<p>Mr Setai is a senior planner at the Emfuleni Local Municipality situated in the Vaal Triangle Gauteng Province. Mr Setai holds a master degree in Environmental management and his work largely involves around strategic and spatial planning.</p>
Mr Maartin Friedrich	Personal discussion & email correspondence	<p>Mr Maartin Friedrich has more than 23 years of experience as a professional planner in both the private and public sector. He has worked for several municipalities and private planning agents in the past. He is currently in the planning practitioner in the private sector and works as a consultant/ part of a consulting team for several municipalities and state organs on several projects for governmental departments. He is a co-writer of several workbook manuals, training materials, guidelines and support documents on the implementation of SPLUMA. He is also involved in drafting SPLUMA compliant land-use schemes for municipalities, writing planning by-laws for municipalities in Gauteng and drafting generic guiding documents on planning by-laws. Moreover, Mr Friedrich was part of a consulting team tasked with developing documents on the minimum</p>

		standards for the consideration of environmental aspects for the preparation and review of spatial development frameworks.
Mr Thys Human	Personal discussion	Mr Human has over 15 years planning experience in the private sector. He is a director of Welwyn Town and Regional Planners Vaal. The interview with Mr Human was conducted to confirm that saturation was achieved.

Annexure 4: Preliminary results from pilot study on questionnaires completed

The pilot study was based on nine (9) hardcopy questionnaire documents.
 The following assumptions can be made from the pilot study:

Section A: General information
The majority of participants are aged between 25 and 34 years of age The majority of participants have between have been in their positions between 1-10 years 77.8 % of participants are in the private sector
Section B: Locational information
The majority of participants stated that the municipality they conduct work in has developed a single land-use scheme All participants indicated that they consult the SDF during land-use change/ rezoning applications on a basis ranging from 'often' to 'very often or always' Most participants indicated that they rarely encounter conflicts/inconsistencies between the SDF and land-use management schemes All participants indicated that they at least consider environmental attributes (with only 2 participants indicating the do 'not often' provide value to environmental attributes) indicated by some spatial applicable tool during a land-use application. All participants indicated that the municipalities they conduct work in does ensure some effort to align their land-use management and environmental management policies/plans/frameworks of the different line-management/departments The majority of participants indicated that they agree municipalities provide satisfactory provisions for open spaces in their land-use management schemes/ town planning schemes The majority of participants indicated that the municipalities are revising their SDFs to meet SPLUMA requirements All participants indicated that the SDF is used for guidance when considering and preparing a development/ land-use application
Section C: Legislative information
All participants indicated they consider the environment as an important aspect in the planning profession The majority of planners indicated that agree that municipal planning has merits or a mandate to control environmental harmful behaviour All participants indicated that individuals in the profession (in general) take cognisance the environment during land-use application The majority of planners indicated that they have some knowledge of recent court judgements on planning matters All participants agreed on the importance of planning law for the profession Variable answers were obtained by participants on the question of "Planning law triumphs environmental law, when it comes to development within a municipality" the majority indicated that they do not agree with this statement All participants indicated that they are familiar with SPLUMA requirements and directives The majority of participants indicated that they are of opinion that SPLUMA will bring about positive change and effectiveness to municipal planning The majority of participants indicated that environmental instruments must be consulted/ take cognition of under SPLUMA applications The majority of participants indicated that they do not agree that restrictive title deed conditions can be used to protect the environment However, in terms of servitudes registered in a deed of transfer participants acknowledge the use of servitudes for environmental management purposes The majority of participants agreed that land parcels zoned open space requires additional environmental authorisation if a departure of the assigned zoning and subsequent activities are to be lawful The majority of participants indicated that spatially defined areas for conservation within the SDF require additional environmental authorisation before an activity may lawful commence