

**AN EVALUATION OF LAND USE AND MANAGEMENT SYSTEMS BY LOCAL  
MUNICIPALITIES WITHIN THE SEDIBENG DISTRICT**

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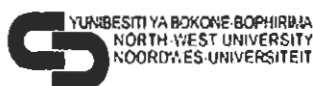
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## **SUMMARY**

This study primarily serves to outline the process and issues that are likely to confront land use management within South Africa. Although cities do not share similar problems of decline, they too suffer the consequences of this apparently inexorable trend. Sedibeng District area is used as a case study for land use management problems in searching and compiling possible solutions for those problems. The study captures the needs and priorities of communities, and also forms the basis for the allocation of scarce resources for the achievements of such needs, as well as setting out a strategic framework for the equitable distribution of resources while taking cognizance of time and budgetary constraints.

This holistic and integrated approach ensures that all human and physical aspects are addressed to achieve viability and sustainable development. Land use management guidelines are also created to guide, coordinate and alleviate pressure on the administrative resources of local municipalities. In so doing, these ideas will be implemented and directly controlled. Such an approach is vital when dealing with limited resources and redistribution towards good social justice where no proper planning system was previously in place.

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## **KEY WORDS**

DFA	Development Facilitation Act
EIA	Environmental Impact Assessment
GIS	Geographic Information Systems
IDP	Integrated Development Plan
ILM	Integrated Land Management
LDO	Land Development Objectives
LUMS	Land Use Management System
MSA	Municipal Systems Act
SDF	Spatial Development Framework
SDM	Sedibeng District Municipality.



## **CHAPTER 1: INTRODUCTION**

### **1.1 Orientation and problem statement**

In terms of regional context , Sedibeng is situated away from the hub of economic activity in Gauteng. The Vaal Triangle [Vanderbijlpark, Vereeniging and Sasolburg] is associated with the production of steel and fuel [Iskor and Sasol], as well as other types of heavy and noxious industrial activities. The rest of Sedibeng's contribution to the region lies primarily within the agricultural sphere (Gauteng Spatial Development Framework, 2000: 10). The Sedibeng District Municipality is located on the southern edge of Gauteng and consists of three local municipalities, namely Lesedi, Midvaal and Emfuleni (Management of Urban Edge, 2003: 8).

It is therefore essential to clearly and adequately present that the total population of Sedibeng is in the region of 800 000 people, of which 83% reside in Emfuleni, 8% reside in Midvaal and 9% reside in Lesedi. Unemployment is high, with  $\pm 87\%$  of the total population earning less than R3500.00 per month (Sensus, 2001: 31).

Land Use Management is a planning tool that includes a wide range of management tools, from the Integrated Development Plan and City Budget, through to detailed building plan approvals and enforcement of zoning conditions. Since 1652 colonialism shaped human settlements of South Africa along racial and class lines, excluding large sections of the population from the economic, social and environmental benefits of vibrant, integrated, sustainable urban and rural development. These patterns sowed the seeds for the grand apartheid that emerged in the second half of the twentieth century. Grand apartheid was essentially a spatial, even geographic, partition attempt, with dire disintegrative spatial consequences (Farvacque-Vitkovic & Godin, 1998:201).

Apartheid planning was integrally linked to blueprint - or "master" - planning as the dominant planning approach. This approach had as its focus the manipulation of the physical environment to implement the plan, an inherently inflexible, static physical representation of a desired future - in this case one of "orderly" racially separate and

unequal development. The approach was comprehensive in nature, striving to predetermine the use of all land parcels in order to achieve the desired end state of separate development. This desired end state became an inflexible representation of the future, which necessitated complete and absolute control on the part of planning authorities (Weiner, et al, 1995: 36).

The effects of this planning approach include displaced urbanisation and a settlement pattern that is grotesquely distorted, fragmented, unequal, incoherent and inefficient. This settlement pattern generated enormous movement across vast areas which were both time consuming and costly thereby entrenching a system of unequal access to economic and social resources. According to Weiner, et al (1995: 36), features of development patterns today are:

- large dormitory areas far from places of economic, cultural, recreational and educational opportunity;
- severely overcrowded former homelands, forced to depend on limited agricultural land, in turn leading to severe environmental degradation;
- substantial inequality between the areas set aside under apartheid for white and black residential occupation; and
- wide disparities in the provision of infrastructure and services.

The planning system created to address and support minority interests also led to the evolution of a highly complex, multiple and confusing legal environment for planning. The legal complexity is further aggravated by the fact that the major tools of management and control, such as zoning and title deed restrictions, derive their powers from different laws - a situation that further contributed to an already procedurally complex system. These diverse laws and ordinances also left in their wake a myriad of plans all with a different legal status such as master plans, guide plans and structure plans. This led to a wide range of terms being used loosely and interchangeably such as land planning, land use planning, settlement planning and physical planning (Weiner, et al, 1999: 44).

An interview with Mr Ehlers, a Director of Town Planning Department in Johannesburg Metropolitan Council on 25 July 2005 showed that, the main land-use planning and management problems currently experienced by municipalities include:

- *Disparate land-use management systems in different former "race zones"*: Every municipality in the country is responsible for the administration of a range of different regulatory systems for managing land-use, an inheritance from apartheid policies. This means that different procedures have to be followed by applicants, different standards have to be met and different opportunities are available to members of the public affected by proposed developments. It also greatly increases the administrative burden on under-capacitated municipalities and contributes to the lengthy time periods it takes to get applications processed.
- *Disjuncture between inherited schemes and newly drawn up plans*: While most municipalities have begun, and many have completed, the compilation of IDPs and LDOs these post-apartheid plans remain hamstrung by the schemes currently in place. The town planning schemes applicable to Midvaal and Emfuleni areas for example are outdated and include the following:

Randvaal Town Planning Scheme, 1994;  
Meyerton Town Planning Scheme, 1996;  
Walkerville Town Planning Scheme, 1994;  
Vaalmarina Town Planning Scheme, 1993;  
Vereeniging Town Planning Scheme, 1993;  
Vanderbijlpark Town Planning Scheme, 1987;  
Peri-urban areas Town Planning Scheme, 1975; and  
Annexure F, of the Black Communities Development Act, 1984.

These schemes often reflect land use patterns that are very different from those envisaged in the new plans. Because of the greater detail of the schemes, as well as the fact that they consist of concrete rights to use and develop land in particular ways, they remain relatively unaffected by the new plans. The new plans thus have had only a weak impact on inherited spatial patterns.

- *Lengthy approval times:* Especially in the larger cities the backlogs of applications waiting to be considered by municipal authorities are substantial. This has negative economic impacts on the municipalities.
  
- *Too much control, not enough facilitation:* The emphasis in local government has been on controlling land development as opposed to facilitating it. This has become starkly evident in the era of IDPs, where municipalities have anticipated often ambitious development projects in their plans but have not had the means to ensure that they actually are implemented. This has led to a sense of dissatisfaction with planning, linked to an unrealistic notion that simply because something is included in a plan it will necessarily happen. Increasingly however there is an awareness that one cannot get something to happen when the only tools at your disposal, in this case zoning schemes, are effectively instruments of control, designed to restrict land development rather than promote it.
  
- *Weak enforcement:* Those controls that are in place - to prevent illegal, unsafe, environmentally unsound land development - are only rarely enforced. This is the result of two factors. Firstly, many of the controls that are unenforced are in fact inappropriate, particularly insofar as they affect the poor. Secondly, there is a general lack of law enforcement capacity in local government. These two factors combine to create a sense of impossibility: the problem is so big and the resources so small that the problem simply cannot be tackled.
  
- *Inappropriate historical rights:* In many urban areas landowners hold use and development rights granted under inherited planning legislation, some dating as far back as the 1940s. In many cases these rights can be ignored - and realized - by the rights-holders at their leisure. In other cases however they represent a significant obstacle to the reconstruction and integration of towns and cities. Municipalities are afraid to plan in ways that might impact on these rights, out of a fear that they will be liable to pay compensation. This problem is aggravated by the sense that development rights, once granted, survive indefinitely, until such time as the landowner elects to realize them.

- *Overlap between planning permission requirements and environmental impact requirements:* Most types of land development require a number of different permissions from different authorities. The two in which there is the most overlap are the rezoning permission and the consent in terms of the Environmental Impact Assessment requirements of the Environment Conservation Act. This overlap leads to a situation in which an applicant has to apply to two separate authorities for permission to use or develop land. In practice many of the requirements of the two processes are very similar and this can lead to an expensive duplication of efforts. Also, it can result in each authority giving a different decision, leading to institutional conflict and a bewildered public.

A number of legislation have been passed since 1994 that regulate land use patterns. These frameworks are highlighted as below:

- *White Paper on Spatial Planning and Land Use Management, 2001*

In order to apply Land Use management in South African local municipalities, this White Paper follows closely on the Green Paper on Development and Planning. The intended outcome of the White paper is a new national law, the land use bill. The bill will replace *inter alia* the Physical Planning Acts and the Development Facilitation Act. The ultimate goal is a legislative and policy framework that enables government, and especially local government, to formulate policies, plans and strategies for land-use and land development that address, confront and resolve the spatial, economic, social and environmental problems of the country.

Therefore, this White Paper and the forthcoming land use bill seek to further clarify and expand on concepts falling within the mandate of the Minister of Land Affairs, some of which are already contained in the Municipal Systems Act. It is hoped that this White Paper, the forthcoming Land Use Bill and the Municipal Systems Act together will form a comprehensive framework for local authorities embarking on integrative development planning. It will also provide the framework



necessary for the land development activities of all sectors and spheres of government and the private sector to be properly planned, taking into account the overarching development needs of society.

- *Municipal Systems Act 32, 2000*

Section 26e of the *Municipal Systems Act* (Act 32 of 2000) requires that part of each municipality's IDP must be a spatial development framework. The Act also spells out the minimum elements that must be included in a spatial development framework. It also proposes that the spatial development framework operate as an indicative plan, whereas the detailed administration of land development and land use changes is dealt with by a land use management scheme, which will actually record the land use and development permissions accruing to a piece of land. The inclusion of the spatial development framework, with a direct legal link to the land use management scheme, is an essential step towards integrated and coordinated planning for sustainable and equitable growth and development.

- *Development Facilitation Act 67, 1995*

The DFA was promulgated as an interim measure to bridge the gap between the old apartheid era planning laws and a new planning system reflecting the needs and priorities of the democratic South Africa. The Act, however, did not wipe the slate clean with the result that the national and provincial laws relating to planning promulgated before 1994 are still in existence. The DFA thus operates parallel to the existing laws, until such time as they are replaced, as proposed by this White Paper.

- *Gauteng Development and Planning Act 3, 2003*

The Department of Development Planning and Local Government (DDPLG) initiated a process to review the existing provincial development legislations, hence the Gauteng Planning and Development Act 3 of 2003 and its regulations. The provincial regulations are taking longer than anticipated; however it is crucial

that while in waiting for these regulations, a Sedibeng District based land use management system be prepared based on Gauteng Planning and Development Act 3 of 2003 (be it enacted/gazetted by the Gauteng Provincial Legislature on 17 October 2003).

Progress made thus far is that, Lesedi Local Municipality receives numerous land development proposals evaluated on merit as and when required in terms of their approved and gazetted Lesedi Town Planning Scheme, 2003. This system has also been recently consolidated from a variety of town planning schemes. Midvaal Local Municipality is also engaged in a not completed similar process, while retaining the status quo of evaluating development proposals. Emfuleni Local Municipality comprises Vereeniging, Vanderbijlpark and the predominantly black areas such as Sebokeng, governed by variety of town planning schemes.

Therefore the major subject of investigation in pursuit of the above is to have common processes with regard to land use management and control within the Sedibeng area. This ascertains a critical need for coordination within the larger district context, hence the establishment of an Integrated Land Use Management System (LUMS) and regulations in respect of the whole Sedibeng District to ensure the purpose of the said national and provincial policy and legislation, as well as the implementation of and close alignment with the SDF in order to address issues of land use rights.

## **1.2 Research questions**

The research is conducted in order to answer the following questions:

- What is Integrated Land Use Management (ILUM)?;
- Which legislative framework impinges on LUM in South Africa?;
- Which benefits occur as a result of Integrated Land Use Management in the Sedibeng District area ?;

- What recommendations can be made to address roles and responsibility (interaction) challenges between various stakeholders in so far as Land Use Management in Sedibeng is concerned? and
- What recommendations can be made to Department of Development Planning and Local Government and Sedibeng District Municipality with regard to the use and management of land?

### **1.3 Research objectives**

Flowing from the above-mentioned questions, the research intends to achieve the following objectives:

- To establish what land use management (LUM) entails in South Africa with special reference to Sedibeng District areas;
- To conduct an in-depth investigation into current South African LUM policy and legislative framework in the context of Sedibeng District area;
- To assess the importance of ILUM in South Africa, specifically for local municipalities within the Sedibeng District;
- To identify typical land use development and management constraints in Sedibeng District; and
- To provide a set of recommendations for the improvement from existing problems, specifically to guide land use management for Sedibeng District Municipality.

### **1.4 Hypothesis**

Current planning systems within South African local municipalities are not transformed. The systems are therefore complex, often unfair and inconsistent; and numerous barriers impede the effective implementation of Integrated Land Management (ILM) at the sphere of local municipality (Sedibeng District) and



requires decisions about resource allocation to contribute towards removal of these barriers in support of Integrated Land Use Management Systems.

## **1.5 Research methodology**

In order to conduct this research the following methods are adopted:

### **1.5.1 LITERATURE REVIEW**

A theoretical part of this research consists of comprehensive utilization of available literature on books, journals, articles, proclamations and newspapers, including electronic database available on the theme of LUM internationally and nationally. Detailed literature is applied to examine the historical background of LUM in South Africa. The theoretical framework thus created is then used as a background for the empirical side of this research to reflect Sedibeng District area circumstances and requirements.

Official documentation on local municipalities LUM systems were studied, and a consent was obtained from necessary authorities and participants.

### **1.5.2 EMPIRICAL RESEARCH AND DESIGN**

Examples of case studies were undertaken to cover the contextual conditions to investigate this contemporary phenomenon. The case studies allow an investigation to retain holistic and meaningful characteristics of the real life events. The scope of empirical investigations is however limited and is analytically descriptive to Sedibeng District area. Documentation also includes site-specific conditions; hence the following research strategies are intended to be pursued:

- Under the guidance of study leader, semi structured questionnaire for interviews were constructed using a compiled qualitative questionnaire to obtain the opinions of groups of persons stratified into five categories (residents, councilors, land use officials, planning consultants, and visitors).

These stakeholders were selected in view of their political, official and business interests in small, medium and micro enterprises as well as the informal sector.

- Sampling method was used to collect required data from which one subject gave the name of another subject, which in turn provided the name of the third, and so on. This technique is used for finding research results and is based on the assumption that a bond or link exists between the initial sample and others in the same target population, allowing a series of referrals to be made within a circle of acquaintance (Berg, 1988: 30). This method is essential to easily interpret the findings and is indicative of the results of the broader picture.

### 1.5.3 PARTICIPANT OBSERVATION TECHNIQUE

The researcher's involvement in the activities of planning as a planning official has had much influence in identifying the Sedibeng District Municipality (SDM) land use management systems (LUMS) as a key priority action plan in the Integrated Development Plan (IDP) of the district with a view to ensuring common understanding and consistency across all three participating local municipalities within the set time frames. His intimate theory, background and knowledge of procedures, problems and concerns regarding land use management enabled him to conduct studies in a familiar territory and to offer recommendations for improvement.

## **1.6 Outline of chapters**

In pursuit of the above, the organization of this research is according to the following chapters:

**Chapter 1:** Introduction

**Chapter 2:** Theoretical exposition of Land Use Management in South Africa

**Chapter 3:** Analysis and Evaluation of Sedibeng Land Use Management Systems

**Chapter 4:** Empirical Study into Sedibeng Land Use Management

**Chapter 5:** Conclusions and Recommendations

## **CHAPTER 2: THEORETICAL EXPOSITION OF LAND USE MANAGEMENT IN SOUTH AFRICA**

### **2.1 Introduction**

Many municipalities are currently faced with a delay in the development of land due to vested rights granted in terms of the provisions of previous legislation. This is mainly due to the perception that the provisions of the Development Facilitation Act, No 67 of 1995 supercede previous legislation. In an attempt to inform municipalities of all applicable legislation, its relation to each other, and how it influences current land development practices, this research finds it fruitful to consider closely the conception of what town planning schemes should aim at according to the ordinances of the provinces which empower the preparation of such schemes.

The chapter explains that certain land uses or the manner in which these uses are conducted in the country may be source of inconvenience or nuisance to others. Because of this impact of one use upon others as well as for other reasons, use zoning arose. Use zoning is dealt with at some length and grouping of uses into different zones as usually carried out in South Africa is mentioned. The reasons for such grouping are also fully dealt with.

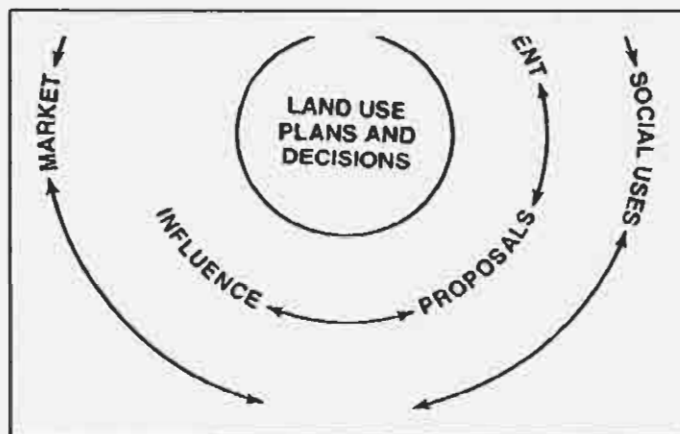
The chapter also documents case studies covering the range of Land Use Management issues in South Africa. It explores the connections between the past and the present and examines whether or not there may still be a niche for better land use management in South Africa's future. These practical examples are cited in order to illustrate how the processes, following on the various pieces of legislation, impact on each other.

### **2.2 Defining land use change management**

Against this background land use management has reached a stage where it now requires definition and conceptualization. To use a simple structural analogy by Godsckalk, Kaizer and Chapin (1995: 51), land use management can be visualized

as a set of main integrated framework comprising three legs, which are social use, market, and ecological values. Effectiveness in land use management as a local government responsibility depends upon integrating the use, exchange, and ecological views of land into a balanced system. According to Godsckalk, Kaizer and Chapin (1995: 51), the system is made up of two parts, namely:

- A land use change management model that incorporates structural concerns of human ecology and political economy theories through land use planning concepts, and
- Planning discourse model that incorporates process concerns of game theory through participation and dispute resolution concepts.



**Figure 1:** Planning Discourse Model: Exchange among Land Use Game Players (Godsckalk, et.al, 1995: 54).

Each leg-or value-is necessary. If social use values, as exemplified by neighborhood and activity patterns, are not accounted for, then citizens will not accept planning. If market values, as exemplified by profit-seeking real estate development, are not accounted for, then city building cannot take place. If ecological values, as exemplified by natural resource conservation, are not accounted for, then development cannot be a sustained concept (Godsckalk, et.al, 1995: 52).

Therefore, according to Godsckalk, Kaizer and Chapin (1995: 52) land use management process operates in the arena where consensus is hammered out over the direction and meaning of change and desirable community response. This

consensus-building process is as critical as technical analysis and design solutions. So, to achieve this consensus, the land planner engages in a community discourse with market oriented developers, social use interests, and government officials, regularly exchanging information, involvement, influence, and proposals in order to find solutions to development problems and needs. This planning discourse model is a central feature of the land use game, with elements of public education, bargaining, persuasion, and reciprocal trades, in addition to its technical and analytical features shown by Figure 1 above.

In very broad terms, Van Wyk (1999: 4) mentions that "land use management" is concerned with the determination of principles and devices underpinning land development as well as the management and regulation of land use in the different spheres of government. Plan creation and application are included, as is the changing of land use by procedures such as township establishment, rezoning and the removal of restrictive conditions within the context of sustainable development. The regulation and enforcement of principles and procedures by organs of the state, other institutions and the public are necessary adjuncts to these processes.

Besides doing technical planning work, the land planner maintains and participates in this discourse process which debates proposals for land use change, considering land as a community resource to be allocated in accordance with consensus values during the city building process (Godsckailk, et.al, 1995: 53). Thus, not only the physical aspects of land use regulation, but also the social aspects, are relevant.

### **2.3. Use zoning and the effect of uses upon each other**

According to Floyd (1996: 24), the town planning ordinances of all the provinces except that of Free State lay down the aims of town planning schemes broadly as follows:

*"Every town planning scheme shall have its general purpose as coordinated and harmonious development of the municipality to which it relates in such a way as will*

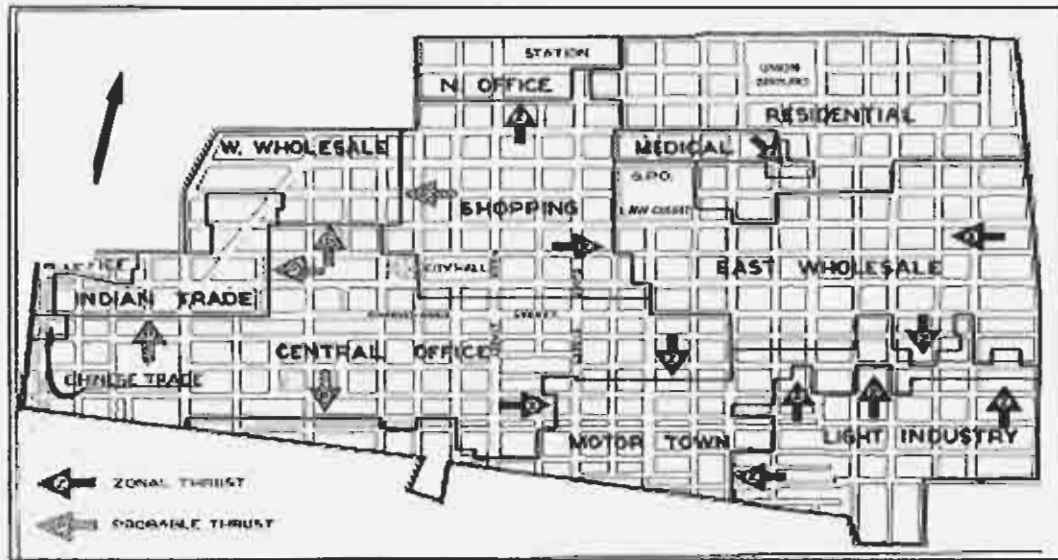
*effectively tend to promote health, safety, order, amenity, convenience and general welfare as well as efficiency and economy in the process of such development"*

The Free State therefore based the ordinances for that province on the model of that of the Transvaal. This means that Free State Ordinance now gives no broad guide as to the aims of schemes and leaves the door open to the extent and purpose of any scheme prepared in the other provinces, schemes are restricted, albeit broadly to comply with this section or one similar to it.

Prior to use zoning taking place a natural rough segregation of uses occurred in South African cities and the larger the city the more marked this became (Floyd, 1996:63). Johannesburg may be used as the example for it is the largest city and the first to embark on a town planning scheme which controlled use. After use zoning had been in force for over 20 years, this natural segregation continued to take place within the use zones. The zoning of the central area of Johannesburg is on broad lines, permitting a variety of uses in each use zone. No particular zoning in the central area was attempted at the time the zoning took place. The use zones in the central business area are general business with general industrial zones to the south, east and west of the general business core (Floyd, 1996:64).

Figure 2 below illustrates the natural segregation of uses in the central area of Johannesburg. The main core is the area principally occupied by shops, offices, and residence on the upper floors. To the north a predominantly office area is rapidly developing and has expanded over the railway line. Southwards between the industrial band and the shopping core is the motor-town area where new and secondhand motor vehicles are sold.





**Figure 2: Johannesburg City Centre: Natural Segregation of Uses (Johannesburg City Council, Tourists Brochure, 2002).**

Due south and south-west is a large office area, where most of the insurance, building societies and mining offices are located. Westwards of the central core is the Indian trade area, largely fruit, and to the north-west is the large produce and farmers' supplies zones. Beyond the Indian area and farmers' supply area there is a light industrial area. This development has resulted in a concentration of employment in the central area of the city, which is the main cause of its traffic and parking problems. Here the process of growth and change from use to use may be particularly interesting in the case of Johannesburg because of a rapid growth. In Johannesburg, there are provisions protecting non-conforming existing uses in various Town Planning Schemes provided that an existing building or an existing work which is not in conformity with the provisions of this scheme relating to the erection and use of buildings and the use of land, may be used for its existing use, and that subject to the provision than those relating to the erection and the use of land and use of buildings, it may be altered, extended or rebuilt upon the same site for the particular trade, business for which it is then being used.

In the Johannesburg Town Planning Scheme (1979: 44), provision is also given that "a lawfully existing building or a lawfully existing work which is not in conformity with the provisions of this scheme relating to the erection and use of buildings and the use of land, may be maintained and may be used for its existing purpose and subject



to the provisions of this scheme other than those relating to the erection and use of buildings and use of land. It may be altered or rebuilt upon the area occupied by the existing buildings and with the consent of the local authority, may be extended for the particular trade, business, industry or purpose which constitutes its use."

There are certain uses belonging to a given use zone which may, however, cause inconvenience, loss of amenity and economic damage to immediate surroundings because of their situation or under certain circumstances although generally they are a convenience to the neighbourhood. In many instances these uses leave a final damaging balance even when the benefits are weighed against the disadvantages.

According to Van Wyk (1999: 24) such uses, if prohibited from a neighbourhood, would result in grave inconvenience. In addition there are uses, which are a convenience to the zone and whilst innocuous to surrounding property they may themselves, depending on their situation, be detrimentally affected by the primary uses. All these uses are generally dealt with by the local authority granting them special consent and for this reason are commonly termed consent uses. Examples of such uses are given in the following table 1 below:

Use zone	Primary Uses	Consent Uses
Residential	Dwelling houses	Place of Public Worship, Places of Instruction, Social Halls, Institution, Special Buildings.
Business	Shops, Business Premises, Dwelling Houses, Residential Buildings, Places of Public Worship, Places of Instruction, Social Halls, Cafes.	Industrial Buildings, Public Garages, Hotels, Places of Amusement, Special Buildings.
Industrial	Industrial Buildings, Business Premises, Shops, Public Garages.	Dwelling Houses, Residential Buildings, Cafes, places of instruction, Social Halls, Places of Amusement, Special buildings.

**Table 1:** Use zones of Primary and Secondary uses (Extract from JHB, town planning scheme, 1979: 30).

Consent therefore largely deals with uses whose operations are on small scale but it is not necessarily restricted to this. Table 1 above indicates that many consent uses in certain zones are uses, which are primary ones in zones demarcated principally for them. A use may thus be treated as a primary use and this is usual where the use is large or in the planning, it is known that the site is required for such a use or where it is desired to preserve a site for a particular use. A small amount of this form of particular zoning can be done with advantage in town planning schemes but if carried to any extent the result will be many sterilised sites, as already explained, and a scheme difficult to administer (Floyd, 1996: 72).

In pursuit of the above, it is worth noting that in South Africa there has also been considerable advance in public opinion and legislation towards greater consideration of "social harm". The use zoning powers given in the various town planning ordinances of the provinces inherently contain the thought that non-conforming existing uses must ultimately be terminated.

#### **2.4 Legal aspects governing town planning schemes**

On 23 February 2005 , the Minister of Finance, in his budget speech, stated that four aspects of the development policy of the country are particularly critical, namely:

*"We must address the barriers to small business development and job creation that arise from cumbersome municipal planning and approval procedures, or from overly burdensome administration of tax laws, environmental legislation or labour market controls".*

In this statement reference is made to problems experienced in the field of town and regional planning, namely that a dual approach need to be followed in terms of planning law and environmental law in order to deal with land use applications. The fact that there are two parallel processes to be followed results, not only in management, but also in decision-making problems, to be addressed.

The right to appeal to the Townships Board or the Administrator generally ensures fair and reasonable treatment. It is usual to permit appeals from either aggrieved applicants or aggrieved objectors against the decisions of the local authority. According to Floyd (1996:74), there is no alternative method of dealing with these uses which will give the same or even nearly the same flexibility and adaptability to progress. The only practical alternative would be to treat them as uses permitted under certain conditions. Conditions could then be standardised and embodied in the scheme clauses. This method appears to simplify the dealing with consent uses and may even do so for a short period. It cannot be made applicable to the many variations as it is rather rigid. Secondly every time technical progress takes place the regulations containing the conditions must be amended to keep pace with this progress. Hence there results continuous amending of regulations or the scheme clauses and generally in the end this method proves to be rigid and cumbersome. It can never be applied to take in the personal preferences, likes and dislikes of the adjoining owners as in the case of the consent method.

To a person who lacks ingenuity and who is not a good town planning administrative official the consent method is full of difficulties and the best results are not obtained from it. Obviously the best results are obtained when the local authority is well advised professionally and when it predominantly acts on this advice. Councilors are, with consent uses as in other matters, often placed under pressure. Wire-pulling takes place and probably can never be eliminated in any system of representative government.

For this reason some provincial officials have expressed the opinion that consent should be exercised by the Administrator (Van Wyk, 1999: 30). If this is adopted without an appeal the results will obviously be worse than when the local authority has the power to consent. The professional advice available to a local authority is generally as good as that available to the Administrator. Sometimes the one and sometimes the other makes use of less capable advice but the general result will be nearly the same with perhaps the balance in favour of the larger local authorities. Whilst the Administrator and the Executive Council may be free of local pressure to some extent, they are also remote and not answerable to the local voters.

The appeal has a sobering effect on the body that has the power to consent. If the consent power is to be administered by the Administrator then there should be a board of appeal but even then the results will not generally be as good as when the local authority has the power of consent and the appeal is to the Townships Board. The provinces differ in their approach as in some the appeals are to the Townships Board whereas in others they are to the Administrator (Floyd, 1996, 76). Experience shows that, a Townships Board better handles appeals. The Executive Councils are bodies of political men and do not have the knowledge or experience which a Townships Board possesses in these matters. Their decisions tend to be popular ones and not technically correct decisions.

There is a difference of approach to non-conforming existing use in the ordinances of some of the provinces. For example:

#### 2.4 .1. GAUTENG

Section 44 of the Gauteng Town Planning and Townships Ordinance 15 of 1986 as amended by Development and Planning Act, 2003, sub-section (3), reads as follows:

"If any land or building except a building in respect of which in terms of paragraph (c) section 49, no compensation is payable or used by the owner thereof on the date on which the Administrator notifies by proclamation in the gazette that a coved and if such use constitutes a breach of any of the provisions of otherwise lawful such owner shall, unless the land or building is taken by the local authority in terms of sub-section (2) of this section, have the right to continue using such land or building for the purpose for which he was using it on the aforesaid date; provided that such scheme may provide that such right shall lapse if such land or building is not used during a specific period and if such land or building is not used during such period such right shall automatically lapse on the expiration of that period. In any proceedings in which it is alleged that such right has lapsed as aforesaid the person claiming the right shall prove that it has not lapsed."

#### 2.4.2. FREE STATE

In the Free State Ordinance 9 of 1969, Section 41 (3) reads as section 44 of the Gauteng Town Planning and Townships Ordinance. According to Van Wyk (1999: 88), the ordinances of the Free State provide for compulsory termination coupled with payment of compensation. Power is given to take land or buildings for the purposes of the scheme if acquisition thereof is necessary for or ancillary to the proper carrying out of the said scheme. If the non-conforming existing use is not terminated it is protected. The owner shall have the right to continue using the building or land for the purpose for which he was using it on the date on which the Administrator notifies by proclamation in the gazette that the scheme has been approved. Provision is made that a scheme may provide that such right shall lapse if not used for a specified period. Whilst this protection of the non-conforming existing use probably does not include the right to extend the building or re-erect it, it seems to include the right to alter and repair such building.

#### 2.4.3. KWAZULU NATAL

Natal Ordinance 27 of 1949, Section 47 (1) and (4) enables provisions to be inserted in a scheme and which briefly restrict density, coverage, space about buildings, design and external appearance and use. Sub-section (3) reads as follows:

A scheme may include a schedule setting out the use or uses to which any land or it at any given date, and upon such scheme coming into operation it shall be presumed until the particular use mentioned at the said date."

Sub-section (4) reads:

The provisions to be inserted as aforesaid may -

- (a) differ as respects different parts of the areas to which the scheme applies; and
- (b) be made available , either with or without modifications, to existing buildings as well as to the future buildings."



Section 61 (1) deals with matters excluded from compensation but the proviso to this protects existing use. This reads as follows:

"Provided that compensation shall be payable where and also upon enforcement of a referred to in paragraph (g), which required that any building shall be used in a manner different from that in which it was being used at the date upon which the scheme took effect and such use has been continuous up to the date of enforcement.

The Natal Ordinance, provision is made which protects a non-conforming existing use in the interim stages during the preparation of a town-planning scheme. Power is given to a local authority to remove an existing use not in conformity with the scheme and after six months' notice to remove a building at the owner's cost. Existing uses may be restricted under section 47 but under section 61 compensation is payable for any restriction of an existing use. If action is taken under paragraph (g) of section 67(1), which restricts the manner in which buildings are used, compensation must be paid in the case of non-conforming existing uses. A nonconforming existing use is thus fully protected in the interim stage but can be restricted after a scheme is approved.

There is no lapsing provision as in the case of the Gauteng and Free State, but the provision in section 61 seems to indicate that if a use lapses after approval of the scheme its protection or right immediately ceases. No lapsing operates in the interim stage nor does it operate before this stage, because the words used in section 67(3) are "before the resolution" and not "on the date of the resolution".

#### 2.4.4. CAPE PROVINCE

The Cape Ordinance 15 of 1985 as amended from time to time including Ordinance 17 of 1995 protects non-conforming existing uses during the interim stages of the preparation of a town planning scheme. Further power is given for the local authority to consent of the Administrator of a use in conflict with the provision of the scheme.

Section 35(4) provides that where a scheme prohibits land or to any particular use or uses but permits any such use, to can such period may only be extended with the approval of the of the Administrator. Any buildings failing under this may not, except with the consent of the Administrator be altered, extended or re-erected. It is now in my view that no mention is made of cases where the termination period is provided in a scheme. It is assumed that these can continue. Perhaps the intention is that all schemes should include such a termination period. The model clauses drawn up by the provincial officials do not include any such clauses to date.

Powers pending approval of a scheme; Section 57 (3) reads as follows:

"No person shall use or permit the use of any land or building for a purpose for which, or in a manner in which, it was not used on the first day of June, 1950, or on the date on which this chapter becomes applicable to the local authority, whichever is the later date, or if such building was erected after such date, for a purpose or in a manner other than that for which it was erected, unless –

(a) he shall have obtained written confirmation from the local authority that such use would not conflict with the proposed provisions of a scheme in course of preparation or awaiting approval; or

(b) if such use does so conflict with such proposed provisions, the local authority shall with the consent of the Administrator have approved such use, provided that if it is in any proceedings alleged that any land or building was on the first day of June, 1950, not used for a specified purpose or in a specified manner, the onus of proving that it was on such date used for such purpose or in such manner, shall be on the person who uses it or permits the use thereof for such purpose or in such manner."

It seems that the Cape ordinance originally intended on existing non-conforming uses to continue. The section dealing with interim powers bears this out. According to Van Wyk (1999: 89), provision was, however, made by amendment in 1953 to deal with non-conforming uses by termination after a period. No provision is made for compulsory termination with compensation as in other ordinances. Therefore, Local authorities are not trusted to deal with the period fixed for termination or any

extension thereof. The power to fixed alteration, extension and re-erection in such cases is given to the Administrator. This amendment to the Cape Ordinance therefore lacks clarity.

## **2.5 Density control factors**

The practice of providing housing has a bearing on densities in different residential areas and some explanation of the practice in South Africa is therefore desirable. In South Africa the bulk of housing for the lower income group, thus "unskilled labourer class is carried out mainly in housing schemes by local authorities with money advanced by the State through the National Housing Commission and the Bantu Housing Board. The bulk of this housing is economic although much housing for Coloured persons and Indians is still on a sub-economic or subsidised basis.

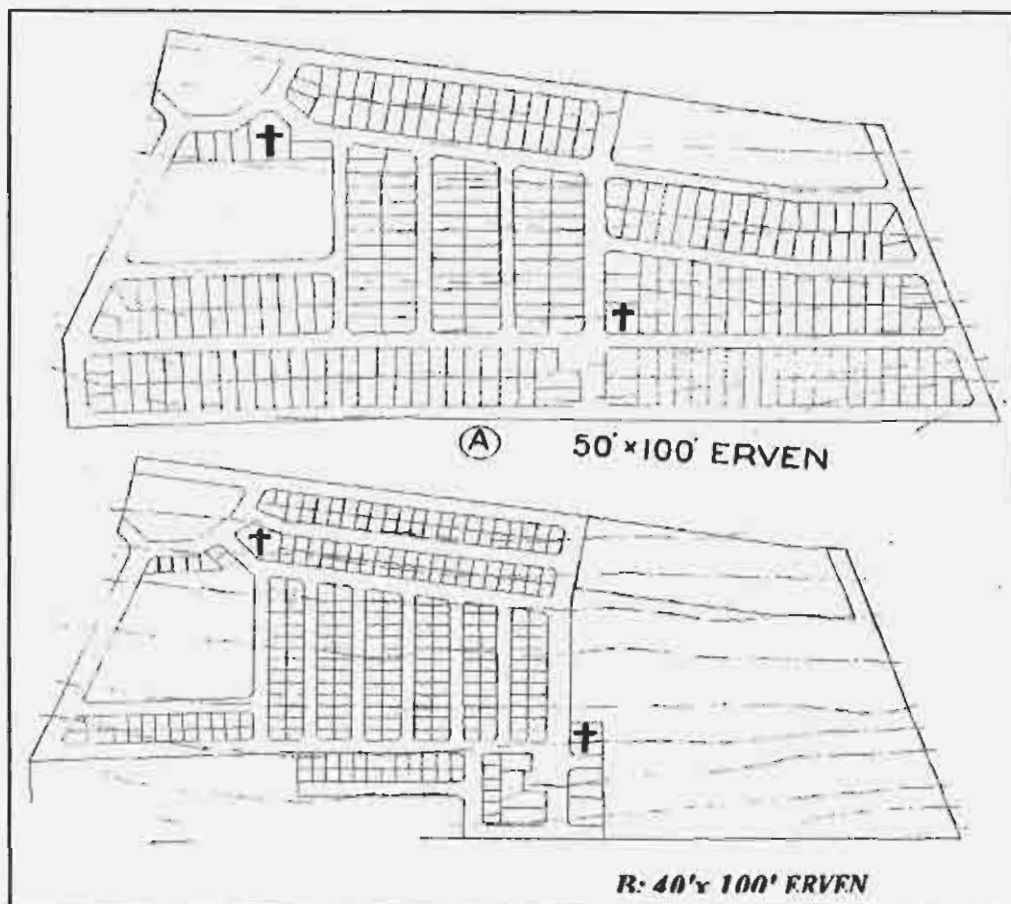
The policy of both the above bodies or of the State is towards home ownership and economic housing as far as can be practically achieved. Here is already a contrast with housing in England where the policy is state-subsidised housing carried out by local authorities (Planning Mail, May 2005: 1). Overall densities of dwelling houses were generally greater in cities 50 years ago than today. This applies particularly to Port Elizabeth, East London, Durban, Cape Town, Johannesburg and the towns of the Witwatersrand (Floyd, 1996: 119).

In order to illustrate what may be saved by reducing erf sizes and increasing the density a comparison of two layouts on the same ground is made. Figure 3 below illustrates the same piece of ground laid out with different size erven. In Figure 3a the erven are 50 wider, which is a common size used for dwelling houses for Indian and Coloured persons. It is also a common size of erven in the older parts of many towns and cities. This is compared with Figure 3b, in which the erven are narrower. The nett density in the one layout is two and a half times that of the other. This increase of nett density results in a saving of 38.67 per cent. of land for a housing scheme of 295 dwelling houses (Planning Mail, May 2005: 2).



Living space or the total erf area may have a relationship in various climates but the value of indoor and outdoor space varies with climate. The more severe the climate is or in other words the colder it is and the more wet it is the greater will be the importance of indoor as against outdoor space. In climates which are warm, where rainfall is infrequent and where the sun-days very much predominate, the outdoor space becomes more important and the indoor comparatively less so (Floyd, 1996: 127). The latter is the case in South Africa, although to give equally advantageous living in the various parts of South Africa, differences in outdoor and indoor space per person should be made. What these should be has as yet not been properly studied. The extent of attention paid to sunlight in Europe and particularly northern Europe is not at all necessary in South Africa. Far less attention to this aspect may be given but in some parts of the country, such as the hot, dry areas of the Karoo northern and western Cape and the lowveld, much more attention should be given to shade from the sun.

According to this Planning Mail on residential densification (May 2005:3), land is generally used wastefully in South Africa and this applies particularly to housing schemes where there is no reason to do so. Until recently, erf sizes for the two latter above-mentioned groups have commonly been twice to three times what is stated above as the necessary minimum. Much of what the journal says above, although it applies to conditions in England, is also generally applicable to South Africa. With people in South Africa, whether White, Black or Coloured, and because of the climate and therefore outdoor life, the friction and conflicts he talks about are likely to arise at even lower densities. This must not, however, be taken and applied to all high densities under all circumstances. It must be remembered that Floyd is dealing with subsidised housing schemes. In South Africa most of the high-density building is done by private enterprise. A small amount of fairly high density has been carried out by some city councils.



**Figure 3:** Part of Bosmont area illustrating the difference between 50x100 and 40x100 erven (Planning Mail, 2005: 3).

The highest densities occurring in South Africa are mostly found in selected positions having numerous advantages to compensate for the disadvantages brought by high density. Examples of such are the beachfront flats of port cities and the Hillbrow area of Johannesburg. In such situations high densities mean something entirely different from what they do in a housing estate catering for normal families. Along a beachfront as at Durban development is dense but justified because it gives many persons the benefit of the wonderful open space of the beach and the sea, which are a great amenity to persons of all ages. In cities, therefore, many residential buildings of flats and tenements occupy special areas, which serve a special need or demand.

A case in point is that of Hillbrow, Johannesburg. According to the Planning Mail on residential densification (2005:3), this area has received much publicity as the

densest development in South Africa. It is probably the densest area over a fairly large expanse but the Floor Area Ratio (F.A.R) factors of 5.1 and 5.95 permitted by the Johannesburg Town Planning Scheme, 1979 are only half than some flats in Durban. Floyd (1996:134), mention that it is less than some of the flats in other parts of the country and cannot be compared with the density in Hong Kong which is 1,500 persons per acre as against Hillbrow's allowable gross density of 250 persons per acre.

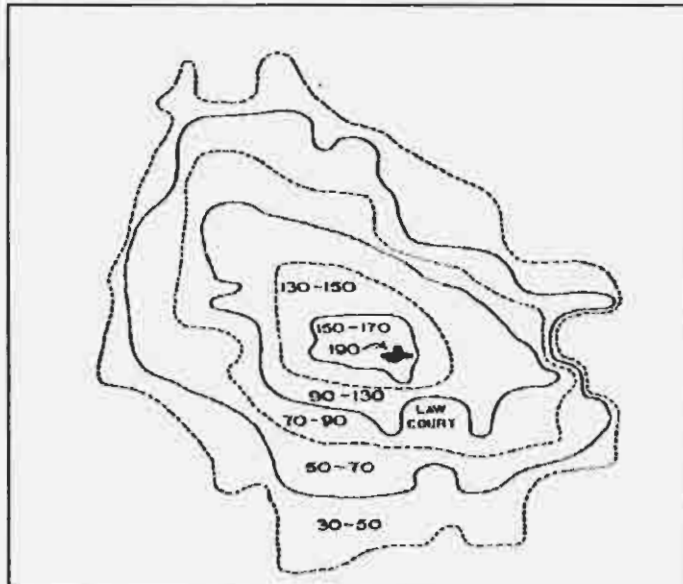
## **2.6 Land use management and property values**

The origin of property is somewhat clouded in obscurity and certainly began in objects other than land. With nomadic peoples there is no conception of property in land although at an early stage wells and springs may have been regarded as such. This nomadic condition was that of the Red Indians of America when the White man arrived there and it was also the state of the Hottentot, Saan and Bushman of South Africa on the arrival of the White man (Floyd, 1996: 139). Floyd (1996:140) further explains that the Bantu peoples, when they entered South Africa and for a long time after this, were in a similar state of development and many have even to this day not advanced beyond it. Only when cultivation takes place does the need among a people arise to protect the right to the crop sown. From this arises the idea of property in land.

As shown by figure 4 below, accessibility causes high shopping values but it also causes conditions which lead to congestion and by doing so it may ultimately affect the security on which such values depend. The result may then be to shift shop values to outside centres.

No danger of this sort appears anywhere in South Africa at present. It is the striving after the most accessible position, the "100%" location, that sets up the competition among uses. This competition may not always be entirely on a purely economic basis for sometimes "prestige" enters in the case of banks and large business companies. In this connection, Godschalk (1995: 147) states: "The utilisation of land is ultimately determined by the relative efficiency of various uses in various locations.

Efficiency in use is measured by high-paying ability, the ability of a use to extract economic utility from a site. The process in adjustment in city structure to a most efficient land use pattern is through competition of uses for the various locations. The use that can extract the greatest return from a given site will be the successful bidder”.



**Figure 4:** Diagram showing isovals of erf land values in R1,000s. (Floyd, 1996: 141).

It has been shown that valuation of land is assisted by a town-planning scheme, which zones for use and density. The reverse is also true. Land valuations are a great assistance to the zoning for use and density, when the valuations are efficiently made. The less reliable the valuations are the less value they are to the zoning for use and density and if badly assessed they can be misleading to an inexperienced town planner (Floyd, 1996: 157).

## **2.7 Land use management and planning information management**

The Directorate: National Spatial Information Framework (NSIF) situated in the Department of Land Affairs was established in 1997 to drive the development of South African Spatial Data Infrastructure (SASDI). With the buy-in from the politicians, the Cabinet endorsement on the SASDI was on the 29<sup>th</sup> April 1999. In the past people or organisations used different methods for acquiring, storing,

processing, analysing, and viewing spatial data. Geographic features were classified differently by different organisations. Various standards were used by different organisations and spatial data and information were stored in different formats. Spatial data formats tend to be very complex and proprietary in nature (depending on the software application). This resulted in the duplication of data capture and cost organisations and the state millions of Rands. Today, exchanging, sharing and integrating spatial data from various sources has become increasingly important. This is due to the growing environmental concerns and pressures on governments and businesses to perform more efficiently as well as budgetary constraints.

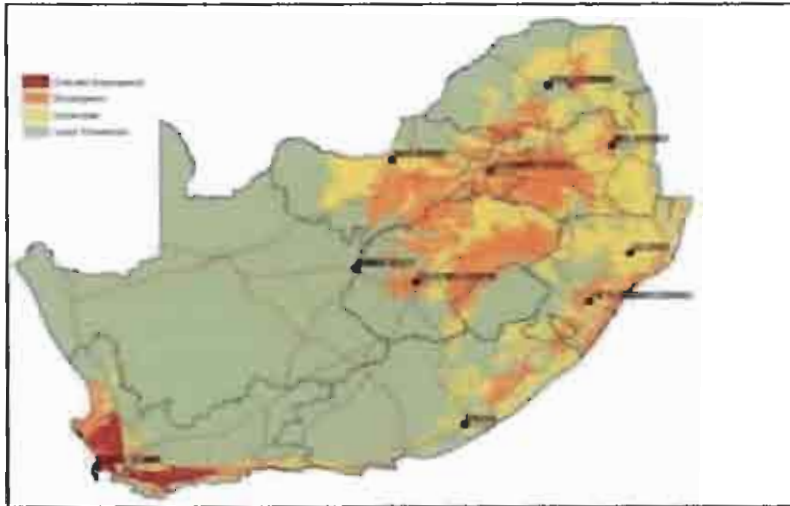
*The Spatial Data Infrastructure Act 54 of 2003* establishes the SASDI to promote co-operation and co-ordination within the public and private sectors. It also establishes the Committee for Spatial Information (CSI), which will drive the initiative. The main objectives of the SASDI are:

- to promote access to spatial information,
- to promote flow of information,
- to allow for the integration of different data sets, and
- to avoid duplication of capture.

GIS can be defined as any system that manipulates spatial data thus Geographic Information System. The scheme maps A and B sheets therefore are also a GIS as they allow for record keeping of spatial data. Now it is possible to keep similar kinds of data in layers that can be placed over each other graphically, then link the text type data (the scheme document) to this and make any combination of this available to every person in the organisation (Planning Mail, February 2005, 3).

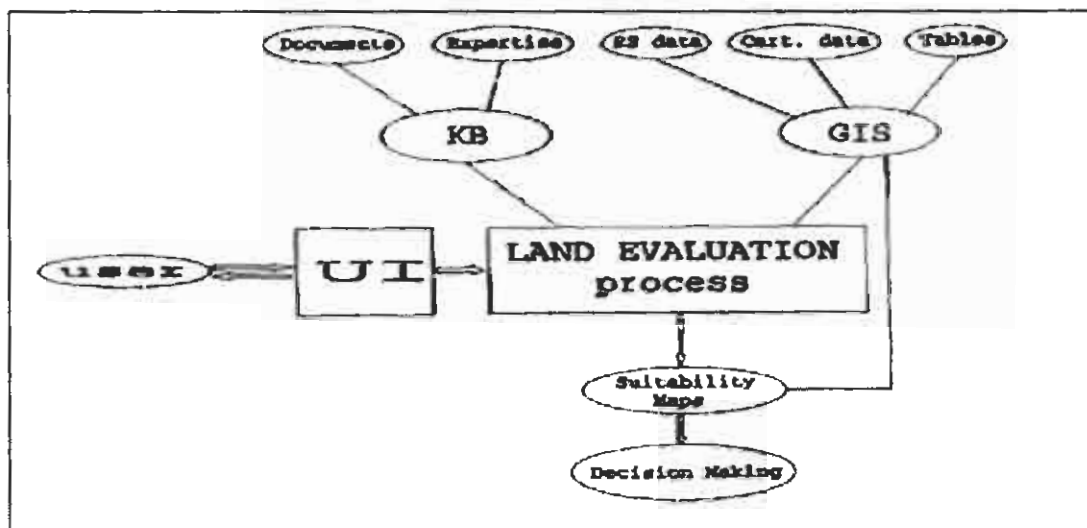
Geographical Information System (GIS) technology provides municipal governments with extraordinary quantitative and qualitative benefits. In fact, the technology can be the basis for revolutionizing how government processes work including producing geographic information like figure 5 below depicting the state of South Africa's Ecosystems and other land uses.



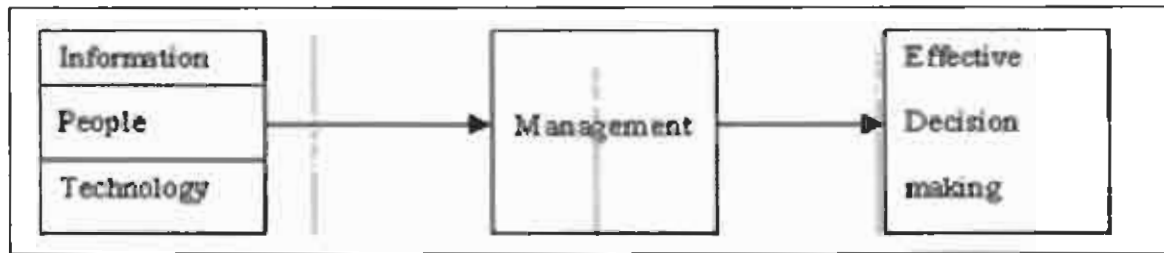


**Figure 5:** New Spatial Information on the State of South Africa 's Ecosystems (Planning Mail, May 2005: 1).

Effective land information is of particular importance to developing countries like South Africa. They are the ones who are in the dire need of Land Information System to prevent wastage of their scarce land resources. The cost of introducing new system is high and the availability of skilled manpower is almost non-existent. The challenge is to produce better land information to support better land policies. This is depicted in Figure 6 and Figure 7 below.



**Figure 6:** Relationship between Land Use Management and GIS (Amarsaikhan,& Gorte,1992: 56).



**Figure 7:** Land Information Management Systems (LIMS)(Amarsaikhan,& Gorte, 1992: 56).

## 2.8. Land use management in relation to traffic and parking

In Johannesburg and other cities in South Africa which have traffic congestion problems in the central areas, such really only occurs during the peak flow. Cape Town with its many narrow streets is an exception and a peculiar case all of its own. The peak flows occur for an hour in the morning and an hour in the evening. During the remainder of the day the streets of Johannesburg easily cope with the traffic. Before 7 a.m. and after 6 p.m. the streets of Johannesburg are very quiet indeed. This obviously suggests staggered hours of starting for various business groups (Crows and Prince, 1990:4).

Under large city conditions, such as Johannesburg, railway transport is by far the lowest in cost, it is the fastest during peak-flow periods and it is the most comfortable. Instead of being under nerve strain, the worker can relax and rest or read his paper in comfort. Public road transport is also much cheaper than the motorcar. It is slower on long distances but it is more comfortable and often transports nearer to the place of work, although it is farther from the home. At Boksburg may be seen a large open space at the railway station, where people leave their cars under the trees and travel in comfort and relaxation to Johannesburg daily. The trip by car takes twice as long during peak traffic flows; it is uncomfortable and a continuous nerve strain and costs about ten times as much. On a mileage basis there is no form, other than cycles, of moving persons that can complete at anywhere near the low cost of railway transport (Floyd, 1996:103).

Attempts have been made to seek a solution by making each use provide for the parking requirements it generates. Such an approach may sometimes be successful

in suburban, shopping centres or in dense flat-use areas but it obviously cannot be used in town central business areas where land values are so high such as in large cities. It is therefore an approach, which can only solve the parking problems where they really do not exist as serious ones. Under certain circumstances it may be used for middle-sized towns to relieve parking and provide greater convenience by permitting more cars to be parked near to their destination. Its value under such circumstances is mainly in connection with long-term parking (Floyd, 1996:107). This is the experience in Vereeniging where such an approach is made in the town planning scheme.

In Vereeniging for example, the circumstances are more favorable than in most towns of such a size because back access to erven is provided 'and erven are very deep. This mixes up long-term parking and transport of goods but seems to offer some benefits to long-term parkers. A study and report on Hillbrow, (Johannesburg, 1981: 26) conducted by the city engineer's department, reveals that among residents there is one motorcar per two flats. On a basis of approximately two persons per flat this means one car per four persons. The central business area of Johannesburg comprises building blocks of erven measuring about 200m<sup>2</sup>. Even if the provision is much reduced this approach cannot be of practical value in a central business area of a city. Where there is back access and the provision only required for a limited number of persons employed on the premises, which are group (i), it has value as a limited relief measure. In the case of the worst of the uses for group (i), which are offices, it is found that owners of their own free will usually provide a measure of parking for persons employed in the building. It is therefore not recommended that this approach at relief be attempted in central business areas, but that it be used in areas of dense flat development and at suburban shopping centres.

## **2.9 Conclusion**

Experience shows that wire-pulling takes place just as with Councillors. The decisions made by the Administrator on land use matters without the local knowledge of the local authority are likely often to suffer because of this lack of knowledge. It is therefore entirely wrong to clutter up the provincial administration



with details of a local character. This is a complete negation of local government. If land use matters can be done better by the province, then all local matters can be administered better by it and there would be no need of local government, hence the need to establish uniform Land Use Management System within local municipalities.

Generally it may be said that the method of zoning in South Africa gives greater certainty to the future of property than does the method in England. Where the procedure as first envisaged in the ordinance is, however, broken down, as in some provinces, greater certainty is lost.

In conclusion, it may be stated that if provincial control of procedure in the preparation of town planning schemes is to continue all the ordinances in South Africa, it should be revised to provide a sound and just procedure and method of control in terms of the modern democratic advances in the country which are far beyond that of the old colonial days with their despotic or benevolent dictatorial governors. Apart from this, when it is considered that town planning schemes and town extensions or townships are but a part of planned town development, it is strange if local initiative is curtailed in these matters but not in others of town development.

Town planning schemes form the foundation for all planned development and should therefore not be tempered with by provincial authority without consideration for all other planned development which arises on the foundation of the said schemes developed by local municipalities, in this case, Midvaal, Lesedi and Emfuleni local municipalities within Sedibeng district area discussed in the following chapter.

## **CHAPTER 3: ANALYSIS AND EVALUATION OF SEDIBENG LAND USE MANAGEMENT SYSTEMS**

### **3.1 Introduction**

Since the end of World War II, urbanization in developing countries has accelerated greatly, with an increasing proportion of the urban population in each country concentrating in the large urban agglomerations. Sedibeng has been no exception. Since the turn of the twentieth century, Sedibeng has grown phenomenally, both demographically and in spatial terms. In the first part of this chapter, the historical patterns of population and a real growth will be analysed. The second aspect is to examine the district's economy, focusing in particular on manufacturing industry and services (commerce and financial services) and on the implications of the deterioration in Sedibeng's economic situation in the past 15 years or so. Changes in the political and administrative structure are then described and their implications for urban land use management are mentioned. The problems of urban land use management are taken up again in an analysis of the most important elements of infrastructure and the built environment: transportation, environmental sanitation, and housing. The demands posed by haphazard land uses, attempts to deal with them, and constraints on successful approaches are examined.

The primary purpose of this chapter therefore is to identify which policies would have an impact on Sedibeng District Land Use Management System (LUMS) as a whole and an Integrated Zoning Scheme in particular. Through the analysis process, gaps in the policy environment relating to land use management and weaknesses in the current policy analysis will be identified. A secondary purpose of this process is that it brings together into a compendium or omnibus, a number of policies that exist and impact on the Sedibeng District Municipality.

Comments received on this analysis process will also feed into the Land Use Management System formulation process. Policies and by-laws that will be included in the analysis essentially impact on principles relating to land use management in the following areas:

- Environmental protection;
- Local area character preservation/enhancement; and
- Economic investment promotion;
- Promote spatial restructuring with regard to the following:
  - Location of non-residential investment;
  - Location of subsidised and public-housing;
  - Densification;
  - Corridor development;
  - Urban edge protection; and
  - Protection of natural and agricultural resources.

The analysis also includes a number of recent by-laws that have not been promulgated yet, but that as it was felt that these would in all likelihood be promulgated they have been included. The decision to include or exclude policies from the analysis is not an arbitrary decision taken, but a consultative process with officials, sometimes officials responsible for drafting or managing the policies themselves might decide which policies should or should not be analysed. This document therefore represents a first draft and whereas it attempts to be as comprehensive as possible, it will be submitted with inter alia a view to ensuring that all relevant policies have been considered.

### **3.2 Challenges**

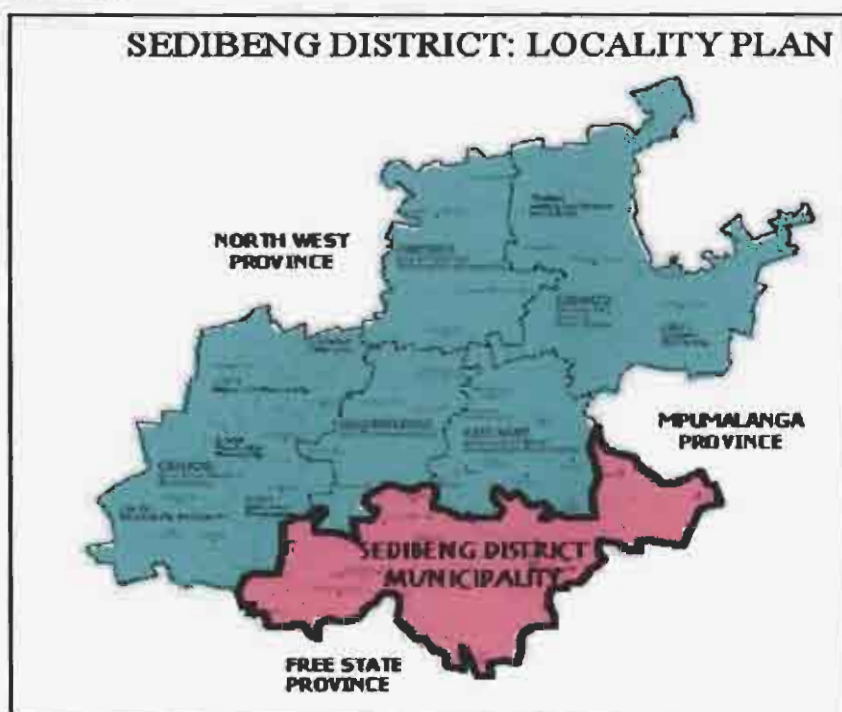
This section will discuss the challenges of integrated land use management within Sedibeng district area as follows.

#### **3.2.1. LOCATION AND DEMARCATION**

As far as regional context is concerned, Sedibeng is situated away from the hub of economic activity in Gauteng. The Vaal Triangle [Vanderbijlpark, Vereeniging and Sasolburg] is associated with the production of steel and fuel [Iskor and Sasol], as well as other types of heavy and noxious industrial activities. The rest of Sedibeng's contribution to the region lies primarily within the agricultural sphere (Gauteng SDF,

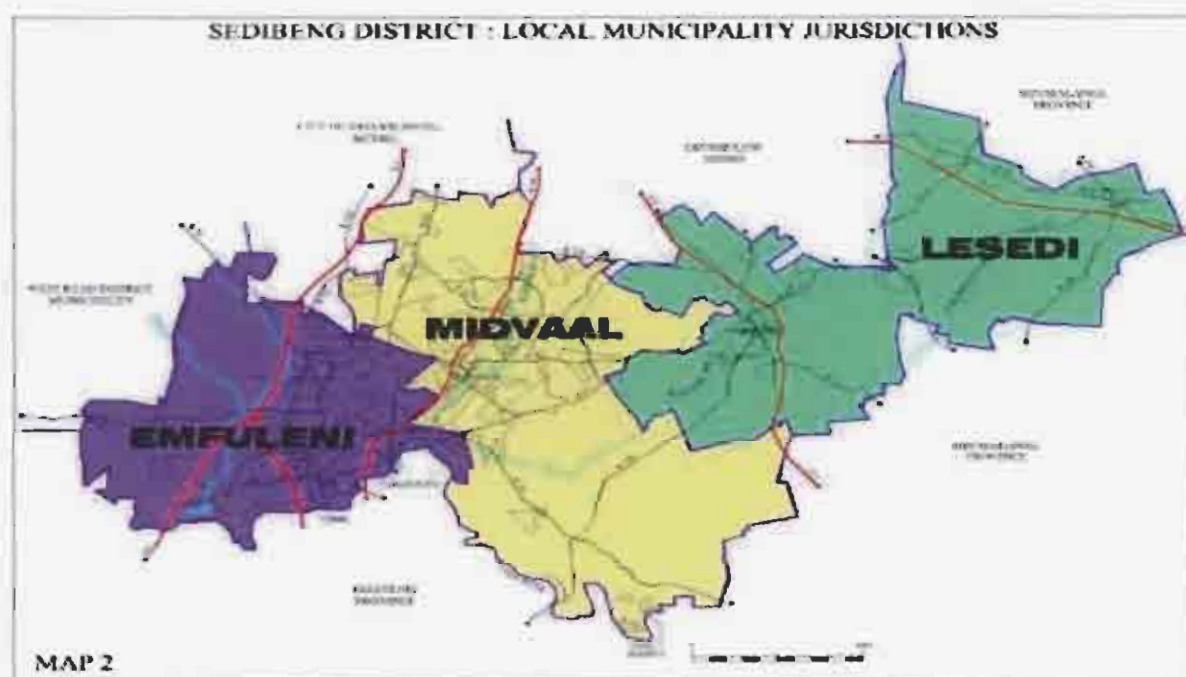
2000: 10). The Sedibeng District Municipality is located on the southern edge of Gauteng and consists of three local municipalities, namely Lesedi, Midvaal and Emfuleni (Gauteng SDF, 2000: 13) as indicated in Figure 8 below.

Despite a number of crises that saw disputes about membership, the setting of interim tariffs, renewed boycotts, and sporadic outbreaks of violence in the townships, Sedibeng was managed by September 1999 to reach agreement not only on the formation of a Transitional Metropolitan Council (for Greater Lekoa Vaal) but also on the realignment of the municipal boundaries of its current constituent municipalities into three new local municipalities. They were designed to serve as the base for the first democratic local authority elections in November 2000, after which the Sedibeng District Municipality became the supreme district authority. In August 2000, the boundaries were again reorganized and reduced to the three locals that were used in the November 2000 elections. In essence the municipality of Sedibeng has been slashed and linked to formerly peripheral municipalities as shown in Figure 9 below.



**Figure 8:** Location of Sedibeng to the rest of Gauteng (Gauteng SDF, 2000: 14).

Parts of "old" Lekoa Vaal are now part of the enlarged municipal areas of Vanderbijlpark and Vereeniging, with the Black township of Evaton, Sharpeville and Sebokeng being incorporated with the latter. The manner in which the boundaries have been drawn is such that virtually every new municipal area includes a mixture of old political groupings as well as areas of "haves" and "have nots." The new boundaries mean that a significant number of depressed areas, black townships, and informal settlements now fall within and have become the responsibility of essentially white-contributing tax bases (Sedibeng SDF, 2004: 7).



**Figure 9:** Sedibeng District Local Municipality Jurisdictions (Sedibeng SDF, 2004: 10).

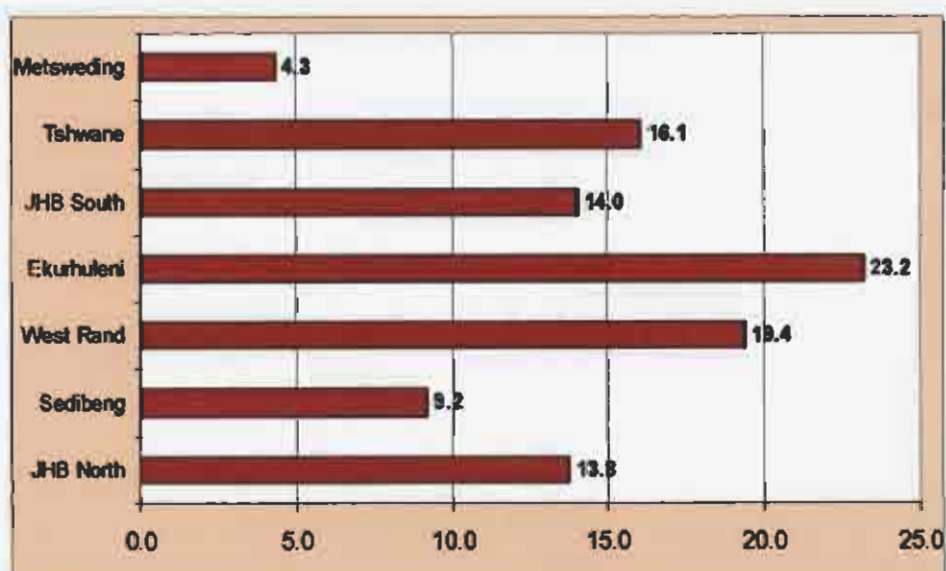
The challenge for the immediate and foreseeable future land use management is how to meld the disadvantaged and advantaged parts of the district area into a functional whole, while uplifting the underdeveloped areas but retaining the ability to draw sustainable taxes for the common fiscal base from the more developed areas. Not only will resolution of the "give me" demands be difficult but the creation of a non-racial urban texture will be slow. In the foregoing text, some indication of the spatial marginalization and the both relative and absolute differences between less developed and former white areas has been given. It is now necessary to provide a



little more of the contemporary detail that relates to key geographic areas and aspects of the job market in the formal sector. Thereafter it will be possible to highlight some aspects of the specific land use management frameworks and strategies that are on the drawing-board to satisfy the political challenges that are a prerequisite to a peaceful racially integrated district area.

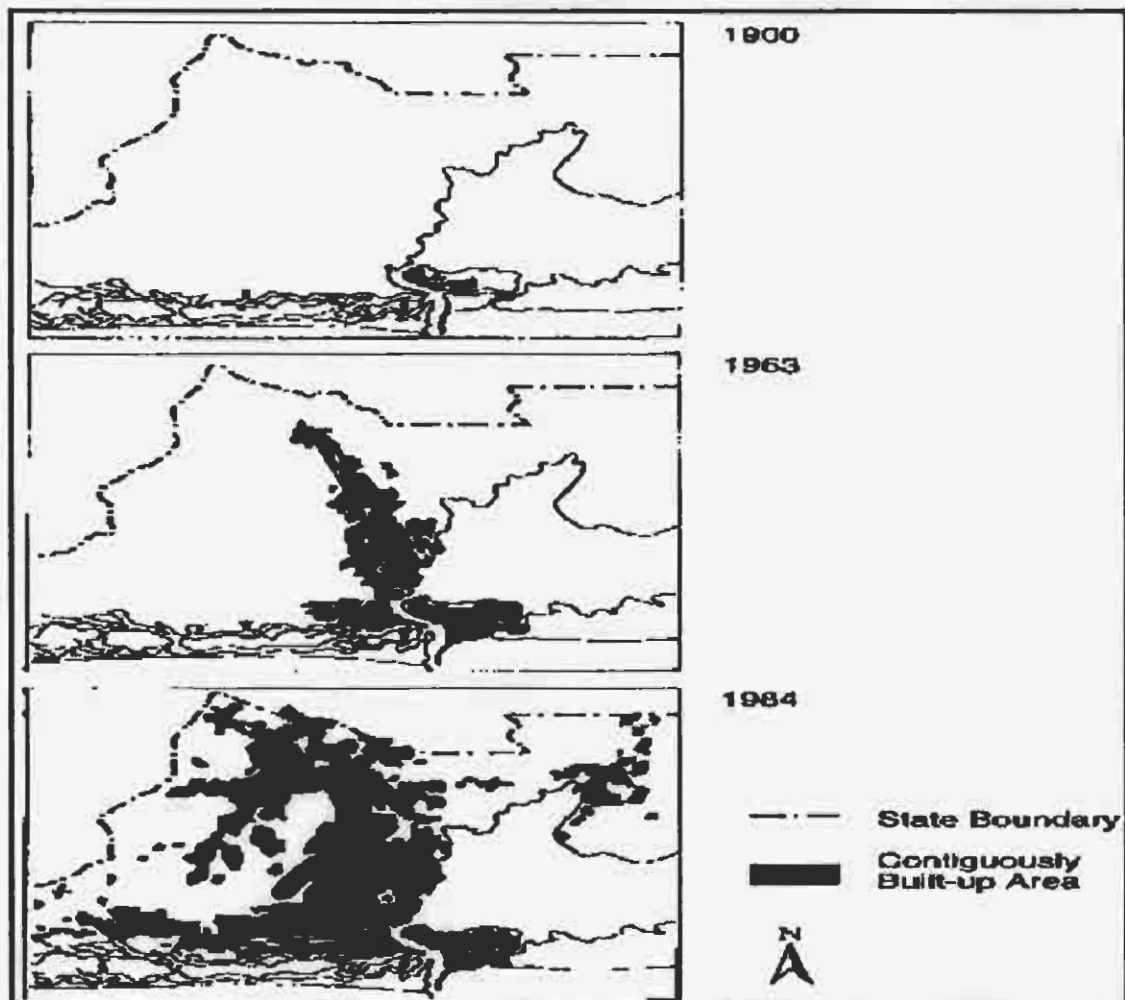
### 3.2.2. DEMOGRAPHIC INFORMATION

The absence of uncontroversial population figures makes a comparative demographic discussion of urban centres in Gauteng difficult. Nevertheless it is accepted that Sedibeng is now the largest district, followed by Metsweding and West Rand, probably in that order. A number of factors have combined to account for the pre-eminence of Sedibeng District in the Gauteng urban system. However, According to Gauteng Transport Study (2005: 20) conducted by Gautrans, Sedibeng's population is lying at 9,2% of the Gauteng's population as shown in Figure 10 below. The growth pattern on land between 1900 and 1984 is depicted in Figure 11 below.



**Figure 10:** Incremental population by municipality in Gauteng (Gauteng Transport Study, 2005: 21).

According to the 2001 census, the total population of Sedibeng is in the region 795 000 people, of which  $\pm 658\ 000$  [83%] reside in Emfuleni,  $\pm 65\ 000$  [8%] reside in Midvaal, and  $\pm 72\ 000$  [9%] reside in Lesedi. Unemployment is high, with  $\pm 87\%$  of the total population earning less than R3500.00 per month. A relatively large number of people residing within the district work in Johannesburg and Ekurhuleni. Most of the employed people [ $\pm 20\%$ ] are active within the manufacturing sector (Census, 2001: 31).



**Figure 11:** Growth of the built up area of Sedibeng District, 1900-1984 ( Gauteng Urban Edge Study, 2003: 23).

The district experienced a population growth of  $\pm 77\ 000$  people in the five years between 1996 and 2001, at an average annual growth rate of  $\pm 2.06\%$ . Midvaal Local Municipality experienced the highest population growth rate [ $3.93\%$  per annum],



while Lesedi Local Municipality experienced the lowest growth rate [1.56% per annum] as shown in Table 2 below.

AREA	TOTAL POPULATION 1996	TOTAL POPULATION 2001	GROWTH: 1996-2001	ANNUAL GROWTH %
Emfuleni	597948	658422	60474	1.95%
Midvaal	53305	64644	11339	3.93%
Lesedi	66219	71533	5314	1.56%
Sedibeng	717472	794611	77139	2.06%

**Table 2:** Sedibeng population growth 1996-2001 (Census, 2001).

### 3.2.3. ACCESS TO APPROPRIATE INFORMATION AND TECHNOLOGY

Unfortunately, for many critical land-management situations in Sedibeng, the needed information either does not exist or is not available in a usable form. A primary reason for the lack of basic information is the difficulty of obtaining access to the technological tools needed to collect and analyze information. Tools and scientific methods for evaluating the information needed to make land-use and development decisions already exist, but they are not uniformly available in all parts of the district. In the case of Emfuleni local municipality, the funds to acquire the technology are insufficient; in the case of Lesedi local municipality, the infrastructural and educational base to support the technology after it is acquired is inadequate. The need for land-use planning tools like remote sensing increases with decreasing resource quality; at the same time, the low productivity on marginal lands makes the evaluation technologies and the training needed to use them less affordable. The lack of a timely response to a known problem may be as serious as the lack of early warning of an unknown problem. Frequently, only incidental use is made of the tools available, which results in limited and inadequate land-use planning and management. In such cases, long-term observations on the state of the environment will be scarce. Using indicators of sustainability to monitor the use of resources is essential for assessing the effectiveness of policy measures and the resulting land-use management.

In the case of Midvaal local municipality for example, the needed information is available. GIS GLOBAL IMAGE (PTY) LTD have been appointed by Midvaal Local Municipality to compile an integrated GIS. Essentially the process has five major components. Each as important as the next and together can be seen as the building blocks of Midvaal Local Municipality's GIS. The first phase gets underway with investigating the environment within which geo-information exist. During this phase a viewer as well as a status quo report has been compiled with all the existing information and datasets for the new demarcated area. The second stage consisted of sourcing legal information from the Deeds and SG offices. The third phase was to compile a base GIS that will have at its core accurate, legal cadastral information. The fourth phase was to match the treasury information with the updated cadastral information. The last phase was data dissemination that happens right through the process, using viewer technology to its fullest potential.

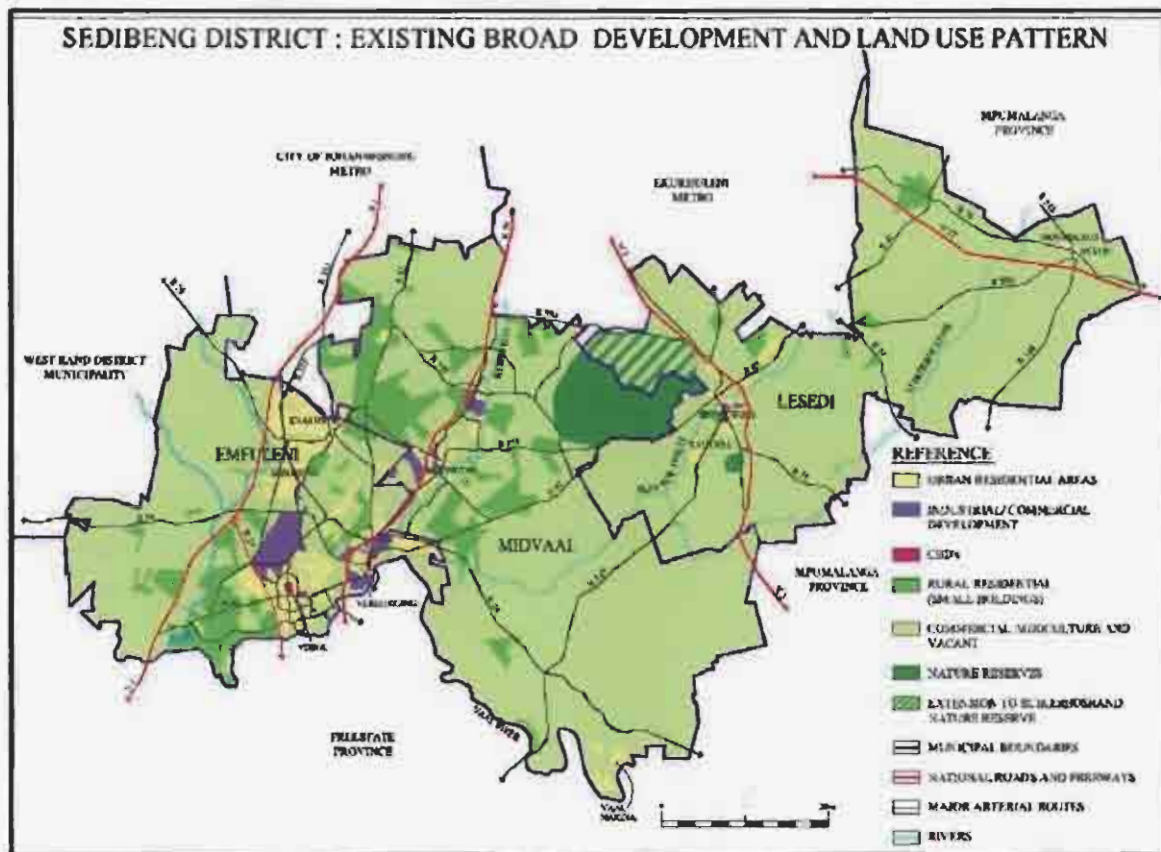
Effective transfer of specific technologies and knowledge from one municipality to the other is hampered by the lack of common methods and definitions for basic land properties, such as soils, climate, land uses, and types of land cover. This has brought weaknesses in institutional infrastructure. We can learn a great deal about land use, but the dissemination of this information has not kept pace in Sedibeng. The reasons for this include the lack of adequate transfer mechanisms, the limited use of existing mechanisms, and the lack of communication and cooperation between agencies responsible for different aspects of land use.

Therefore, lack of cooperation and communication between local municipalities may lead to duplication of effort and waste of resources. Inadequate institutional mechanisms for transferring information about market conditions and business opportunities may be as damaging as a lack of information about land use management. Without a two-way transfer of information, extension services are unable to create the required link between the investor's needs and the research findings.

### 3.2.4. INDUSTRIAL AND COMMERCIAL LAND USES

Following the 1976 uprisings in South Africa, the state was determined to "move" its problems away from the white metropolises as soon as possible. Consequently the early 1980s saw the introduction of a more vigorous programme of regional industrial development (known as the RIDP), of which the intention was to drain industry, notably from the core of the Gauteng, to a host of peripheral growth points (Gauteng SDF: 2000: 15).

As far as existing development is concerned, the Sedibeng district can be described as a primarily rural area, with some urban concentrations, notably in Emfuleni [the Vereeniging or Vanderbijlpark area, with the Sebokeng/Evaton area to the north of it]. Meyerton and Heidelberg/Ratanda are lesser urban concentrations situated respectively within Midvaal and Lesedi. Industrial activity is concentrated mostly around Vanderbijlpark, Vereeniging and Meyerton, with Iscor and Samancor the main industries. The outlying rural areas are mostly utilized for commercial agricultural purposes. A large number of agricultural holdings and small farms are located within the study area, especially within Midvaal and Emfuleni. The broad development pattern in the district is indicated in figure 12 below (Sedibeng SDF, 2004: 22).



**Figure 12:** Existing broad development and land use pattern (Sedibeng SDF: 21)

The economy of the district is dominated by manufacturing, which contributed  $\pm 32\%$  to the local economy during 2001. Manufacturing in the district is dominated by the fabricated metal and the chemical sectors [Iskor and Sasol]. The manufacturing sector will remain the dominant economic sector in the district in the foreseeable future. The local economy has been stagnating for a number of years, with a net loss in formal job opportunities. Economic sectors, which do present opportunities for further local development and economic growth, include agriculture and tourism. (Sedibeng IDP, 2003:17).

Industry in Sedibeng takes up a relatively large amount of land, which demonstrates the significance of industrial activities, especially in Emfuleni. These industrial activities are mainly around Vanderbijlpark and Vereeniging and relate to the steel and petro-chemical industries. There is also a line of industrial activity along the R59 motorway from Kliprivier to the Meydustria area. The most important industry in this area is Samancor. Most of the industries in the Meyerton/Vereeniging/Vanderbijlpark



area are heavy/noxious industries and thus potentially have a high environmental impact on the residential areas in the proximity. This growth of industrial/commercial development is along the R59 corridor north of Meyerton as shown in Figures 13 and 14 below.

The building shown in Figure 13 below is located on Portion 60 of Holding 364IQ along the R59 Corridor and was zoned "undetermined", so its decay has been recently removed as the building has been rezoned, renovated and provided with sufficient parking at a ratio of 4 bays per 100m<sup>2</sup> for a warehouse in terms of the Peri Urban Areas Town Planning Scheme, 1975 and in accordance to the R59 Development Framework. In a court case between the owner of this property (Boiler Efficiency Services. PTY. LTD) vs Midvaal local municipality, certain industrial rights are being utilized for a boiler business, the court granted an interdict restraining the use of the site as a coal yard. Use of coalyard would result in accompanying risks of pollution and nuisance caused by dust.

Samancor industrial site shown in figure 14 below is also located on the R59 Corridor in which it contributes to the total area taken up by industrial/commercial land uses in the district amounting to ±3 920 ha. [0,8% of the total area].



**Figure 13:** Industrial development abutting the R59 Corridor (Mphahlele, 2005: 44).



**Figure 14:** Samancor industrial site also fronting onto R59 Corridor (Mphahlele, 2005: 45).

Another development fronting onto R82 is shown in Figure 15 below. The development has been legalized in terms of Section 6(8) of the Division of Land Ordinance 20 of 1986 to subdivide this land into two portions of 10795m<sup>2</sup> and 9985m<sup>2</sup> with access permitted on the provincial R82 Corridor. In a court case between the owner of this property (Knob motors CC) vs Emfuleni local municipality, the court indicated that if the purpose was to retain the specific character of a neighborhood, the municipality has the duty to ensure that there is no deviation from the general purpose of the town planning scheme. In making a decision the local authority has to weigh up the potentially conflicting interests of applicant owners, neighboring owners and the local authority itself, and in doing so it must make a



**Figure 15:** Commercial development fronting Jan Smuts Avenue, Vereeniging (Mphahlele, 2005: 45).

The purpose of this analysis is to show that access cannot be permitted to both National and Provincial roads, but in this case, rights permitted by Midvaal Local Municipality in so far as access control is concerned are more enforced than at Emfuleni Local Municipality.

### 3.2.5. BUSINESS PROBLEMS AND OPPORTUNITIES

Retail/business is mostly concentrated in and around the existing CBDs of Vanderbijlpark, Vereeniging, Meyerton and Heidelberg as well as some suburban shopping centres. The CBDs of Vereeniging and Vanderbijlpark show significant signs of urban decay and are in need of urban renewal initiatives. The Vaalgate Shopping Maal at Vanderbijlpark indicated in Figure 16 below, was improved as a matter of urgency in which the total project has cost  $\pm$  15 million rands and has made the CBD more attractive and increased property values. This land use makes out only  $\pm$ 1% of the total area of the district.

Not only did the demand for labour fall some 2 per cent shy of the 4.5 per cent growth in the economically active population between 1985 and 1989 (DBSA, 1991:51), but the major loss of jobs was in manufacturing. The significance of these data helps to explain the surge in informal sector participants who operate not only in the Black townships but in overwhelming numbers in the central business areas of Sedibeng. In 1979/80 a survey of hawkers operating in the "defended space" of the white CBDs of Sedibeng revealed a total of between 200 and 250 (Rogerson, 1993: 70). Recent estimates by the municipality put the current number at 15,000 (Rogerson, 1993: 71), with some 5,000 in the central local municipality areas. This is as a result of absence Street Trading By-laws or lack of enforcement thereof.





**Figure 16:** Improved Vaalgate Mall of Vanderbijlpark CBD (Mphahlele, 2005: 47).

As such, many new commercial developments tend to seek premises not only in the low-density northern suburbs, but also in the distant and affluent suburbs of the "new" south, which are predominantly occupied by white people as shown in Figure 17 below. In a court case between the owner of this property (Uys) vs Emfuleni local municipality, the court indicated that the respondent, a medical doctor, owned the property which was zoned for special residential use, but he used the house solely as consulting rooms for his medical practice. Appellant applied for a declaratory order that this use was wrongful and therefore unlawful. The court examined the use to which the house was put and indicated that if it were used for the purposes of a profession, a strong possibility existed that the property would undergo radical change in character. Consequently the exclusive use of the property as consulting rooms was prohibited. The purpose of a use restriction (essentially zoning) is to create a residential area in a certain part of a town to preserve its characteristics and appearance.

This development has been erected in terms of Clause 31 of Vereeniging Town Planning Scheme, 1992 for the council to consent the establishment of dwelling house offices. Consequently, it can be argued that there is a current tendency to replicate a form of residual de facto segregation. To determine whether the use to

which the land is being put contravenes the legislative provisions, the question in whether viewed objectively, such alleged infringing use is legitimately part of or incidental to the use permitted in the scheme. Any use of property which in no ways affects the coordinated and harmonious development of the area is not a contravention. By way of illustration, four "problems" are highlighted here.



**Figure 17:** Dwelling house office fronting onto Barry Hertzog Ave: Three Rivers, Vereeniging (Mphahlele, 2005: 48).

- Firstly, those seeking respite in the informal sector have seen its numbers grow, and their activities on the congested pavements of the central area have prompted additional flight of formal businesses and jobs from the CBDs mostly of Vereeniging and Vanderbijlpark;
- Secondly, the demand for accommodation of at least a minimally acceptable standard for a growing population of homeless people on the periphery of the district area has increased;
- Thirdly, the opportunity of developing a stable middle-income group of apartment dwellers and owners employed in the CBD and living in the inner residential zone has been lost; and
- Fourthly, the open space "buffer" between the former whites-only and blacks remains not only a hindrance to economic integration but open and sufficiently derelict for it to be lost in an invasion of informal housing before it can be used more constructively in the redevelopment and healing process that is now under way.

### 3.2.6. HOUSING

The repeal of the Group Areas Acts in the early 1990s, almost four years before the general election, did little to stop the rot and improve the living conditions of the new inner-city residents, notwithstanding that access to all facilities was available to all people. By then the building stock had deteriorated to such an extent that lending institutions had implemented "red-lining," thereby in effect preventing new inner-city owner-occupiers from emerging (Crankshaw & White, 1994:35). Now in the case of Sedibeng, although the inner-city residential areas, with 45 per cent Black residents, 20 per cent Coloured, and 14 per cent Indian more closely represent the demographic profile in part of the country, they have become a zone of physical blight, which in turn makes the "besieged" central business district distinctly unattractive to retail businesses (Dauskardt, 1993:20).

Against the backdrop of the preceding remarks, it should be clear that the need for, and, since April 1994, the expectations of, acceptable formal housing for some 2 million shack and informal settlement people, representing 23 per cent of the Gauteng population and some 43 per cent of the region's Black population are high. Furthermore the needy expect housing to be provided by the "new" government (Crankshaw & White, 1994: 37).

Although only minor pockets of informal housing had sprung up on the vacant land by late 1994, the possibility of a major land invasion remains. It is to a slightly more detailed consideration of some of the matters just mentioned that attention now turns. In so doing, the setting for the consideration of the future will be completed. Despite various attempts by the state to put a stop to "graying," the process of ethnic transformation in the inner-city residential areas continued (Hart. 1989: 86)

Given that they were "illegal" residents in an area reserved under apartheid legislation for white people, the poorer of the new arrivals soon fell victim to unscrupulous landlords. Rack-renting became common but, because the tenants



were black, they were unable to seek legal respite, because in the eyes of the "law" they were first and foremost "illegal" residents in the "wrong group area." The net result over several years was overcrowding of inner-city apartment blocks as additional "sub-tenants" were brought in to assist those already there in meeting escalating rentals per unit. According to Cloete (1991: 59), what has followed in recent years is deterioration of the inner-city apartment stock and the emergence of new "slums" populated by poor, underemployed, and unemployed black people.

In Sedibeng, the accommodation crisis, for those people then still excluded by apartheid laws from the white space, manifested itself in an increasing number of backyard shacks and shack settlements in the relatively rural area on the immediate periphery of the district. By 1990 the number of people living in informal settlements in the Gauteng had reached 377,000. In addition there were about 1.2 million people living in some 422,000 self-built backyard shacks in the formal Black townships, together with a further 700,000 living in formal brick-and-mortar outbuildings. The total area of residential development is  $\pm 13\,392$  ha, which makes up  $\pm 2.9\%$  of the total area in the district. (Urban Foundation, 1991: 37).

Many of the informal settlements beyond the black township boundaries were established on land that is on the periphery of the formal built-up area of the district. Under the apartheid regime, white people and their public bodies, including municipalities, owned private land. Conflicts inevitably arose when land was illegally occupied and were resolved only when squatters were evicted or compensation was paid. One of the grounds for eviction was that shelters did not accord with the building regulations applicable to the occupied land (Latsky, 1991: 103).

Municipal services infrastructure in the district is located mostly within the urban areas. Some infrastructure backlogs exist, especially within the previously disadvantaged township areas. Inadequate maintenance of existing infrastructure is a problem, especially in Emfuleni, leading to problems such as sewerage spillage into natural watercourses. As far as the outlying rural areas are concerned, these rely almost exclusively on borehole water and septic tanks/pitlatrines, while Eskom provides electricity. (Sedibeng Water Plan, 2003: 16).

Since 1991 it has been possible for groups of people who legally occupy peripheral land, under whatever agreements, to erect self-help housing that is now legal under the specifications contained in the Less Formal Township Development Act promulgated in 1991 as shown in Figure 18 below.



**Figure 18:** Evaton site with services (Mphahlele, 2005: 50)

As far as housing demand is concerned, there are still a number of homeless people living in informal settlements throughout the study area. The total housing backlog is estimated at approximately 52 000 units, of which  $\pm 34\,000$  are needed in Erfuleni,  $\pm 15\,000$  in Lesedi and  $\pm 3\,000$  in Midvaal (Sedibeng MHDP, 2003: 20). Community facilities tend to be clustered within the existing urban areas. Except for some farm schools, the outlying, sparsely populated rural areas do not have community facilities. Substantial backlog exist in the provision of some community facilities (Sedibeng IDP, 2003:14).

Against the decay of houses close to the CBDs, development of Erf 307, 308 and 309 Vanderbijlpark South East 2 shown in figure 19 below, has been rezoned and improved in terms of Section 56(1)(b)(i) of The Town Planning and Townships Ordinance, 1986 from Residential one (1) dwelling per erf to Residential 3 (flats). The three stands were consolidated and notarially tied.



**Figure 19:** White residence in Vanderbijlpark improved to multiunit apartment (Mphahlele, 2005: 52)

### 3.2.7 AGRICULTURE AND OPEN SPACE

As far as the natural environment is concerned, sensitive environments within the study area include the grassland biome, the Suikerbosrand and Alice Glockner Nature Reserves, the various rivers, watercourses, pans and dams and the ridges and koppies in the district. Pollution, especially air and ground water pollution from the heavy industries in Emfuleni and Midvaal, is a serious problem within the study area. (Sedibeng Water Plan, 2003: 18).

Lack of long-term land tenure or lack of the technology needed to determine and assign land tenure can lead to land degradation by users who have no incentive to improve or conserve resources for the future. The concentration of population in urban areas around Sedibeng has the advantages of increased efficiency and reduced costs for social and physical infrastructure, but the expansion of urban areas also has a direct effect on the adjacent environment (SDOSS, 2005: 13)



The situation is particularly difficult if the local or regional soil and climate are too poor to guarantee profitable and sustainable use of external inputs in agriculture and a low supply of qualified labour and other economic conditions hinder the creation of nonagricultural employment, such as in desert margins and semi-arid regions. Public investment to support sustainable land uses may be the most cost-effective formula for maintaining the functions of ecosystems in marginal regions and avoiding migration and the accompanying social and economic problems (SDOSS, 2005: 14).

Commercial agriculture takes up the largest area within Sedibeng district and makes up  $\pm 33\%$  of the total land usage. Agricultural activity in the district is dominated by large-scale commercial farming operations [crop production including maize, grain, sorghum, wheat, soya and dry beans, ground nuts, sunflower seeds and vegetables, and animal production including milk, beef, mutton and lamb, eggs and poultry]. Sedibeng is a very important resource to Gauteng in terms of food production, and this fact should be taken into consideration in the spatial planning of the area (Sedibeng SDF, 2004: 33).

The performance of the agricultural sector is very dependent on climatic conditions and may fluctuate from year to year. The agricultural sector does however present opportunities for downstream economic activities and job creation in terms of further processing of agricultural produce [eg. Karan Beef, Eskort, Floracadia, all of which are growing concerns within Lesedi]. See Figure 20 below.



**Figure 20:** Sedibeng District fresh produce market with agricultural land on-site (Mphahlele, 2005: 53).



However, conflicts inevitably arise between interest groups that have different goals for and perceptions of land use. For example, urban and industrial development often requires land that is extremely valuable for agricultural production. Many of these goals are interrelated, and obviously they overlap. According to the National Ministry of Agriculture and Land Affairs (2005: 13) decision support system indicates that there is ±98000ha of developable vacant land situated in Sedibeng District. ±4900ha of this developable vacant land is situated within the urban edge as currently demarcated by Gauteng Province.

A more detailed vacant land audit was undertaken within the urban edge as part of the Sedibeng SDF exercise, based on 2001 aerial photography augmented by physical site visits. In terms of this, more detailed land audit, developable vacant land within the current provincially – demarcated urban edge amounts to ±6220 ha, of which 4544 ha [73%] is situated in Emfuleni, 1085 ha [17,5%] is situated in Midvaal and 591 ha [9,5%] is situated in Lesedi. Abovementioned figures indicate that there is enough vacant land within the current urban edge to accommodate substantial future urban development within the district.

The Vaalriver, which forms the southern boundary of Sedibeng District, presents a major opportunity to diversify the local economy by means of major tourism and recreational development. The area is currently underdeveloped in terms of its potential. It is interesting to note that Sedibeng has a strategic development plan for this area should be drawn up as a matter of priority. Such a strategic development plan will include, *inter alia*, the following aspects, which will assist in managing land use on this part of area:

- Detailed environmental assessment;
- Strategic development opportunities and objectives;
- Physical development plan;
- Operational and capital investment plan;
- Identification of possible investors and major role players;
- Identification of markets; and

- Formulation of a comprehensive marketing plan.



**Figure 21:** Part of Vaal river strategic development area (Mphahlele, 2005: 55).

It is interesting to note that on-consumption outlet shown in figure 21 above in the Vaal river was also a court case in which it must have special liquor license in terms of Section 23 of the Gauteng Liquor Act, 2003 and should be located within a radius of 1km from places of public worship. For certain periods, which without notice, this licence has lapsed. In order to determine whether the consent has lapsed, the court found that the purpose and intention underlying a scheme could be frustrated if no provision was made for the reapplication after the lapse of a certain period. The whole character of the neighborhood could be changed to such an extent that the establishment of a particular undertaking in that neighborhood might be undesirable and in conflict with the purpose of the scheme.

### **3.3. Conclusion**

As hinted in the opening section of this chapter, the fragmented urban land use management systems currently in place within Sedibeng have been found to be inappropriate and outdated and consequently do not respond to current and identified future development and conservation needs. The number of consents and re-zonings has increased as a result of attempts to manipulate the existing zoning schemes supported by the courts. This has resulted in administrative inefficiencies

and private sector initiatives and investments have been hampered since their primary rights are often no longer aligned with current needs.

Land use management system cannot be formulated in isolation. It must be formulated along with a valuation roll (a record of all the valuations of properties in the district), and a rates policy. These processes are inter-related and changes to one system will affect the other.

The results of the research in this chapter will assist in doing away with the political and economic complexities set up by the current zoning schemes and help remove certain restrictions and inconsistencies. These will be assisted by the empirical evidence to be conducted in the following chapter towards formulating uniform land use management guidelines.

## **CHAPTER 4: EMPIRICAL STUDY INTO SEDIBENG LAND USE MANAGEMENT**

### **4.1 Introduction**

This chapter summarizes the research design including a purposive survey within a summative research plan. Within this context, elements of research and design strategies together with grounded supports those validity issues of concern. The internal debate I had about qualitative studies includes questions regarding the validity and reliability of this research and the value of such a study in a larger context.

The burden is to justify the methodology and validity of particular evaluation or research area of interest. Emphasis is on the importance of gaining a working knowledge of both methodologies within meaningful contexts and to apply theoretical concepts to field assignments that made more sense than simply reading about experiences. After considering the context and nature of this project, appropriate method of inquiry is selected to help direct the development of specific research questions.

The writing is clear, engaging, and full of unexpected ideas. The story and findings become believable and realistic, accurately reflecting all the complexities that exist in real situation. The study is extensive, drawing on multiple sources of information such as observations (spending adequate time in the field), interviews, documents, and audio-visual materials; and employing one or more traditions of inquiry.

All the techniques described in this text are quite general; the reader has to re-interpret and tailor each survey-research method to suit the kind of activity that he/she is doing. Two forms of surveys that are very commonly used for these purposes; namely questionnaires and interviews are described. Questionnaires usually provide quantitative data whereas interviews provide qualitative data. For this reason, questionnaires are more appropriate for making statistical analysis. On the other hand, interviews establish a rather warm atmosphere for the users so the users become more enthusiastic about using/testing the interface/product.

## 4.2 Data collection and analysis

From the data collection, a detailed description of the case is done. Themes or issues are formulated and then an interpretation or assertions about the case is made. Creswell (1998: 86) defines a case study as an exploration of a "bounded system" or a case (or multiple cases) over time through detailed, in-depth data collection involving multiple sources of information rich in context. According to Creswell (1998: 87), the bounded system is bounded by time and place, and it is the case being studied – a program, an event, an activity, or individuals. Creswell (1998: 88) outlines characteristics of the case study as follows:

- The researcher needs to situate the case in a context or setting. The setting may be a physical, social, historical, and/or economic.
- The researcher needs to identify the focus of the study. It could be either on the case (*intrinsic study*), because of its uniqueness, or it may be on an issue or issues (*instrumental study*), with the case used instrumentally to illustrate the issue. A case study could involve more than one case (*collective case study*).
- In choosing what case to study, a researcher may choose a case because it shows different perspectives on the problem, process, or event of interest, or it may be just an ordinary case, accessible, or unusual.
- When multiple cases are chosen, a typical format is to provide a detailed description of each case and themes within the case (called within-case analysis), followed by a thematic analysis across the cases (called a cross-case analysis), as well as assertions or an interpretation of the meaning of the case.
- In the final stage, the researcher reports the "lessons learned" from the case.

Just as data in this study speaks for itself and emerges into themes and patterns, so did an understanding that "trustworthiness" emerges through the efforts of the researcher to provide credible, confirmable and dependable findings. Reasoning becomes self-evident when actively participating in the overall learning experience. A research oriented learning experience includes a formal and informal process of gaining, utilizing and systematically applying knowledge to an area of interest in order to make sense of the interrelationships between what one knows and what one



learns (Trochim, et al, 1992: 102). With quantitative reasoning deductive logic aspects could be integrated from multiple knowledge dimensions into program evaluation and research. There is a beginning, middle and an end to this cyclical process, which allows for the adjustment of additional information. These multiple sources addressed the internal and external validity issues of qualitative analysis that were the initial concerns of this study.

### **4.3 Sampling**

According to Creswell (1998: 93), the researcher needs to identify his/her case among a host of possible candidates. He also needs to decide whether to study a single case or multiple cases. Therefore, the motivation for considering many cases in this study is the issue of generalizability, which is not so much of a pressing issue in qualitative inquiry. Studying more than one case runs the risk of a diluted study, lacking the "depth" compared to a single case. Getting enough information to get a good depth for the case was a challenge. Furthermore, deciding on the boundaries in terms of time, events and processes was also challenging. Some cases have no clear beginning and ending points.

Formally speaking the most representative samples will be those that are randomly chosen from the population, and it is possible for these randomly selected units to be randomly assigned to various experimental groups (Cook and Campbell, 1979:7). This method intends to balance ethical and scientific concerns when it is deemed unethical or infeasible to randomize all patients into study treatments. However, there are drawbacks to the research design. The lower power and efficiency of cutoff-based designs could increase rather than decrease the complexity, duration, or expense of controlled clinical trials (Trochim and Cappelleri, 1992: 219). This means involving more people, more time, and more money.

Briefly, the sampling process was used to draw inferences about populations and to estimate the parameters of those populations. Measures of central tendency and dispersion summarize the information contained in a sample are usually provided in summary form, such as distributions, graphical and or numerical methods. Trochim

(1989: 105) say that inferential statistics are based on descriptive statistics and assumptions that generalize to the population from a selected sample. These assumptions focus on the use of continuous data and that the sample is a random representation of the population. Inferences made at large use probabilities and probability distributions.

#### **4.4 Interviews and questionnaires**

The dictionary meaning of survey is: A technique for gathering information from a large number of users (Brehob, 2001: 51). A survey can be anything from a short paper-and-pencil feedback form to an intensive interview. Surveys provide feedback from the point of view of the users. They provide information regarding users' preferences and ideas about the design in many stages of the interface development. A survey can be created and applied at any step of a user interface design process. The rationale behind this is to identify the problems as early as possible to prevent researchers from wasting time and money (Hom, 1998: 66).

In usability glossary, Brehob (2001:53) defines a questionnaire to be "a form that people fill out, used to obtain demographic information and views and interests of those questioned". Brehob (2001: 54) defines a questionnaire in a more structural way as "*a method for the elicitation, and recording and collecting information*". In this case, a semi-structured questionnaire (Attached herewith as annexure A) was compiled in order to conduct an interview to obtain the opinions of groups of persons stratified into five categories (residents, councilors, land use officials, planning consultants, and visitors). These groups were questioned about impediments being experienced in land use development, the need for them to be involved in the planning process (i.e. community participation) and also to suggest how existing land use management systems could be solved.

Not all the statistical methods might be applicable for a particular response type. For example, there is no statistical method that can analyze text open-end questions. The approach used in the study in constructing questionnaires was to keep them relatively brief and open –ended. This has been achieved by giving a multitude of



possible answers and allowing the respondent to suggest any other answers and to account for the answer being chosen or given. It was felt that an open-ended technique would provide better indication of the true perception of the problem than a multiple choice or ranking type questionnaire. This has proved to be effective in drawing out real thoughts of the respondents and has avoided potential biases that might come from another type of survey. In general, questionnaires are designed to assess aspects of usability, the validity and/or reliability of human-computer interfaces (Millen, 2000: 281).

Interviews are among the most challenging and rewarding forms of measurement. It is a popular research method because they are *flexible* and *participatory*. Interviews are flexible because the interviewer has the freedom to change some questions or the asking order of the questions according to the reactions of the users. Finally, interviews are participatory since they require both the interviewer and the participant to join in an interactive conversation (Brehob, 2001: 65). This is a big advantage when compared with the isolated effect of the questionnaires because the user shares the experience and he/she may have more tendencies to use the interface after the interview (Brehob, 2001: 68). Due to these reasons, interviews are more personal ways of gathering information from users than the questionnaires. In this case, planning consultants at Sedibeng local municipality offices were interviewed by the author whilst queuing. It was difficult to interview councilors at council offices, as they were relatively busy. The majority of the councilors did not have knowledge (as they moved from one portfolio to the other) on the subject and used unfamiliar language, which created communication barriers in the process. Most planning officials were not directly interviewed at their offices. Questionnaires were distributed to Executive Directors of each local municipality responsible for development planning who were in turn interviewed by the author. Residents and visitors were interviewed at different sites and contact was made to ascertain their relationship with the municipality. Numbers of persons interviewed are indicated in Table 3 below.

Local municipality	Area	Residents	Councilors	Land Use Officials	Planning Consultants	Visitors
Midvaal	Meyerton	10	1	1	1	3
	Evaton	10				
Emfuleni	Vanderbijlpark	10	2	1	2	1
	Vereeniging	10				
	Sebokeng	10				
	Sharpville	10				
Lesedi	Heidelberg	10	1	1	1	1
	Ratanda	10				
<b>TOTAL</b>		<b>80</b>	<b>4</b>	<b>3</b>	<b>4</b>	<b>5</b>

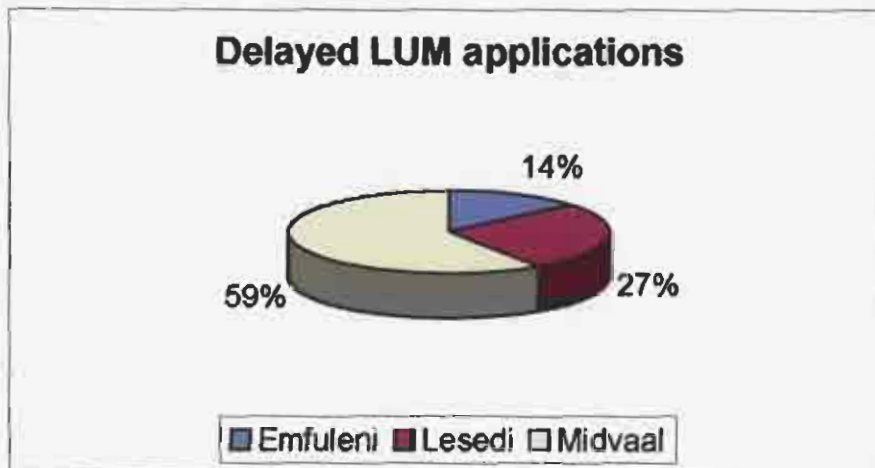
**Table 3:** Number of persons interviewed.

In total, studies were conducted at eight locations and the total number of persons is 96. The locations were chosen to illustrate particular land use planning issue or implementation strategies that had been employed. Another purpose for visiting these locations was to acquire information on the land use planning system of each area, with special emphasis on the institutional arrangements. The locations were selected based on the awareness of leads and knowledge of the land use management problems that had potential relevance to the study.

The results of the interviews and typical problems which residents of Sedibeng experience are discussed as below:

#### 4.5.1 COUNCIL PROCESSES ON APPROVAL OF LAND USE RIGHTS

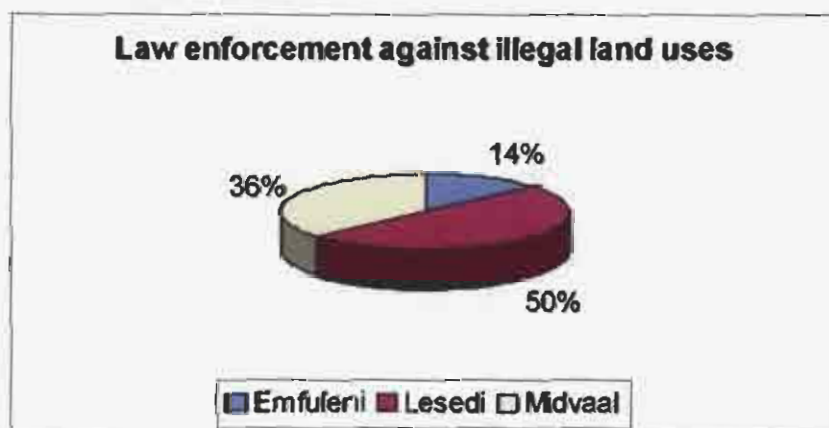
According to the survey sample, cumbersome council processes to obtain approval of land use rights, makes businesses to suffer from the situation. 14% of residents, businesspersons and consultants in Emfuleni. 59% in Midvaal and 27% in Lesedi are suffering from the situation as depicted in figure 22 below. Planning officials also feel that this is caused by lack of education especially from residents who have no town planning background and have no funds to pay the consultant for the preparation, submission and approval of land use applications.



**Figure 22:** Delayed LUM applications.

#### 4.5.2. ENFORCEMENT ON ILLEGAL LAND USES

Living in close proximity of illegal land uses have posed threat to 44% of most upper class residents in Emfuleni areas as they feel that their properties have been devaluated by the increase in low-income housing. Although most of the Midvaal areas are legal, to a greater extent, only 36% are legally enforced, while residents directly adjacent to areas like Evaton feel that council is doing nothing to obtain fruitful information on illegal land uses, and therefore there is no communication between residents and the council. 50% of Lesedi areas are illegal. Visitors feel unsafe for different reasons.



**Figure 23:** Law enforcement against illegal land uses.

It was established that lack of law enforcement on the roads causes a general lack of respect to keep the area clean. They also feel that land uses that are noxious and those compromising land values should be located where appropriate because they like to live in areas that are clean and protected. These results are depicted in figure 23 above.

#### 4.5.3 LACK OF INTEGRATED LAND USE MANAGEMENT SYSTEM

28% of Midvaal community and 28% which is equivalent to Lesedi have lack of knowledge on what LUMS is all about, including the awareness on the existence of LUMS. They know that systems exist in the local municipalities. Emfuleni community is well conversant with the concept as some of Sebokeng and Sharpeville residents do apply to the municipality for change in land uses as shown in figure 24 below. They however are aggrieved with the slow progress with 44% knowing about the existence of LUMS.



**Figure 24:** Non-existence of uniform LUMS.

Peculiar causes (taken from questions 5; 7; 8 and 10 of the questionnaire) that provide further impetus to the lack of an integrated LUMS in Sedibeng are summarized in Tables 4 and 5 below. They are:

- Conflict of ideas such as lack of leadership results in a lack of an integrated LUMS and control. Although the systems are not in place.



- A lack of capacity and resources such as better motor vehicles to cope with poor road conditions in less developed areas are a factor. Crime including lack of funds makes the system not to work effectively and efficiently.
- Lack of proper IT systems including the absence of consistent guidelines and procedures to guide land use management is a factor because the systems comprises of a land audit that should link with treasury system to detect the financial status of rates and taxes relating to a specific property.
- Municipal planners see no need to participate in the planning of township layouts whose duty is to enforce the law using the same results of research built into land use management in relation to their experience.

<b>WHO DO YOU THINK ARE RESPONSIBLE FOR AD-HOC LAND USES IN YOUR AREA (AND IS COUNCIL DOING ANYTHING ABOUT IT) ?</b>	<b>LESEDI</b>	<b>EMFULENI</b>	<b>MIDVAAL</b>
Lack of leadership	The Municipal Manager and the Executive Manager: Development Planning has resigned in which support and direction is limited to junior staff in making informed decisions on ad-hoc, illegal and unauthorized land uses.	The Acting Manager Land Use Management is Acting as Strategic Manager: Planning, LED, GIS and Property Sections with no sufficient focus to land use matters.	The burden is on Executive Director: Development Planning without delegation to junior staff, thereby delaying decision-making on land use matters.

Lack of capacity and resources	Insufficient planning personnel employed by council cannot cope with development pressures, especially those around the Heidelberg Kloof area as they lack sufficient vehicles to conduct site visits and cannot be offered car allowances, because there are budget constraints. Therefore council is reactive in this regard.	Acting Manager (LUM) lacks sufficient knowledge to apply merit and implement council resolutions/moratoriums e.g. Not allowing any enclosed townships in the area until such a policy exists. There are no policy guidelines governing land use. Absence of GIS delays decision making since nothing is presented on a proper plan/drawing.	There is outstanding demarcation resolution to who will service the Kloof area that comprises of high impact developments as the issue revolves around insufficient staff capacity despite the existence of an integrated GIS.
Insufficient personnel morale	Planning personnel are adequately provided with skills but are overworked and their titles and salaries are underrepresented, hence they lack sufficient morale to deal with illegal land uses.	Planning personnel are eager to deal with all land matters except that the Acting Manager is less conversant with high-level decision-making.	Planning personnel have the courage to deal with land use matters as they have a sense of belonging for the area, except that they are few.

**Table 4:** Summary of factors causing inconsistent LUMS within Sedibeng.

From the above-mentioned points of view, Table 5 below is summarized in order to identify issues that need attention.

25% of the persons interviewed mostly residing in the Emfuleni area have emphasized that law enforcement measures are essential in order to eliminate illegal land uses in the area. When this figure is compared to a 51% per factor figure, which is a higher factor than others, it is deduced that half of the area is in need of law enforcement and land use control. Although in Lesedi and Midvaal, the situation is equivalently controllable.



A solution to establish land use management procedures and guidelines also stands out for Emfuleni since a greater 16% of persons interviewed highlighted a dire need to control illegal land uses. They emphasized an urgency to formulate the Restriction of Access Policy for the "much mushrooming" enclosed townships and other land use management policies. Most of the guidelines were also required by 9% of Lesedi persons and 13% of Midvaal persons especially for controlling subdivisions on farmlands. Education and training of officials and councilors is recognized at 4% for Emfuleni than for Lesedi and Midvaal.

<b>WHAT MUST BE DONE TO ENSURE HARMONIOUS LAND USE MANAGEMENT IN YOUR AREA?</b>	<b>LESEDI</b>	<b>% PER 96</b>	<b>EMFULENI</b>	<b>% PER 96</b>	<b>MIDVAAL</b>	<b>% PER 96</b>	<b>TOTAL % PER FACTOR</b>
Good law enforcement	12	13%	25	25%	12	13%	<b>51%</b>
Proper procedures and guidelines	10	9%	15	16%	12	13%	<b>38%</b>
Education and training	1	1%	4	4%	2	2%	<b>7%</b>
Other	1	1%	2	2%	0	0%	<b>3%</b>
<b>TOTAL OUT OF 96 PERSONS INTERVIEWED</b>	<b>24</b>		<b>46</b>		<b>26</b>		
<b>GRAND TOTAL</b>		<b>24%</b>		<b>8%</b>		<b>28%</b>	<b>100%</b>

**Table 5:** Possible solutions required to formulate the Sedibeng LUMS.

The above needs and results are as a result of greater population; geographic extent as well as a higher demand for services in the Emfuleni area, while the other two municipalities could previously cope because they were smaller.

## 4.6 Conclusion

In the prelude to research, there was a brief outline of interrelated concepts supporting quantitative reasoning within the methodology. There is value in learning strategies to systematically strengthen the overall design and conclusions of research projects. This approach has some transferable attributes that may also address qualitative studies through mixed methods.

Research, in general, is a very rigorous exercise in critical thinking. Developing plausible arguments for inferences, data collection and analysis strategies, and actually writing or presenting research findings is a major effort in any field that will require a commitment and compassion for any particular area of interest. The evolving study one chooses to engage in can provide inestimable results to countless, unseen others.

Often one is reminded that "social research occurs in social contexts" and that not all human beings enter social research with the same level of quantitative or qualitative knowledge. Knowing personal strengths and limitations can prepare a student in research methods for the amount of work required to gain competency in quantitative research. As a student masters elementary concepts, an expansion of this knowledge can be applied to broader discussions in assertions and the development of evidence to support those assertions. One must learn to think deductively and inductively in order to view the similarities and differences of both methods, which can enhance your methodological approach to research questions. Abstract concepts from both methods are not mutually exclusive, as I have observed in the course of my study.

The results of the survey are that Emfuleni local municipality approves more land use applications because they have adequate staff capacity without proper enforcement of illegal land uses despite the absence of a single zoning scheme. Both Lesedi and Midvaal local municipalities perform least approval on the submitted land use applications coupled by least staff capacity, but with good law enforcement

despite the existence of their single zoning scheme. One can deduce that an integrated LUMS not coupled with committed officials cannot be effectively implemented. More so, lack of leadership and insufficient resources are classic chicken-and-egg situations in which councilors blame officials; officials blame lack of resources; business and residents blame the municipality's commitment.

Proactive approach is much more effective than a reactive approach in searching for the approximation to the truth. For that matter possible solutions are provided in the following chapter.

## CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

### 5.1 Introduction

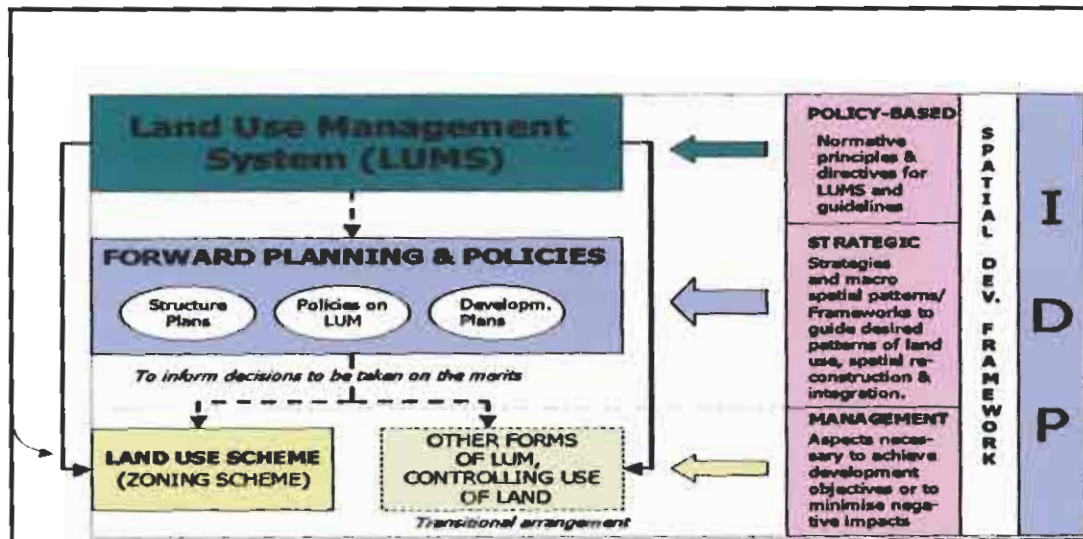
This chapter will summarize issues dealt with in the previous chapters and make recommendations in relations to those identified issues.

### 5.2 Conclusions

All research questions have been answered; the objectives realized and the hypothesis validated as follows:

- **Chapter 1** necessitated the need to review the divergent schemes in an integrated and holistic manner as an effort to remove confusion over land use rights. This chapter also outlined the study methodology and various topics for discussion as part of the structural framework of the study.
- Literature reviewed in **Chapter 2** of this study correlates recent introduction of new legislation, which requires the planning approach to be policy-led and normative-based land use management system. The chapter further defines land use management as the mechanism used for the administration and execution of spatial development framework in order to obtain/secure the municipality's desired spatial form through addressing property/land use rights at a level of each property/erf. South African local municipalities manage and control physical urban growth through land development applications that convert "virgin land" to "urban land" using land use management systems. The importance and benefits that occur as a result of Integrated Land Use Management as a day-to-day administration which must be policy-led within the parameters set in the spatial development framework, land use policies, other policies and strategies of the municipality are further highlighted in the chapter and summarily illustrated in the drawn figure 25 below.
- It is important to present here that **Chapter 3** conducts an in-depth investigation into Sedibeng District LUMS and the findings are that these systems are not aligned in

dealing with physical urban problems such as overcrowding and densities provision of infrastructure, built form, open space and so on. The management of different and often unsuited zoning schemes within a single city structure became neither "sustainable nor desirable". The chapter concludes that to be able to effectively apply LUM based on needs of the community, development trends and legislation, a continuous re-alignment of policies will be necessary.



**Figure 25:** Relationship between LUMS and Institutional Strategic Objectives (IDP).

- Asking empirical questions in testable forms will involve the traditional use of the hypothesis. Test statistics (by means of data collection, sampling, interviews and questionnaires) for significance have been used in **Chapter 4** of this study to determine if the hypothesis is to be accepted or rejected. Inferential logic has established the standards of this study based on theory and application to reality.
- **Chapter 5** discovers that it does not mean there is no room for improving the deficiencies and inconsistencies encountered during the study as some literature has suggested, including problems identified according to the empirical evidence. One of the most pertinent issues that came to light during the course of the study is the shift in emphasis from land use control to development facilitation in order to balance control and economic opportunities. As always, there are costs associated with any improvement, and there are other competing priorities for



which cost cannot be justified. Although other scientific literature do not entirely support the notion of an integrated LUMS, they create some plausible connections between problems identified in LUMS and their influence on land development; and these problems could be solved by application of consistent procedures as suggested in the recommendations below.

### **5.3 Recommendations**

Integrated LUMS can be cost-effective if residents, councilors, land use officials, planning officials and businesses work together towards optimum solutions. General considerations to bear in mind when formulating LUMS include provision of mixed land uses at various levels of intensity, so as to accommodate the concept of nodes; the variety of roles played by open spaces; the need to accommodate and regulate tourism related uses, especially in rural areas; the need to control and counteract sprawl, by allowing densification and intensification; and mixing of land uses where appropriate and together with this; to co-ordinate land use and transportation planning.

It is recommended that the following guidelines governing land use management through a system, be considered for management action:

- An incremental approach for the introduction of zoning schemes should be followed. It is accepted that the perfect land use management and planning system can't be developed over night, but can only be developed over time into a more elaborate system/zoning scheme. Therefore, the introduction of zonings schemes must start at higher order settlements (growth points and population concentration points) as well as some other problem areas and moving downwards in the hierarchy to even include farmland areas.
- The principle of minimalism must further apply. The different zoning schemes must be directed towards only achieving/controlling necessary aspects in a certain area and towards directing resources to achieve key actions that produce high impact.

- As Sedibeng comprises many former administration areas, each is governed by its own town planning scheme or land use regulations. Therefore it will be to the advantage of the municipality, developers and administrators, to rationalise the different schemes into one single scheme. In this regard the Gauteng Planning and Development Act will be an important tool. However, the finalisation of the Regulations to the Act is hampering this process.
  
- Within the existing legal framework the officials of the municipalities have delegated authority to process removal of restrictions applications, and to handle applications for rezoning and special consent applications. Although a detail land use management system need to be established once the regulations have been enacted, land uses complement each other and should be assessed differently from "conflicting land uses" which have a negative impact on the dominant land use in the area. "Merit based" land uses could be established within a specific zone subject to a detailed motivation based on locality, accessibility, impact on the adjacent environment and environmental considerations.
  
- All applications need to be submitted to the local municipality and the approval of applications will be evaluated in terms of impact on the environment, procedures followed and objections recurred; and the local municipality may impose any conditions as deemed necessary.

In conjunction with the implementation of the above motioned measures, it is suggested that policies and provisions be reviewed in the formulation of LUMS, so as to allow affected parties sufficient opportunity to comment on land use changes in residential areas, without being unnecessarily onerous. In most instances the consent of Council, which requires neighbours consent should be required to operate a business in a residential area. High impact uses, such as shebeens should require a rezoning. LUMS, together with the SDF that indicates where business uses should ideally be located, should be used in combination by Council to consider land use applications. It thus follows that a LUMS should not only refer to such principled decision-making, but also ensure the provision gives effect to such principles. For

instance the principles of equality and fair governance come into play in deciding on the land use management matters.

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**ANNEXURE A: Questionnaire on the State of Land Use Management within Sedibeng District Area**

**Interviewer:** .....

**Date:** .....

This survey is being conducted on an anonymous basis and you do not have to give any details that enable another person to identify or locate you. Please use (x) to mark your answer.

1. Are your land use rights (application) timeously granted by the municipality?

Yes	No	
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2. What would be the necessity and importance of obtaining council's consent for a change in land use?

Issue	Least Important	Most important
Compliance to municipal by-laws		
Economic development (Business)		
Improve the amenity of the area		

3. Do you think that development applications submitted to council are evaluated on merit?

Yes	
No	

4. Are you comfortable with the general amenity and surrounding neighborhood?

Yes	
No	
Do not know	

5. Who do you think are responsible for ad-hoc land uses in your area?

Residents	Councilors	Land Use Officials
Planning consultants	Visitors	Business persons
Other (Specify):		

6. Why do you say that?

---

7. What do you think council is doing to deal with illegal and unauthorized land uses?

Nothing	
Something	
Doing well	

8. What must be done to ensure harmonious land use management in your area?

Good law enforcement	
Proper procedures and guidelines	
Education and training	
Other (Specify):	



9. Why do you say that?

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10. Is there any other land matter that you think could promote health, safety, order, amenity, convenience and general welfare as well as economy in the process of development in your area?

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11. Why do you say that?

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