URBAN CONSERVATION AND URBAN SPACES IN POST – 1994 SOUTH AFRICA: A CASE STUDY IN KWADUKUZA

by

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DECLARATION

I declare that " URBAN CONSERVATION AND URBAN SPACES IN POST – 1994 SOUTH AFRICA: A CASE STUDY IN KWADUKUZA" is my own work and that all the sources used or quoted have been indicated and acknowledged by means of references.

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SIGNATURE

Date 2/3/09

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ABSTRACT

The purpose of this research was to assess the condition of open spaces, community perceptions, benefits, threats and challenges faced by open spaces within KwaDukuza. The research is regarded as important within the context of threats posed by uncontrolled development to urban biodiversity. Primary and secondary documentary sources on open spaces in the study area were consulted. Data was gathered through the use of a questionnaire, with a sample of 100 respondents; observation; structured interviews with key respondents and discussions with focus groups. The research revealed a consistent pattern of threatened urban biodiversity when compared with other studies. The main finding was that the open spaces were under severe strain and threat in the area of KwaDukuza due to development. There was a noted lack of knowledge about key tools meant to safeguard the environment. The study concluded by recommending community participation, education and an open space policy framework for KwaDukuza.

Key terms

Urban conservation; Urban spaces; Open spaces; South African urban spaces; Urban environment; Urban biodiversity; Urban environmental planning; Nature in urban areas; Urban natural environment; Natural spaces; EIA

LIST OF ABBREVIATIONS

CBD	Central Business District
DAEA	Department of Agriculture and Environmental Affairs
DWAF	Department of Water Affairs and Forestry
EIA	Environmental Impact Assessment
EKZNW	Ezemvelo KZN Wildlife
IDM	Ilembe District Municipality
IDP	Integrated Development Plan
IMF	Integrated Management Framework
IMP	Integrated Management Plan
KMS	Kilometres
KZN	KwaZulu–Natal
KZNPDC	KwaZulu–Natal Planning and Development Commission
LUMS	Land Use Management System
MOSS	Metropolitan Open Space System
MEC	Member of the Executive Council
MLM	Mangaung Local Municipality
NEMA	National Environmental Management Act
RSA	Republic of South Africa
SADC	South African Development Community
SDF	Spatial Development Framework
SEA	Strategic Environmental Assessment
UN	United Nations
WSSD	World Summit on Sustainable Development

EXPLANATION OF KEY CONCEPTS

- Biodiversity – refers to the variety of different living organisms, species and ecosystems (Mangaung Local Municipality, 2003).
- Conservation – is defined as the wise use of natural resources for the benefit of both present and future generations (Owen Sithole College of Agriculture, 1986). Larkham (1996) defines conservation from the perspective of built environment rather than the customary natural environment perspective. He is defining conservation from the angle of buildings and urban fabric. He is looking at conservation in its totality not only as natural environment but as including the whole of the townscape and the whole urban character. Larkham (1996) talks of the conservation of the familiar further defining conservation as sensible use, re-use, adaptation, extension and enhancement of scarce assets (Larkham, 1996: 13). Conservation is further defined as basing feelings on concern, respect, longing for the past and even pity for the past (Larkham, 1996: 33).
- Environmental quality – Environmental quality is defined as a state of environmental services in relation to such anthropocentric considerations as health, aesthetics, habitation and the supply of various natural resources (Chanda, 2000:122).
- Friends of organizations refer to a group of individuals who come together with the intention of making a contribution to the environment through a particular project (Community initiative, Bloemfontein)
- Natural areas – land designated in terms of legislation to protect and conserve natural environment and ecosystem processes for their ecological, biodiversity, habitat, landscape, scientific, historic or cultural importance (Republic of South Africa, Free State Provincial Government, 2005:38).

- Sustainable development – In 1987, the World Commission on Environment and Development (the Brundtland Commission) agreed on the definition of sustainable development which is now recognized internationally: “sustainable development is defined as development that meets the needs of the current generation without compromising the ability of future generations to meet their own needs. This kind of development can only take place where there is a balance in the sustainable development of the economic, social and biophysical environments (Mangaung Local Municipality, 2003). Sustainable development can also be defined as integration of social, economic and environmental factors into planning, implementation and decision making so as to ensure that development serves present and future generations (RSA 2002, sec.1). Atkinson et al. (1999) argues that the term “sustainable development” is like common currency, while its meaning and possible application to urban management remain clouded in confusions and contradictory interpretations. The term means resources are being depleted with the possibility that future generations will not be able to sustain themselves, seen as the matter of mismanagement and misorganisation of the use of resources (Atkinson et al, 1999: 2–3).
- Territoriality – the tendency for particular sub groups to attempt to establish some form of control, dominance or exclusivity within a localized area (Knox, 1994).
- Urban area – is defined as an established and proclaimed settlement with registered erven incorporating residential, recreation and business zones. The definition includes informal settlements in South Africa and rural nodes that have been incorporated into the urban fabric.
- Urban Open Space - The definition includes recreation areas, environmental area (nature conservation areas, open space systems, areas of environmental significance and biodiversity), undeveloped open spaces, urban agricultural land and green surfaces. There is usually a distinction between the public and private open spaces (Republic of South

Africa, Free State Provincial Government, 2005). The public open spaces are freely open for use by the members of the public, whereas the private open spaces have controlled access.

- The operational definition of urban open spaces in this dissertation will specifically refer to open spaces in the form of parks and natural features within them, undeveloped areas which might be publicly or privately owned. The definition will further include natural areas like dense indigenous bush stands, natural veld and nature reserves found within the urban area, urban wilds, the rivers and wetlands, wildlife, geological features, soils and vegetation in the form of a comprehensive urban open space system. This definition will further include linkages among all the named areas, to allow migration and prevent loss of gene pool.

CHAPTER 1

INTRODUCTION TO THE STUDY OF URBAN CONSERVATION AND OPEN SPACES

1.1 INTRODUCTION

Since the advent of democracy in 1994 one has witnessed major developmental projects within South African urban areas. These were part of addressing social imbalances that were so evident for decades in the South African urban landscape. Urban development is taking place at an unprecedented scale in urban open spaces, shrinking the natural resource base and directly affecting biodiversity. It is against this background that the researcher decided to tackle the topic "**Urban conservation and urban spaces in post 1994 South Africa**". Conflict tends to manifest itself on issues like the allocation of suitably located land for housing the poor as opposed to conservation of land for biodiversity (KZNPDC, 2005:113). The greatest challenge for South Africa is to eradicate poverty and develop people while ensuring that the natural environment is not destroyed in the process (McDonald, 2002).

Worldwide there are development projects in urban areas threatening biodiversity. The municipalities are also responsible for planning and approving developmental and rezoning applications within the urban environment. Thus towns and cities manage and administer large tracks of land. As a result of this role cities have to strike a balance between biodiversity conservation and what is normally called the brown agenda i.e. development; issues of water supply; sanitation; waste disposal; housing; electricity supply and related issues (Behrens & Watson 1996; Herbet & Thomas 1997). Most environmentalists argue that raising the status of biodiversity conservation programmes depends on people in the towns and cities for political and financial support, and ultimately the improvement of biodiversity conservation (Wheeler and Beatley 2004). This

notion is important in South Africa where we have a back to back municipal system. The latter system means that every piece of land in South Africa falls in a particular municipal area.

KwaDukuza municipal area has been chosen as the study area for the purposes of this dissertation. The study site has been chosen because of the challenges that face urban biodiversity within the context of large scale development currently taking place in this area. More information on the study area will be provided later in this chapter.

1.2 BACKGROUND TO UNEVEN DEVELOPMENT WITHIN THE SOUTH AFRICAN URBAN LANDSCAPE

Segregation and apartheid cities in South Africa led to distorted spatial patterns, and residential areas that reflect uneven development (Lemon, 1991, 1995). Stadler (1989) is of the opinion that the control of social relations or segregation policies that were prevalent in Victorian cities seem to have been adopted as a model by South African physical planners in South African cities. The major difference with South Africa is that segregation involved use of state power to dictate control and allocation of spatial development.

South Africa as a country comes from a history where race was the determining factor in terms of controlling residents' lives, including the allocation of urban space, which was further entrenched by the Group Areas Act of 1950 (Stadler, 1989: 116). This legislation prevented different groups from staying in the same area which was later entrenched and legalised by the Verwoerden model of geographically separating residents along racial lines (Stadler, 1989). Legislation was systematically used to artificially engineer groups within the urban landscape (Stadler, 1989: 120). As a result of this legislated social engineering the investment of resources in different areas differed and in this way created developmental imbalance. The Group Areas Act centralized control over racial

segregation, and this went a long way in undermining the authority and autonomy of the municipalities (Mabin, 1992).

Blacks were often confined to hostile environments, lacking community facilities, cultural amenities, or green open space which could be used for social activities (McDonald, 2002:22). Most of these areas were devoid of any natural or scenic attractions, as the inhabitants were treated as temporary residents who could one day return to their rural roots (McDonald, 2002; Beningfield, 2006). As a result of this approach the developmental pattern of South African cities became skewed. The Group Areas Act initiated land allocation planning, which is relevant to how open spaces were and continue to be planned and allocated (Sutton, 2008: 62). This state of affairs continued until the abolition of the racially based Land Measures Act No 108 of 1991, and the total scrapping of the Group Areas Act and in this way allowed all people in South Africa to stay wherever they wanted, congruent with their affordability. In 1994 a new democratic order began in South Africa. The major challenge of the new order has been the correction of past spatial and social imbalances, and the integration of the former disadvantaged sections of the community into the mainstream urban planning system.

1.3 DISCRIMINATORY AND SKEWED PLANNING OF THE APARTHEID STATE

In 2008 most of the South African cities still show the remnants of the skewed urban planning of the apartheid era. The discrepancies between the affluent former white areas and previously disadvantaged areas mostly settled by lower income groups are still very evident in the South African urban landscape. The location of natural areas and open spaces also shows similar patterns, and in many cases indications of outright disparities in environmental quality exist. (Sutton, 2008). The differences are also evident between small and usually poor municipalities, as compared to more affluent and bigger cities and metropolis.

The discriminatory legislation of the apartheid era denied access to some facilities by the black sector of the South African population. This was further entrenched by the Reservation of Separate Amenities Act (49 of 1953) which provided that any public premises could be reserved for the exclusive use of a particular race (McDonald, 2002). The spatial zoning of racial groups conferred a certain degree of rationality on the separation of amenities and services for different racial groups like transport, schools and recreation (Stadler, 1989: 118). The majority of black people were unable to visit conservation areas, thus excluded from power, authority and influence in decision making and policy formulation within national parks (McDonald, 2002: 132). Access was also made difficult by several factors like economic deprivation, limitations linked to mobility and accessibility to these areas, and in some instances, the restrictive nature of amenities themselves. Some of these facilities like Kruger National Park were used for a variety of military purposes, and covert operations (McDonald, 2002). It is the researcher's view that this unfortunate state of affairs created a situation whereby the majority of the black people failed to see the value of the natural environment and open spaces. The researcher's opinion is that this scenario is making it very difficult to advance the debate and get the support of the black sector of the South African society to view these areas as assets which are critical for environmental sustainability. The conservation argument is weakened by those who hold different value systems, who were deprived access to these areas creating a perception that they are only areas of luxury. The greatest challenge in reversing this perception would be around equitable distribution of resources, education and concrete benefits flowing from these areas.

The indigenous people of Africa have coexisted with nature as demonstrated by Arhem (1985) who draws from the example of Maasai pastoralists at Ngorongoro Conservation Area in Tanzania. They present a good example of a semi-nomadic people who have coexisted with a remarkably rich variety of wildlife in a natural setting of unspeakable beauty (Ahrem, 1985:9). The thinking that indigenous people tend to take the issue of open spaces and natural areas for granted might

be attributed to this example. Most black people have stayed closer to nature in the countryside and see themselves as part of nature as demonstrated by the Maasai people. Blacks in South Africa mostly originated from rural areas and they were always regarded as visitors in cities by the apartheid state (McDonald, 2002). Some of those who have permanently settled in urban areas still have rural ties. The argument goes that these people might not see the natural environment as something unique and detached from them.

The Group Areas Act of 1950 enhanced mistrust between black and white sectors of the community. The Act created a situation where different racial groups were exposed to different social settings, and different environments. It is the researcher's observation that this scenario created mistrust between those people perceived as advantaged and the disadvantaged, even between the educated, professionals, high income group and ordinary, poor and illiterate people. It is against this background that Vigar et al *(*2000) maintain that this scenario needs a radical shift towards building new relationships between these two groups. Vigar et al (2000) argue that this inclusive approach needs commitment, understanding and trust among groups which are often mutually suspicious and have been divided by a history of unequal access to material and political resources. This situation is hardly surprising in South Africa given the history of racial conflict which sometimes colours the attitudes of historically marginalized people towards the environment thus influencing their environmental perceptions (McDonald, 2002).

1. 4 RESEARCH PROBLEM

As explained in the preceding sections the natural areas and urban open spaces are under threat within South African urban areas. Despite the pivotal role played by the natural areas and urban open spaces the pressure exerted on these are immense due to pressing developmental needs, like housing and other expectations created post 1994. This is aggravated by the backlog created by the

legacy of apartheid. The urban open spaces are under developmental siege, and we are witnessing shrinkage in the natural resource base of urban areas.

The study area (KwaDukuza municipal area) is no exception to the pressure exerted on urban open spaces and natural areas due to a pre 1994 backlog and development needs of post 1994 South Africa. There is a noted development pressure and the need for low cost and middle income housing, as well as the impact of the current boom in high income residential developments and estates and gated community developments in the area. The conflict in land use decisions affecting open spaces has been evident within the area (Gibson & Kitchen, 2005).

There are tough decisions that need to be taken by the town and city policy makers. It is hoped that this dissertation will add value to the debate and contribute in suggesting a balance between these conflicting societal needs.

1.5 THE AIMS OF THE STUDY

- Analysis of the state of natural areas and open spaces, community perceptions, community participation, benefits, threats and challenges facing open spaces within the study area.
- The analysis of the nature and extent of land use conflict in relation to the dynamics of the planning scenario within the study area.
- Assessment of the value of the Environmental Impact Assessment (EIA) as a tool to contribute to safeguarding the natural assets and open spaces within the study area.

1.6 RESEARCH METHODOLOGY AND FRAMEWORK

There are two main research paradigms used by researchers as tools for their work i.e. **quantitative** (involving numbers and analysis of numerical data) and **qualitative** research (involves analysis of data like words and interviews).

At this point it is appropriate to define both research approaches in a detailed manner. **Qualitative** research is defined as a method of attempting to gain insights by trying to discover meanings of the social phenomena. In this method the researcher will physically record and observe behavior in the study area. The researcher therefore gets a first hand experience of the reality that is under study. This methodology presents an opportunity for the researcher to closely observe how people make sense of their world and their lives in reality. It puts the researcher in the *"people's shoes"* by providing a deeper understanding of the framework from where people premise their ideas.

The approach makes use inter alia of open ended questions. The data is usually gathered using less structured methods, but obtains qualitative data in more depth. Data is collected using a variety of methods such as interactive interviewing, written descriptions by participants and observation. There is an in depth personal involvement in its approach. The qualitative approach uses focus groups, case studies and pilot studies.

Qualitative research explores the richness, depth, and complexity of phenomena (Miles & Huberman, 1984). The results are mostly based on smaller samples. This approach maintains that there are multiple realities for any given phenomena, and these realities differ across time and place. The critics of the qualitative method argue that the researcher can never escape the subjective experience. In other words subjectivity is likely to crop up during the research process. They argue that the researcher's intuition can also play an influential

role. Its strength lies in its depth in the manner the explorations are conducted and the manner the descriptions are written (Miles & Huberman, 1984).

On the other hand **quantitative** methodology aims to determine the relationship between phenomena or variables in any given population. It tends to quantify relationships between variables. Quantitative research use more structured and formal research instruments like questionnaires, observation technique, survey (door to door), experimentation, telephone, self administered and in person interviews (face to face). It uses primary research collection techniques i.e. the latter and others like direct communication. It is less concerned with details in terms of behaviour and motivation for certain actions. Results are mostly based on larger samples, and the analysis is more objective. It is more descriptive and experimental in its approach. The research uses hypotheses and theories as points of departure. Scientific theories are imported in explaining phenomena. Some argue that in this approach the reality is socially constructed. The point of view presented is therefore regarded as an “outside point of view” as opposed to the “inside point of view” described under the qualitative research. The researcher is detached and there is an element of impartiality.

The critics of quantitative research argue that this approach is not grounded in reality. They argue that the link between the results and reality is assumed rather than systematically investigated.
Its strength lies in using formal research tools thereby allowing results to be communicated to the academic and scientific world with ease, in the language they can understand. The quantitative studies can be replicated with great reliability.

This research study is going to draw from some of the well known theories as outlined in Chapter 2, in trying to explain the phenomenon of open spaces within the urban context post-1994 in South Africa.

A literature survey study on the uses and challenges of urban open spaces formed the basis of the study. Threats, challenges and benefits of open spaces were identified and illustrated using relevant examples. A variety of primary sources were consulted to obtain information on open spaces in the study area.

Questionnaires were used to conduct structured interviews with key informants and community members. Perceptions about urban open spaces and levels of participation were analysed on the basis of the questionnaires.

The EIA as tool for safeguarding urban open spaces was evaluated with reference to a case study in Zimbali South.

1.7 STUDY AREA

1.7.1 Background to the study area

The study area falls within the municipal boundaries of KwaDukuza Municipality (formerly known as Stanger). (Refer to figure 1.1).

KwaDukuza Municipality is situated along the North Coast of KwaZulu-Natal within Ilembe District Municipality. KwaDukuza municipal area covers 623 sq km, 7km from the coast, and stretches from the Tongaat River in the south to Zinkwazi River in the north. The area incorporates the towns of **Ballito**, Shakaskraal, Shaka's Rock, Tinley Manor, Blythedale Beach, Groutville, **Greater Stanger area including the Central Business District (CBD) and Shakaville** / Lindelani townships. It must be noted that for the purposes of the survey Shakaville is one of the two sample sites, but in reality it is an African township that forms part of Stanger town. The study area is not covering the whole Ilembe District which mostly covers the rural area. (KZN Municipal Portfolio, 2005).

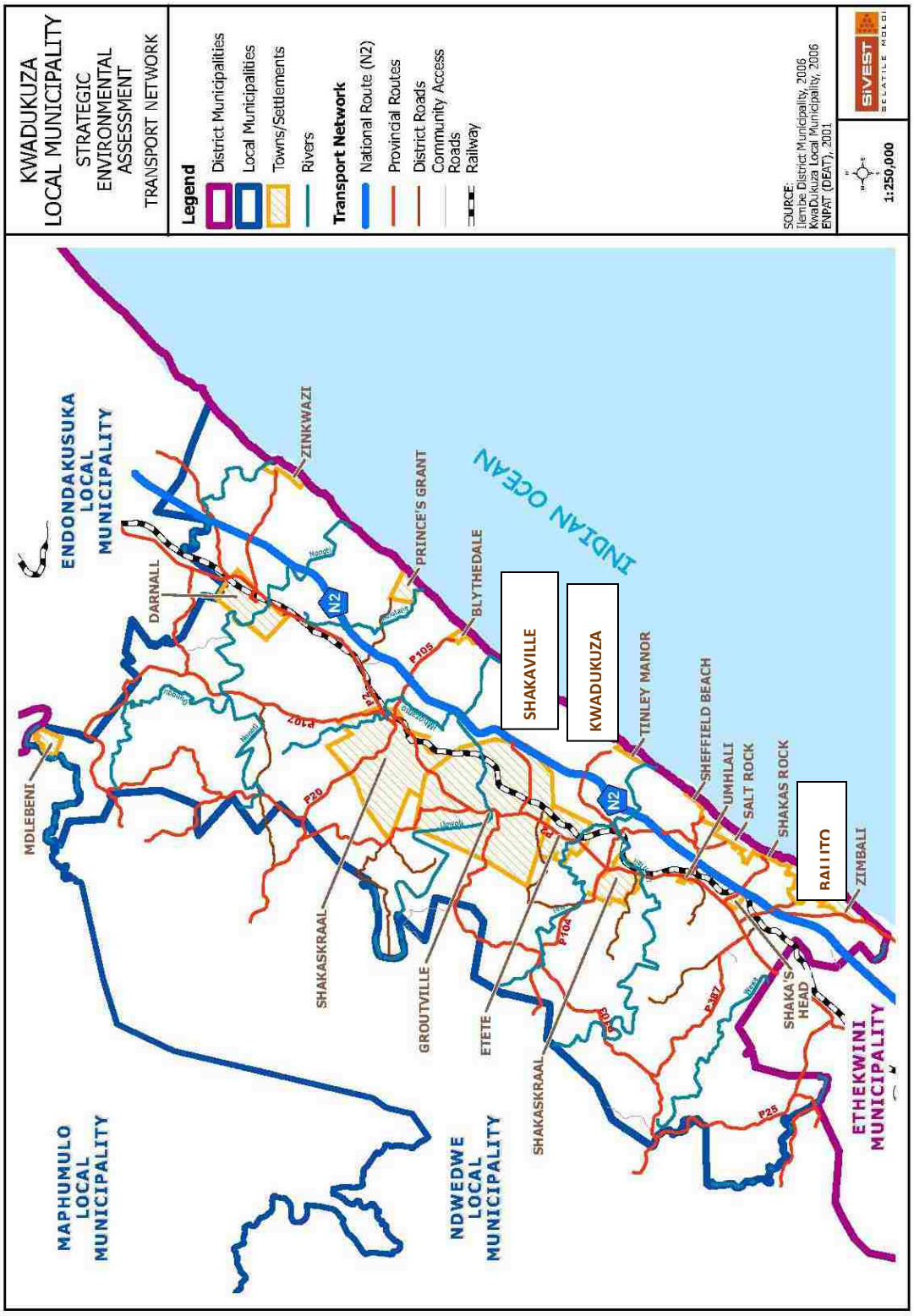

Figure 1.1: KwaDukuza municipal area
(Source:Ilembe District Municipality, 2006)

The area's population in 2005 was estimated at 170 000, which during peak holiday seasons, increases to over 200 000. The area shows extreme elements of poverty with 65.4% of the population living on income lower than R1 500 per month (KwaDukuza IDP, 2005:15).

KwaDukuza is the dominant commercial centre within Ilembe District, and strategically located between two major ports of Durban and Richards Bay (KwaDukuza IDP, 2005). KwaDukuza remains the economic hub of Ilembe District municipal area, and is fast becoming the locus for future development. It is an area of significant historical value built on the original site of King Shaka's Royal settlement called Dukuza. The area reflects rich history of the Zulu nation, colonialism, sugar industry and Indian settlement. The area has been put in the world map by the fact that it is the home to the first African to win the Nobel peace prize, Chief Albert Luthuli.

As most of the areas in apartheid South Africa, remnants of the Group Areas Act of 1950, is evident in settlement patterns which are structured along racial lines, i.e., Africans (Shakaville & Groutville), Whites (Ballito & coastal areas) and Indians (Stanger central Business District & surroundings). The mostly white and upper class settlement covering affluent areas along the coastal belt including Ballito and Blythedale Beach, more inland rural area of Groutville by rural Africans, greater Stanger mostly populated by the Indian community and lastly Shakaville / Lindelani areas mostly settled by urban black African community. The governance system portrayed the same pattern in that the four areas were administered by different systems and governed by different laws. The white area under the town board governing system, Groutville with a strong missionary influence and traditional leadership, Stanger (town) and Shakaville (township) under Indian Affairs and Black Local Authorities Administration respectively.

In South Africa the amalgamation process of the local administrative municipalities started in 1996 after the first democratic local government elections. The amalgamation was eventually consolidated during 2000 local government elections. The KwaDukuza Municipality officially came into being in the year 2000. Like all the local authorities in South Africa this completed the cycle of desegregating local government in the study area as a process of establishing a non racial municipality.

Despite the fact that KwaDukuza is now administered by a single local structure, the patterns of once separate systems are still evident. The developed nodes are concentrated along the coast, while large areas of underdevelopment are found in the hinterland. These patterns are evident even in the location of natural areas and open spaces. Natural areas and open spaces are frequent along the affluent coastal belt, while the rest of the area has poorly developed open spaces and natural areas. (Refer to figure 1.2).

Pieterse (2002) analyze the issue of persistence of urban apartheid despite all government attempts to address past imbalances. Pieterse (2002) argues that the amalgamation and consolidation of local government was complex and highly conflictual and caused trauma for most organizations. Some Black local authorities came to the amalgamation process with no resources, and others had accumulated massive debts (Pieterse, 2002:3). Pieterse further argues that cities are areas of great contestation and competition for limited resources, and this posed challenges to the amalgamation process.

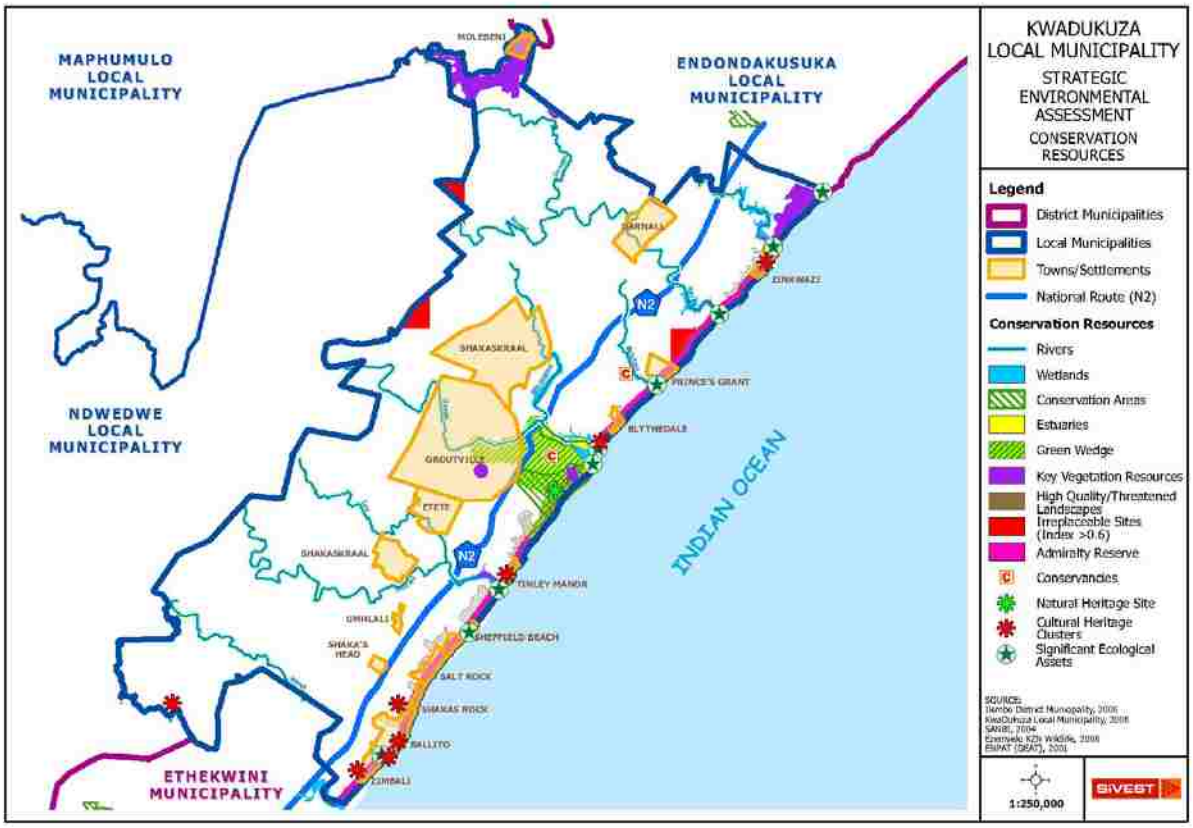

Figure 1.2: Conservation resources within the study area
(Source:Ilembe District Municipality, 2006)

The townships have poorly developed open spaces which were mostly zoned in unsuitable areas for parks development. These were mostly on steep, and sometimes marshy areas.

Major service backlogs are obvious within the study area as one traverses it. The discrepancy between the areas that are well serviced and those with few services is very clear. The two economies are readily observable within the study area.

1.7.2 Environmental overview in KwaDukuza

The dominant land-use within the study area is mostly sugar cane plantations, with forestry plantations in some inland spots. The natural coastal forest can be clearly seen along the coast. (Refer to figure 1.3).

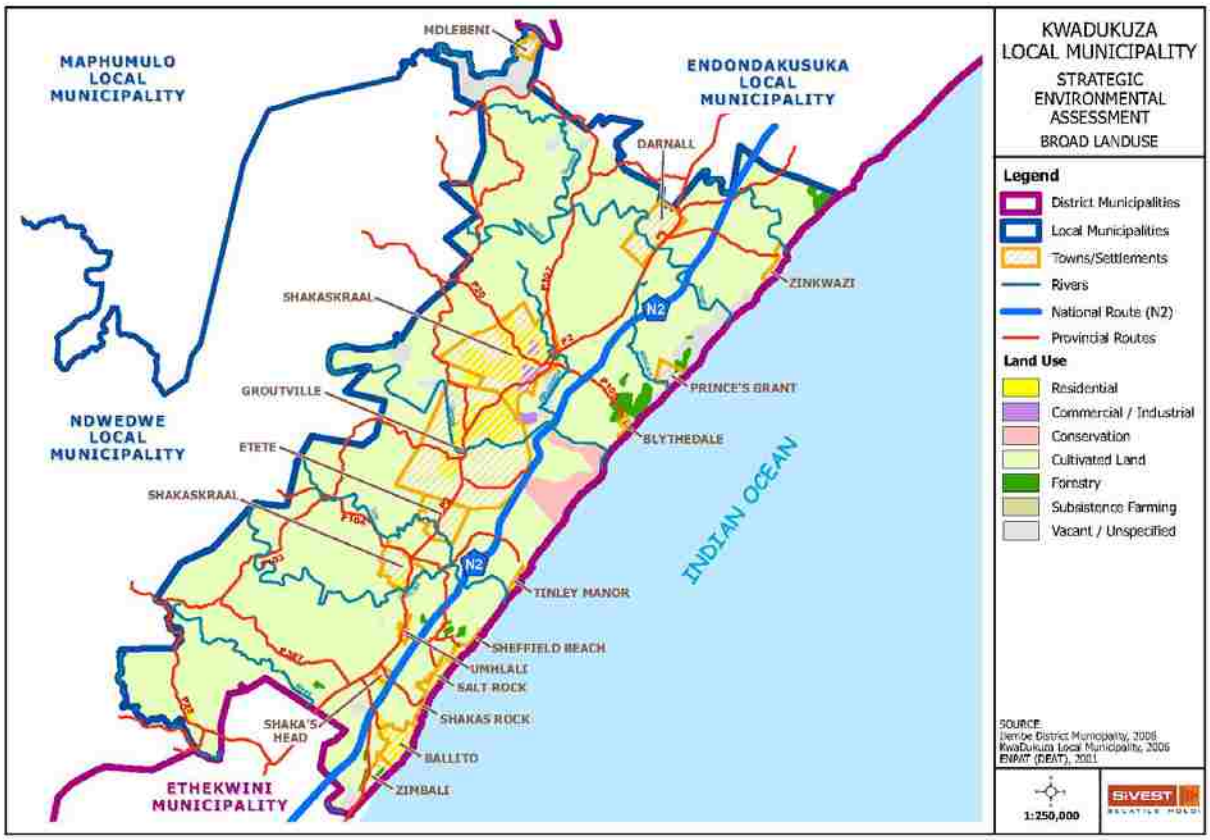

Figure 1.3: Land use within the study area
(Source:Ilembe District Municipality, 2006)

The fast pace of development as indicated earlier is putting considerable pressure on natural resources and the environment of KwaDukuza. According to KwaDukuza IDP (2005) the KwaDukuza / Ilembe Coastal Working Group has been constituted as a pro-active measure to deal with development and its encroachment on natural resources and open spaces, ultimately threatening the sustainability of the environment.

It is encouraging to note that both the local and the district municipalities are taking environmental issues very seriously within the whole district. KwaDukuza Municipality commissioned the Strategic Environmental Assessment (SEA) study towards the end of 2005 that was to be done in two phases. The study was completed in October 2007. The Municipality decided on this study because of the need to assess environmental implications of its IDP, to determine the ability of the environment to sustain development currently taking place within its boundaries and lastly to identify environmental opportunities and constraints within the Municipality itself. The purpose of the study was to strengthen and support sustainability planning as an integral part of the IDP process. The completed SEA was to serve as an important decision support tool for KwaDukuza Municipality.

The Ilembe District Municipality in its 2005 / 2006 IDP acknowledges that due to limited capacity, it has only integrated the environmental management programme in the IDP piecemeal (Ilembe DM IDP, 2005:78). Nevertheless the district has established a database of environmental information for the District. Several environment related documents have been compiled under the auspices of planning initiatives. These are:

- Ilembe Coastal Management Plan – February 2000
- Ilembe Environmental Management Plan – July 1999
- Ilembe Integrated Development Plan – Analysis Phase Document – March 2002

The District is hoping to embark on a District wide SEA in due course. SEA is very important in identifying both the opportunities and constraints that the environment places on strategic decision making and land use management (Ilembe DM IDP, 2005:80). These initiatives provide basis for the broad understanding of the environment and environmental issues within the broader

district. The available environmental information indicates the key environmental issues within the district as follows:

- The loss of vegetation and habitats due to sugarcane farming and the encroachment by invasive plants. This is true of areas along the coast from the Mdlotane River to south of Mhlali River (Ilembe DM IDP, 2005:79)
- Degradation of natural environment including the coastal dunes.
- Sugarcane plantations cutting off ecological links which are so crucial for species conservation.
- The IDP is also picking up on the housing development taking place along areas north of Zimbali. If not properly controlled this development has the potential of destroying an important green wedge (Ilembe IDP, 2005:80).
- According to KwaDukuza IDP (2005) there is a realization that the living environment is part of the overall package of improving the quality of life for the residents. KwaDukuza has taken a strategic decision to green its area with the intention of improving its environment to be appealing to visitors and investors. One of the projects proposed by the Municipality is to plant 1 000 trees within the space of 5 years (KwaDukuza IDP, 2005:61).
- One of the environmental issues that continuously comes from both the district and local municipalities' IDPs, is waste management and issues of its disposal. In 2008 the KwaDukuza Municipality created a post of waste management within its administrative structure to deal with waste in an integrated manner.
- Apart from inadequate waste management practices impacting negatively on the environment which were also picked up by the KwaDukuza IDP process as priorities are issues relating to both air and water quality.
- Issues of sustainability hold true for the coastal environment along KwaDukuza coast, since the coast is an integral part of the economy of the area. Ilembe Coastal Management Plan, KZN coastal management

programme and the Coastal Working Group are key in the management of coastal resources.

1.8 CONCLUSION

The biggest challenge will be to align an integrated environmental programme and municipal IDPs. The IDPs reflect the communities needs within municipal boundaries. It is therefore critical for IDPs to incorporate the environment flare for long term sustainability.

This chapter has introduced the topic of urban open spaces to the reader including the reason for choosing the topic. The South African planning background was discussed in relation to open spaces within urban areas. The aims and objectives of the study were outlined. The different research approaches were discussed and how this study intends tackling the research process itself. The study area was introduced and a broad environmental overview of KwaDukuza Municipal area was given.

The next chapter will concentrate on the theoretical information relevant to the study. This will entail presenting different relevant theoretical and conceptual framework. These theories will further assist in analyzing the topic and creating a greater understanding of open spaces and natural areas.

The various relevant theories are going to be discussed in relation to open spaces in an attempt to explain the topic. This will assist in crystallising and substantiating the arguments relating to the study area.

The next chapter will also look at the early accounts of open spaces, and refer to experiences of other countries.

CHAPTER 2

SOCIAL THEORY, EARLY ACCOUNTS AND EXPERIENCES OF OTHER COUNTRIES IN RELATION TO OPEN SPACES

2.1 INTRODUCTION

This chapter will deal with urban conservation and present an open spaces theoretical framework based on social theory to explain the social phenomenon around the issue of open spaces.

The chapter will explore the four discourses evident in planning during the 1980s through to 2000s in Britain. These are mainly large economic development sites, transport, housing development and waste management. The example of the work of the Commission for Architecture and Built Environment (CABE) in terms of CABE Space Programme which is an initiative geared towards bringing excellence to design and management of parks in cities and towns will also be used.

This chapter will describe some examples from African and Southern African Development Community (SADC) countries.

2.2 THEORIES, MODELS, AND CONCEPTUAL FRAMEWORK

2.2.1 Social Theory

A number of sociological theories will be considered under the banner of the social theory. It is difficult to get a specific definition of social theory, and Giddens maintains that there is a general lack of consensus as to what it means (Giddens, 1987:1). Social theory has thus come to comprise a varied, often confusing, array of approaches (Giddens, 1987:3). However, social theory is important for the

interpretation of empirical data, and provides the basis for critical reflection on the process of research itself and social life and social systems in general (May, 2001:28).

Social theory is considered relevant in this research because it attempts to explain and analyze social trends. Social theory outlines and explains what is it that is regarded as “social” and how it actually works (Giddens, 1987; May 2001). It further explains how people shape the social world in their daily life. The urban open spaces that are being researched are part of social space. Urban open spaces are impacted by people in different ways, including their utilisation. The existence of urban open spaces is shaped by people in their daily lives. Urban open spaces can be regarded as forming part of urban social life. Urban open spaces are valued in different ways by people across all social levels. Some attach more value to them than others, depending on the person’s background and socialisation experiences.

The theory draws from several disciplines, and it comprises several social theories under its banner including Marxism, feminism and the structuralist approach, all attempting to explain a given social phenomenon in a quest for scientific progress.

The critics of this theory argue that it fails to account for differences within a group that is perceived to be homogenous. On the basis of this critique one can argue that this theory fails to recognize that not all the sections of the low income areas show neglect tendencies when it comes to open spaces. There are low income areas with well maintained open spaces.

2.2.2 Structural consensus theory

The thrust of structural consensus theory is that society is shaped by consensus premised on what is regarded as acceptable code of behaviour during any given

social setting. This is based on values and norms acquired during learned behaviour known as socialisation. The social setting is perceived as channeling people to behave in a particular manner. The structural consensus theory places a lot of emphasis on norms and values (Jones, 2003:12). Durkheim (in Jones, 2003:32) argued that what we do is what has been shaped by the society for us and can not be regarded as our invention.

This theory is relevant in explaining urban open spaces because it makes it clear that people of the same social background, like in Ballito, tended to give more or less the same answers. Their responses reflected the value placed on open spaces by them. Their thinking is in a way shaped by the learned values and norms of an upmarket middle class area. On the other hand the people from Shakaville are also shaped by certain factors that might differ from those of Ballito in terms of socialisation. The socialization process might differ from one area to another, but people from the same social setting and background tend to behave in the manner prescribed by their social setting in terms of this theory.

2.2.3 Structural – conflict theory

The point of departure for this theory is that the society comprises unequally advantaged groups. Society is characterised by conflicting views and therefore conflict is viewed as endemic. In the context of urban open spaces, conflict theory can be perceived as suggesting that open spaces are never valued in the same manner by different social groups. The middle class and economically privileged tend to put more value on the concept of open spaces, as opposed to the working class and those who are economically deprived. In the study area this is evident where the up market coastal belt including Ballito has a well developed open space system, as opposed to areas of Shakaville in the hinterland.

According to (Jones, 2003) this theory is premised on the persistence of a structure of inequality that lies in the domination of the disadvantaged groups by its advantaged ones. Jones sees a perpetual conflict of interest between the haves and have nots (Jones, 2003: 11). The theory argues that society can provide good things because the great majority is oppressed (Jones, 2003:11). This theory maintains that conflict in a society of advantaged and disadvantaged is inherent in their relationship.

The respondents from the Ballito and Shakaville might perceive open spaces differently due to their position of being advantaged in terms of their social standing.

The advantaged group like Ballito respondents might be more exposed to information relating to open spaces. They might be in a position to attend meetings where issues of urban planning and open spaces are discussed. Most of the documentation relating to environmental issues is in English. The working class respondents might be disadvantaged in terms of information availability, language and priorities. The working class might not prioritise the issue of open spaces, they might have more pressing survival issues on their minds than open spaces. In terms of this theory the explanation for this can be attributed to the structure of inequality where the one class is advantaged over the other. The dominance of the middle class stems from this unequal relationship in terms of advantage and disadvantage.

2.2.4 Marxist Theory

Marxism is perhaps the most influential, yet most criticised and most misunderstood of all social theories (Joseph, 2006:1). He argues that this theory is meant to look at how the world can be bettered and interpreted in order to try and change it. It must be pointed out that there is a range of schools and debates within Marxist social theory. There have been modifications and different schools

of Marxism since the theory came into being from the ideas of Karl Marx, the founder of Marxism. There is classical, structuralist and critical Marxism all claiming to be based on the ideas of its founder (Joseph, 2006:7).

Marxist theory is based on class differences. He sees the society as being in perpetual conflict because of class differences. He argues that the ruling ideas in society are those of the ruling class and maintains that the inherent class differences between the middle and the working classes are rooted in the capitalist system. According to Marxist theory, as long as we have capitalism there will be class differences. Marxist theory is premised on the fact that economic forces have determined the course of history (Mayo, 1960:64). Marxism argued that the capitalist system was eventually going to collapse leading to a classless society.

Karl Marx linked the growth of suburbs to financial monopolies. The current rapid developments that we witness within urban areas, including the study area might be associated with this reasoning. Marx also realized the antagonism that exists between rural and urban citizens, and spoke passionately about uneven development.

Marx also acknowledged the vulnerability of natural resources within the urban context. He viewed natural resources as a gift of nature, and perceived the surplus as appropriated by capitalists. He argued that urban growth beyond a proper measure was harmful to the natural environment (Edel, 1992:22). At the centre of his argument was that growth of the cities was a result of capitalist expansion. Marx, in his theory and analysis, recognized that production requires resources like soil, water for agriculture, energy supply, space for industry and transport and places to build for urban activities (Edel, 1992:28).

Marx maintained that the capitalist system tends to limit free access to what is supposed to be common property. He further argued that business was being

given resources which were otherwise common property. In his theory of urbanization he maintained that the state is pressured to increase its tax base. In this way business expansion becomes inevitable.

If one were to draw from the Marxist theory with its emphasis on class differences, one could argue that the concept of open spaces and conservation is elitist and supports the values of capitalists (Benton, 1996). Fuggle & Rabie (1996) argues that norms for controlling development and conservation are often based on highly subjective perceptions, strongly influenced by the income level and the culture of the beholder. In analyzing the views and arguments of Benton (1996) and Fuggle & Rabie (1996) one can conclude that the views and values of the working class are overridden by those of the middle class when it comes to open spaces and environmental issues.

The high income area of Ballito, Zimbali, gated communities and the Simbithi Eco – Estate which are occupied by middle and upper class and mostly capitalists, bears testimony to the Marxist assertion. These are leafy suburbs with a good open space system, with some areas even built within the natural environment and on golf estates.

Marxist analysis is relevant to the study area in that the current expansion and growth around Ballito can be linked to capitalism as business has invested much in the development currently witnessed. The owners of these businesses have further invested in the residential areas and gated communities in the area. This has further expanded the residential area, creating the expansion of the total built up area with more shops, hospitals, schools and other associated structures.

The developmental footprint in the area has undoubtedly caused an impact on the natural resources. The assertion by Marxist that capitalism has created vulnerability to natural resources within the urban environment can be directly linked to large scale development within urban areas. This argument is partly the

cornerstone of this dissertation which argues that natural resources are adversely affected by any unchecked development within urban areas, in our case KwaDukuza is used as an example.

Some of the residential areas within the study area have restricted free movement due to the introduction of gated communities' residential areas. According to the Marxist theory this land and area is supposed to be a common property, enjoyed by all. This is no longer the case as it is changed to be private property accessed by the privileged few. The capitalist and the elite are the ones who can afford to occupy this privileged space at the expense and exclusion of the working class. Local government is under severe pressure to increase the tax base in the form of rates collection. The investment by capitalists in the area is said to increase the tax base while stimulating local economic growth. In the study area the revenue collected will assist the KwaDukuza Municipality to address service backlogs in its area of jurisdiction. The municipality is also under pressure to create a conducive environment for investment and the need to create job opportunities. This is a reality in an area where only 42.8% of persons in the age group 15 – 64 are employed and earning an income (KwaDukuza IDP, 2005/2006:20). In Marxist thinking this can be perceived as pressure exerted on government by the capitalist system.

Marxism can further be extended to the concept of social organization. From time immemorial spatial organization has mostly been based on social status, household type and race (Knox, 1994). Some theorists like Karl Marx argue that uneven spatial development is a direct attribute of a capitalist system. He perceived this as a manifestation of an ever-increasing gap between the middle and the working class and directly linked it to industrial capitalism (Knox, 1994). Knox refers to this unevenness as the social distance, defined as a way of ensuring adequate distance between middle class and working class. In the study of animal kingdom this concept is common and is referred to as territoriality whereby the dominant species aggressively defend their territories. Lessons from

history show that humankind has been using this concept in separating dominant classes from the lower ones.

The increased population densities can be attributed to pulling forces to the cities due to expectations of better life and job prospects. This has resulted in acute competition and conflict over land. Land owners become segregated by their power and ability to pay for the desirable locations. There has been a noted spatial reorganization in urban areas over the years.

The two research sites chosen in this study i.e. Ballito and Shakaville are meant to further explore the validity of this theory in relation to open spaces and conservation.

The theory is criticised as an attempt to impose a Marxist conceptual framework onto the social world. The theory is often accused of blaming every social phenomenon on to capitalism.

2.2.5 Maslow's hierarchy of needs

Maslow's theory states that when a need occurs, motivational tension develops and is directed towards the satisfaction of the felt need (Carrell, 1999:105). Maslow's theory speaks of five levels of needs, and his name has been equated with his hierarchy of needs theory (Maslow, 1998: XV). Maslow believed that human beings aspired to become self–actualizing (Maslow, 1998: XX). Physical needs are those associated with food, shelter and clothing, which can be fulfilled by compensation e.g. adequate salary payment. Once these needs have been satisfied the safety need comes to the fore. Then there follows another need which is social in nature. This is a need associated with relationship and acceptance by the peer group. Self esteem is next level of the need which entails status items. The last level in terms of these needs is the self–actualization which

entails usefulness in society. Maslow maintains that these needs will be felt by an individual until they are achieved.

In the study area the high income groups have their basic needs long satisfied, and they can now focus on issues of environmental quality, open spaces and conservation. They are in a position to enjoy the nature's beauty and tranquility provided by natural surroundings. The satisfaction of their needs has reached the level which allows them to entertain open space and conservation needs associated with leisure and recreation. The latter are high level needs at the level of self–esteem and self–actualization.

On the other end of the scale the lower class is still pre–occupied with the desire to satisfy their basic needs like food and shelter. Their immediate priority is to satisfy these basic needs. In some instances the unemployed and lower class will invade open spaces and build informal structures to satisfy their needs for shelter. Open spaces have no immediate value and meaning to their plight. The long term sustainability need seems to be of little value as opposed to their immediate needs. It is therefore critical that the concepts of open spaces and conservation are not perceived by the poor as abstract meaningless concepts that do not touch on the heart of socio–economic challenges. MacDonald (2002) talks of the new vision in this regard, which focuses on the inclusion rather than the exclusion of people and on linking conservation to human needs. The role of cities in achieving sustainable development is very key and critical.

Maslow and Chanda both maintain that people pre occupied with basic needs are unlikely to give priority to issues of environment like conservation and open spaces (Chanda 2000:125). The author's opinion is that these people can only take environmental issues seriously if they are incorporated within environmental content geared towards satisfying their basic needs.

The critique of this theory is that life cannot be neatly put into the stated levels and compartments. There are always exceptions to this blanket approach in terms of how the society behaves. Despite this critique this theory does shed some light in interpreting the needs of the society living in the area.

2.2.6 New Environmentalism Localism Model / Theory

In this discourse the locality is perceived as the most appropriate vehicle to deliver the sustainable future. Much emphasis is put on the local environment as paramount to shaping the local environmental management issues. This involves the inclusion of local people especially those who were previously excluded in the mainstream environmental planning processes. This model also emphasise the importance of the framework of measuring, monitoring and managing environmental resources.

The theories of ecological modernisation stress the importance of national and international regulation encouraging a shift towards new forms of production and consumption cycles which minimize environmental impacts (Atkinson et al,1999:208).

The role of the local municipality in terms of development and control of the open space system is crucial for the long term sustainability. The inclusion of the local people will also assist in ensuring a meaningful contribution in conserving the urban open spaces.

The urban environment comprises social, economic and environmental interface. Most urban areas become the destination for people migrating from rural areas to urban areas in search of economic opportunities. In this context urban areas become important in the social life of the community and this tends to exert pressure on the urban open spaces. In the context of this high activity within the urban areas the cities becomes the most important level in the achievement of

sustainable development. All development taking place within the city is influenced by the decisions of local government.

The critics of this theory often criticise it as full of meaningless rhetoric, ignoring the importance of the national state and globalization (Atkinson et al, 1999).

2.2.7 Species - Area Relationship / Reconciliation Ecology Theory

Rosenzweig is regarded as the father of the reconciliation ecology concept. Reconciliation ecology is based on a simple rule that larger areas contain more species than do smaller ones. The main argument of reconciliation is that rather than insisting on protecting habitats from human use, we need to work in and with the human dominated habitats that cover most of the terrestrial surface of the earth (Rosenzweig, 2003:194).

Michael Rosenzweig predicted that we will save roughly the same proportion of species as the proportion of the Earth that is made available to them (Welz, 2004:506). If we destroy the habitats at a faster rate, we will accelerate the speed of species driven to extinction. He argues that the bigger the area the more species it accommodates and vice versa. He maintains that the secret of saving more species lies in allowing them to use what he calls “our space” or modified habitats in addition to those in protected areas (Welz, 2004:506).

This theory comes with the idea of new modified habitats in places where people live, work and play in what Rosenzweig calls ‘reconciliation ecology’ and he encourages all of us to engage in it. In simple terms the habitats modification is a reality hence Rosenzweig’s argument that we need to make the most of modified habitats to accommodate species. He argues that meaningful biodiversity can still take place in areas not exclusively reserved for nature.

This concept becomes relevant in the urban context where most of land changing projects are taking place, reducing the habitats and highly compromising the biodiversity in the area. In this way people have dramatically reduced area available to species. The current thinking of conserving a network of habitats and comprehensive biodiversity conservation is very much relevant as opposed to islands of conserved areas. The network allows species to move freely and relocate to preferred niches throughout the conserved urban system.

The urban environment offers a highly modified environment which can perhaps be termed “artificial” as captured in our definition of the open spaces which includes parks, cemeteries, sports fields and urban agricultural fields. These environments become the perfect example of reconciliation ecology within the urban setting. In Mangaung (Bloemfontein) there is an overnight “lapa” or wildlife outdoor facility which is within the gum trees. It is referred to as the “gum tree lapa". This is consistent with the concept of reconciliation ecology given the fact that the gums are exotic in South Africa. It is a compromise outdoor facility as the vegetation of the area does not offer much of natural dense bush environment. Rosenzweig (2004:201) uses an example of bees collecting nectar from these modified habitats of croplands, pasterlands, plantations and timberlands as habitats of reconciliation and compromise.

The idea of indigenous gardens and “bring the birds to your garden” is very old within conservation circles, but Rosenzweig takes it a step further. He proposes something more serious and scientific than the original simplistic approach.

The destruction of open spaces within the study area means less species in the area. The shrinking of open spaces is posing a serious challenge in terms of species existence. Some of the modified habitats might include the artificially planted indigenous forests and the parks.

Welz (2004) in his analysis of the concept submits that this concept will need change in attitudes and adaptation by both public and private institutions. Welz argues that the concept is short on implementation content but maintains that its real challenge will come in testing the concept on the ground. The concept still needs to be tested.

Besides some of its shortcomings this theory might bring hope in our urban environments that all is not lost, but the modified habitats can still be of benefit to urban species competing with humans for habitat use.

Welz criticizes this theory by saying some of its theoretical content is not clearly defined for the laypeople, leaving the reader with a possibility of not fully understanding the concept of “reconciliation ecology”. He argues that this theory is not fully defined creating some doubts, and this is a negative thing given the fact that its success will depend on the support by ordinary people. Some non experts might interpret that the theory is also promoting the alien species especially the examples he uses, and this might be a dangerous conclusion and assumption according to Welz. The theory is further criticized that it does not say which species needs help, how and where. It is also weak on implementation, not saying how it can be implemented.

Besides some of its shortcomings this theory is based on the reality of the situation. It might need further research and refinement, but compromise is a reality that faces biodiversity worldwide.

2.3 EARLY ACCOUNTS OF OPEN SPACES AND URBAN CONSERVATION

Although the histories of urban open space differ depending on the country being studied, some generalizations can be made in order to understand the modern creation of urban open space (Sutton, 2008:24). Cities across the world have long realized the need to provide open spaces within the urban area with the

intention of beautifying the cities. The idea of bringing the countryside to urban areas started to take root as early as the 19th century. In 1830s there was already a move around settlements that incorporated the benefits of both city and country. The emphasis was the idea of nature as a spiritual wellbeing for city dwellers, based on Arcadian Classism theory inspired by pastoral ideals. This theory was based on a vision of ideal urban landscape that combined the morality attributed to nature with the enriching and refining influences of cultural, political and social institutions (Knox, 1994).

After the industrial revolution there was a noted movement of people from rural to urban areas resulting in city expansions that created overcrowding, which led to the increase in poverty and diseases. It is during this period that the idea of the park emerged as these were regarded as breathing spaces for the city (Sutton, 2008).

Parks during the 19th century became one of the major issues in the struggle for political and institutional reform. The period saw the rising of park movement under the championship of Frederick Law Olmsted, who was advocating for “a more naturalistic landscape, symbolizing an escape from dirt and noise of the city and an environment that was to foster restraint and decorum” (Knox 1994:149). Frederick Law Olmsted was very instrumental in the park movement which can be compared to the current day greening concept. The concept of Nature and naturalistic scenery has its roots from theorists like Jackson Downing where a comprehensive programme was advocated involving the creation of a whole series of institutions such as museums and parks (Knox, 1994).

Knox (1994) maintains that the whole idea was seen as aesthetic pleasure by the middle class, as this enhanced their property values. The period leading towards the end of the 19th century saw the rise in the concept of city beautiful and this influenced European planning. Green cities were promoted as an ideal way of combining countryside, natural beauty and the general tranquility (Knox, 1994).

Origins of the open space concept is also linked to the Victorian era, especially the Victorian designs which focused on ornamental horticulture and water features approach. This was during the second half of the 19th century. Britain was seen as a leader in the development of parks (Williams, 1995:155).

2.4 THE BRITISH EXPERIENCE AROUND OPEN SPACES AND LAND USE CONFLICT 1980s – 2000.

The British experience of town planning and land use strategies gives a good international perspective in terms of how land use discourses affecting open spaces and natural environment have evolved during the period 1980s through to the 21st century. In this context the 1980s and 1990s saw the rise of a more ecological approach in tackling environmental quality and planning issues (Sutton, 2008).

Vigar et al (2000) draws heavily on the empirical material taken in three different parts of England during the period 1980s through to the 2000s. He describes how environmental lobbyists canvassed grassroot support using several forums. These groups were strongly canvassing support for the general greening of the cities and inclusion of green belts within the cities. It is in this context that Vigar (2000) and Fuggle and Rabie (1996) argue that it must not be the voice of pressure groups that is important but that of the majority. The vision of clean, green, healthy and well maintained open spaces and the environment must be shared by the majority, if the vision of sustainability has to be realized.

While the environmental lobbyists were pushing for greener cities the developers on the other hand were also encouraging development for economic advancement. Atkinson (1999) demonstrate that the debate pertaining to the environment and development is a very old debate within urban environment. The integration of the so-called green and brown agendas, as well as the

rejection of the traditional environment vs. development stance, is long overdue (Atkinson et al, 1999:18). The current approach and emphasis nowadays is more on the integration of social, economic and environmental issues. There is a tendency to leave out political dimension in this integration and analysis which the researcher believes is an oversight given the fact that cities are managed within the political context where politicians are urban policy makers (Atkinson, 1999).

Environmentalists have often perceived environment as ignored in policy formulation within the urban environment. At the centre of their argument is the sentiment of neglected environmental content. The environmental lobbyists have argued that improving environmental quality will eventually create a livable city or town (Sutton, 2008). Healthy cities or towns are expected to include, among many other aspects, viable and accessible open space and urban nature (Sutton, 2008:1).

Vigar et al (2000) has used four discourses as examples of the British relations in terms of planning during the 1980s through to 2000s namely large economic development sites, transport, housing development and waste management. These examples are relevant in land use and open space management system in South Africa.

2.4.1 Housing analysis

In terms of housing development the major debate was around the sites allocated for housing. There was a strong view advocating that 50% of dwellings were to refrain from being located in green belts. The protection of special landscapes and Greenfield sites was seen as paramount by the advocates of green movements. It was argued that the latter sites be used only in exceptional cases. The city of Kent was instrumental in promoting this approach. This city went further to instill the non negotiability of interfering with green belts and similar

areas of outstanding natural beauty by the public sector. It must be emphasised that the land for housing and environmental protection was highly politicised (Vigar et al, 2000).

2.4.2 Economic development analysis

The issue of economic development and provision of jobs as opposed to environmental protection became the bone of contention during the 1980s. The main issue in this context was that business sites were to be allocated in more attractive sites which are likely to attract investors because of infrastructure and accessibility. This category comprised of sites ranging from 10 to over 50 hectares. The general accepted norm was that national economic interests could decide and justify site allocation. Throughout the 1980s this trend was well entrenched and became a political priority encouraged by government in England. This approach created a lot of tensions between the department dealing with the environment and the one of trade and industry (Vigar et al 2000). The economic superiority concept was taken further by introducing the “portfolio of sites concept” which meant that strategic sites were made available at any given time to foreign investments. This trend was dominated by the equation that said sites + firms = jobs (Vigar et al, 2000:128). The unfolding scenario is also a reality in South Africa where the unemployment rate is high and the government has pressure to meet the overgrowing expectations of the previously disadvantaged communities.

In comparing the British approach with the study area within the context of the unfolding discussion in terms of economic development there are evident similarities. The KwaDukuza municipality’s integrated development plan (IDP) is very emphatic about economic growth and the attraction of investment into the municipal area. On the other hand the municipal area has got some of the most pristine of environments especially along the coast. The balance between

economic development and the ability of the environment to sustain the level of development currently taking place has to be struck.

2.4.3 Transportation analysis

Transportation was another area of extreme conflict in relation to the use of sites and open spaces in the British example. The discourse was driven by a notion that roads were key to prosperity and accessibility. Vigar et al. (2000) argues that transport policy professional's view of the environment was narrow minded restricted to the notion of planting a few trees along the roads and regarding this as enough consideration for the environment. In some few instances the concept was expanded to include issues of noise and visual intrusion.

In relating the transportation issue to the study area it is observed that the long anticipated King Shaka Airport is right on the southern boundary of KwaDukuza Municipality. One has witnessed the building of a new freeway along the coast in recent years, and a new road network around the area of Zimbali estate in 2004 / 2005. This is a clear indication that roads are still very much associated with development especially in the context of large scale development that is currently taking place in the study area.

2.4.4 Waste management

Another example used by Vigar in analyzing this discourse is that of waste management. During the period of 1980s to 2000s waste management discipline was fast entering the open space / sites allocation debate within the circles of land use and planning. Waste disposal was becoming an issue in the light of greater environmental consciousness and legislation in urban areas. Legislation was becoming more vocal in terms of waste disposal and environmental standards. The bone of contention was the allocation and location of sites for the disposal of urban solid waste. During the period of 1980s through to the 1990s

waste was dumped at quarrying sites. This practice was slowly being challenged by environmentalists in the face of environmental considerations. The concern was around the groundwater pollution and the need for its protection. The haphazard disposal of waste on open spaces and illegal dumping was also becoming a problem in some developing countries. During the 1990s the concept of waste management in England became more entrenched and it was becoming difficult and problematic to acquire larger sites in the United Kingdom (UK) for waste disposal (Vigar et al, 2000).

This brief analysis by Vigar et al. (2000) shows that urban open spaces have been at the centre of conflict in terms of land use over the years. This clearly demonstrates that planning discourse has been subjected to transition culminating in significant shift in strategic spatial discourses in the face of environmental considerations and legislation.

From the unfolding discussion it's clear that urban planning has to take into consideration social, environmental and economic considerations. Vigar et al. (2000) argue that this new approach will obviously require a great deal of effort in building new partnerships with different forms of involvement. It is generally realized that drawing in new stakeholders into policy process can be a long and cumbersome exercise. Unless these stakeholders are brought on board there is real danger of perceiving these concepts as elitist, and this lead to them drawing very little popular support. Throughout the 1990s the environmentalists have been pushing hard for the recognition of the environment in planning in what Vigar et al. (2000) call "critical chorus".

In our example the fact that in Britain the powers of central government override those of local government undermines the notion that local government is very important in making places more sustainable. There is an emerging concept in the 21st century which puts a considerable emphasis on place quality which encompasses integrated approach and partnership with civil society.

2.5 BRITISH EXPERIENCE AS DEMONSTRATED BY THE COMMISSION FOR ARCHITECTURE AND BUILT ENVIRONMENT (CABE)

The Commission for Architecture and Built Environment (CABE) has a CABE Space Programme under it, which is an initiative geared towards bringing excellence to design and parks management in cities and towns. The programme was established in 2003 as a way of championing the quality of buildings and urban spaces in totality.

The programme argues that redundant urban land must be replaced by well managed parks, open spaces and greenery in order to enhance the image of the area. Among the reasons put forward for its formation, CABE Space states that if you live in a deprived area your parks are likely to be worse off than those living in wealthier suburbs, and they want to rectify this situation through greening and research programmes. The programme argues that well managed parks and gardens tend to increase property values thereby attracting investment.

CABE Space is also involved in research around the issue of parks and open urban spaces. One of their research programmes look at the issue of how greenery contributes to economic vitality, and how it impacts on property values. This is critical for providing credible evidence to inform policy decisions.

Some of the aims of CABE space programme is that of being a national champion for urban parks and green spaces. To canvas support from organisations involved in urban greening, and the strengthening of partnerships. The most important factor is also that of carrying out research and development of information, quality standards and good practice.

The city of Boston is a good example of a city that has taken the issue of open spaces seriously, by integrating the built environment with green space (Menino,

2002:1). The city has produced a city wide integrated open space plan for open space protection. This plan view open spaces comprehensively, irrespective of ownership including non-traditional open spaces. Other than looking at public open spaces it also focuses on open lands under private ownership.

The open space plan has used community participation and public inputs as its driving force. The city of Boston is a success story in open space management.

There is a great deal that can be learned by South Africa from the experiences of the City of Boston in terms of integrating the built environment and the green space.

2.6 AFRICAN COUNTRIES EXPERIENCE

Atkinson et al. (1999) observes that in most African cities waste is collected in mostly affluent areas, whereas in poverty stricken areas waste is hardly collected but is mostly disposed of haphazardly and dumped illegally. As a result waste ends up being disposed of by roadsides, on open spaces, and in valleys and drains (Atkinson et al, 1999:75).

Dar es Salam city in Tanzania is another example used by Atkinson et al (1999) in demonstrating how the city has tried to curb this indiscriminate disposal of waste within an urban area. Local Government Act of 1982 ensured responsibility on urban authorities to remove refuse from any public or private place in Tanzania. Other than the fact that waste becomes unsightly on urban open spaces, but unmanaged waste also blocked drains and caused seasonal flooding resulting in disasters (Atkinson et al, 1999:80). Atkinson et al (1999) argue that waste that is scattered all over the place tend to degrade the environment and decrease the value of land.

2.7 COUNTRIES IN THE SOUTH AFRICAN DEVELOPMENT COMMUNITY, ENVIRONMENTAL STATUS

Chanda (2000) presents a comprehensive account of the state of urban environmental quality and spatial analysis within the Southern African Development Community (SADC) in his paper entitled “Towards contextualizing Urban Environmental Quality in the SADC Region".

Environmental quality is defined as a state of environmental services in relation to such anthropocentric considerations as health, aesthetics, habitation and the supply of various natural resources (Chanda, 2000:122). Available information is used to portray unsatisfactory urban environmental quality situation in the SADC region. Chanda (2000) acknowledge that the issue of data inadequacy is problematic within the SADC region. Chanda highlights the widespread problem of litter within the SADC countries urban areas. Most of the litter is dumped on urban open spaces rather than in allocated sites (where they do exist), and this causes severe environmental pollution.

Chanda (2000) maintains that in most SADC countries there is a serious shortage of resources to enforce environmental legislation. The administrative system is weak and the environmental legislation is fragmented and regulations are not enforced. As a result of this regretful state of affairs most environmental problems are in areas where the residents have neither resources nor incentives to address issues of environment. The SADC region is experiencing rapid urbanisation, and the rate of urbanisation in some areas is said to be exceeding that of natural increase (Chanda, 2000: 126). Rural urban migration also contributes to the scenario especially to capital and major cities. In South Africa this rapid urbanization is leading to problems of illegal land invasion of open spaces as indicated earlier.

Most cities generally accept that urban environments should be healthy and appealing to residents, but the situation in SADC region paint a gloomy picture to this ideal, argues Chanda. Chanda concludes by saying that education and adoption of national environmental plans by governments is critical in achieving this ideal.

2.8 CONCLUSION

This chapter discussed various theories that are deemed relevant in explaining some of the social settings in relation to the use of open spaces.

The chapter has briefly looked at the experiences and examples of other countries including United Kingdom, African states and the SADC countries. These examples show clearly that the conflict around the use of open spaces and natural environment has been riddled with conflict from time immemorial. This has been the case in both developed world like Britain and developing countries like the African continent. South Africa and the study area is also showing similar patterns around open spaces and natural areas within the urban environment.

The SADC situation is articulated by Chanda as portraying a very unsatisfactory urban environmental quality situation in these countries while acknowledging that there is also a problem of inadequate data.

The next chapter will look at the issue of urban open spaces in South Africa with special reference to the commitment that has been shown towards sustainable development; impacts of skewed urban planning and how this has affected open spaces, the importance and benefits of open spaces, and the challenges and threats facing open spaces in South Africa.

CHAPTER 3

URBAN OPEN SPACES IN SOUTH AFRICA

3.1 INTRODUCTION

The chapter will focus on the commitment of South Africa to the principles of conservation and sustainable development. The chapter will discuss the impacts of skewed urban planning and how this has affected open spaces using the example of a previously disadvantaged area. The chapter will also discuss the importance and benefits of open spaces in the South African context. The chapter will conclude by briefly looking at the challenges and threats facing open spaces in South Africa.

Human beings have always shown an interest and desire to be closer to nature, and this is sometimes reflected by the plants that are normally seen in modern houses and offices. This is further illustrated by urban facilities like botanical gardens, human made animal enclosures like zoos and crocodile centres. The general domestication of animals can further be seen as emphasising this human desire to be closer to nature and the natural environment. From time memorial human beings have attempted to adapt the environment to their needs (Fuggle & Rabie, 1996).

South Africa, for example, has eight botanical gardens across the country, and these are viewed as living museums. One such good example in terms of the living museum concept is Kirstenbosch National Botanical Garden in Cape Town. It is understood that as early as October 1652 Jan van Riebeeck, commander of the Dutch East India Company surveyed the forests in this garden and appointed the first forester to protect the forest above the garden for the production of timber for the company.

Some cities in South Africa have created walking trails on their outskirts where one can experience nature in the wild within the urban environs. Kirstenbosch National Botanical Garden has a Braille trail for the blind, and fragrance garden comprising plants with unusual texture and scents. Another example would be Ingweni Trail between Pinetown and Kloof in KwaZulu-Natal (Cooper, 1995).

Traditionally conservation has been practised in remote wilderness areas. The rise of environmentalism in South Africa started to expand in 1970s with an emphasis on green lungs and green belts within the cities and urban outskirts (Fuggle & Rabie, 1992).

The concepts of urban conservation and open space systems are well established in South Africa under the banner of metropolitan open space system (MOSS), and this has been regarded as the major milestone within the South African urban conservation circles. Several cities in South Africa like Durban, Bloemfontein and Msunduzi adopted and embraced this concept incorporating it in their urban planning policies in 1990s. In the city of Durban the concept was spearheaded by its Environmental Management Unit under the guidance of Dr Roberts (Cooper, 1995).

3.2 COMMITMENT TO ENVIRONMENTAL SUSTAINABILITY AND SUSTAINABLE DEVELOPMENT

The World Summit on Sustainable Development (WSSD) confirmed that conservation of our natural heritage is increasingly becoming a top priority for world leaders. Programmes like Local Agenda 21 which is a global plan of action for sustainable development is a good example reflecting this commitment. The United Nations World Summit on Sustainable Development, also known as Johannesburg Summit held from 26 August to 4 September 2002 and hosted by South Africa, bears testimony to this conservation commitment. The Summit

brought together world leaders, non governmental organizations, business and ordinary people together to tackle challenges including the improvement of the lives of the poor while ensuring the conservation of natural resources. The Summit can be seen in the context of major world challenges including food shortage and increasing demands for water, shelter, sanitation, energy, health services and economic security (Department of Environmental Affairs and Tourism, 2002).

It is in this context that the concept of sustainable development becomes very important in tackling world challenges. If sustainability does not address issues of poverty it will continue to be perceived as an abstract, meaningless concept by the developing countries, unless it touches on the heart of socio–economic challenges.

South Africa has shown great commitment and zeal in the conservation of the environment. Guideline documents for urban conservation and open spaces were already in place in the late 1980s (Council for the Environment 1989 (a) and (b)). South African cities are increasingly subscribing to this notion of the natural urban environment forming part of the urban landscape as strongly advocated by Keith Cooper in the 1990s. The Metropolitan Open Space System (MOSS) concept took root in South Africa in 1990s (Cooper, 1995). The concept emphasizes the linkage of the open space system as compared to isolated pockets of urban green patches. Most cities adopted the concept and associated strategy, especially in KwaZulu-Natal (KZN) as have several municipalities including eThekwini Municipality (Cooper, 1995). The then Wildlife Society today known as Wildlife and Environment Society of South Africa (WESSA) encouraged the “Friends of Schemes” in the 1990s as a vehicle for achieving the goals of MOSS (Cooper, 1995). This approach resulted in the strengthening of urban conservation, and Keith Cooper is hailed as the founder of the concept in South Africa. The creation of urban open spaces gave impetus to the overall cohesive green network system.

The major challenge has been the selection criteria to be used and agreed upon in terms of areas qualifying for the metropolitan open space system. The urban management programme (1987) proposed important habitats, areas which are rare and threatened. Areas which are regarded as important for recreation, and those that are capable of breaking the homogenous concrete jungle. Biodiversity Network has added its weight in the debate around the issue of criteria. They propose the mapping of the urban site according to categories using different colours as A (green), B (yellow), and C (red): A being green conserved areas, B being intermediate areas and C (red) comprising of areas threatened by development. The biodiversity network criteria also looks at the size, irreplacibility value and value of connectivity. Most municipalities acknowledge that the major challenge in this initiative within the urban areas is to align the IDPs, the Spatial Development Framework (SDF) and the Metropolitan Open Space System (MOSS) plans to these site maps. Working in silos and resistance from several municipal departments at times creates barriers to implement these plans.

It is worth noting that this all inclusive provision of open spaces across all residential areas marked a radical shift from the previous urban planning approach. The new approach started to recognize the need for open spaces in areas settled by black South Africans. Cooper (1995) remarked that the black residential areas were the most severely affected in terms of pressure exerted on indigenous vegetation. He maintained that the all inclusiveness of open space planning was one way of making urban conservation more practical and meaningful.

Fuggle & Rabie (1996) maintain that planning in South Africa developed as a control oriented system. Planning is a field that is continuously evolving, and in the late sixties and early seventies there was greater emphasis on incorporating conservation principles. These trends evolved and today we speak of sustainable development. There is widespread promotion of development and conservation

which is important to the improvement of quality of life (Fuggle & Rabie, 1996). Formal integration of environmental content in urban planning is beginning to take root through different pieces of legislation, like National Environmental Management: Biodiversity Act, Act No 10 of 2004. The latter Act is an overarching legislation that encourages use of plans and maps showing environmentally sensitive areas. In addition to this there are several planning tools that have already been introduced like Land Use Management System (LUMS) which encourage the inclusion of conservation and environmental principles in planning.

The late 1990s saw a major shift from the previous urban planning approach in South Africa (Behrens and Watson 1996; Guidelines for human settlement planning and design 2000). Several environmental policies were adopted taking into account the importance of the environment and open spaces while addressing the past spatial imbalances. This is demonstrated by several pieces of legislation advocating equality and the inclusion of social, economic and environmental principles in the planning arena. Even the Planning Profession Act No 36 of 2002 strongly advocates the promotion of environmentally responsible planning which will ensure sustainable development as its key principle (RSA 2002, sec.2(c) (iv)). The concept of land use schemes expected from all municipalities in South Africa will further consolidate this new urban planning approach.

The Department of Environmental Affairs and Tourism continuously compile the state of the environment report, as a way of knowing the state of the South Africa environment. It is noted that the report does not only outline the past and current situations, but also sketches future scenarios (Gibson, 2005: 12). The report is all inclusive in its approach focusing on the interaction between the environment and economy as well as human settlement.

3.3 THE EFFECT OF SKEWED SPATIAL PLANNING ON URBAN SPACES – EXAMPLE OF AN URBAN TOWNSHIP IN DURBAN

The South African urban landscape is characterised by well-developed infrastructure in the urban core surrounded by massive townships and informal settlements located on the outskirts of the urban core. This has had a negative impact on the urban poor and the natural environment. The major challenge is in spatially incorporating these townships which were effectively located on the periphery into broader urban planning. Oelfse and Patel (2000) argue that it is of critical importance to understand the needs and dynamics within these disadvantaged communities. These dynamics includes poor drainage, poor waste management, social violence and inappropriate locations (Oelofse & Patel, 2000:35). These challenges have created difficulties in implementing the concept of sustainable development. Oelofse and Patel (2000) argue that the links between the natural environment and the social and institutional dimensions are not well developed in environmental legislation that explicitly promotes sustainable development.

Oelofse and Patel (2000) maintain that the approach needs more detailed exploration of human health and healthy functioning of natural systems together with the proper integration of environmental and social aspects. This skewed planning will need massive investment to uplift these areas which were previously neglected. In South Africa there is a need to fully integrate environmental concerns within the municipal integrated development plans. The white paper on local government advocates this approach. The Integrated Development Plans (IDPs) call for public participation in the affairs of local government, which has been a major characteristic of the democratic post–1994 era. Oelofse and Patel argue that this kind of integrated planning calls for full capacity building both within local government and civil society to ensure that the

process be constructive. Local Agenda 21 adopts an integrated and inclusive approach in dealing with issues of sustainability.

The case study of the township of Clermont in Durban, South Africa illustrates the difficulty in operationalising the principles of sustainability in South African townships. This research draws from participatory environmental education and conservation programmes. Oelofse and Patel (2000) raise a concern in the way things are rushed in terms of physical development and transformation without adequate chance to put solid foundations to build an individual and a community, as well as institutional capacity to sustain the process. In the area of Clermont, environmental management, summarized as ‘conservation”, was rated as priority 12 out of 13, which clearly shows that environmental management was not recognized as important (Oelofse & Patel, 2000:38). This kind of attitude towards the environment is highly problematic within the context of sustainability. Allison and Harphem (2000) make a very important point when saying that community identity is strongly influenced by culture, gender roles, authority and power relations.

The Clermont case study revealed an interesting scenario around perception where the community identified a park as their first project of the conservancy. The open spaces in the area are part of the Open Space System of the Durban Metro which is part of the Local Agenda 21 programme. The issue of biodiversity principles and those of community needs were in direct contrast. The example of this project was the site chosen which was not ecologically appropriate but the community chose it on the basis of accessibility and visibility. The community wanted flowers planted in the park rather than indigenous trees (Oelofse & Patel, 2000).

Clermont Township is one example of the remnants of skewed urban planning affecting South African townships which were highly marginalized. (Oelofse & Patel, 2000). In some instances Clermont is characterized by informal

settlements along river courses. There seems to be limited understanding by people of environmental risks that are prevalent in the area.

The reality of ranking environmental management low in South African townships is a serious cause for concern (Oelofse & Patel, 2000). Environmental Impact Assessment (EIA), strategic environmental assessment which are processes legally demanding community participation is one way of capacitating and entrenching a participative approach when involving the previously disadvantaged. This is an ideal opportunity to absorb previously disadvantaged people in programmes such as “expanded public works programme”. The latter is a government strategy to promote labour intensive projects that target the unemployed. As these projects are launched in previously disadvantaged areas, and some of them require EIAs, the opportunity is presented to communities to be brought on board in terms of environmental issues.

In conclusion Oelofse and Patel (2000) submit that public participation is critical and an important ingredient of sustainable development. The acceptance of the concept is not going to be easy, and it will call for commitment from all parties concerned. The difficulty in South Africa is that the society comes from the history of confrontation, and we have to move towards the politics of negotiation. Power dynamics is another element that is prevalent within community structures. There is a great need for community empowerment to allow communities to make informed decisions. The harsh reality is that some of the smaller municipalities lack resources and capacity while more pressure is exerted on them to deliver. The obstacles to the realization of sustainable development move beyond a focus on green issues (Oelofse & Patel, 2000: 42).

Allison and Harphem (2000) in their analysis note implications of environmental health within the urban environment. They advocate a holistic way of approaching urban ills. Allison and Harphem (2000) in the same way as Vigar et al (2000) emphasise partnerships as a shared responsibility in decision making

(Allison, 2000). The reasoning is premised on pluralist theory which states that civil society has the power, through its ability to influence decision making, to hold the state accountable.

3.4 WHY ARE URBAN OPEN SPACES IMPORTANT IN THE SOUTH AFRICAN URBAN LANDSCAPE?

The democratic dispensation that was ushered into South Africa in 1994 came with great expectations for the previously disadvantaged. People saw urban areas as presenting opportunities for a better life, hence the large numbers of impoverished people streaming to cities (Fuggle & Rabie, 1996). The lack of employment opportunities in rural areas had further exacerbated this migration to urban areas as migrants hoped to secure jobs in the cities. This scenario has contributed to the current overcrowding in most South African cities. Overcrowding is exerting pressure on the cities and their environments. The government has been under severe pressure since 1994 to provide houses for the homeless. The scrapping of the Group Areas Act of 1950 has created opportunities for all inclusive urban development.

The researcher's practical experience shows that in most instances development and the creation of jobs far supersedes the issues of environmental sustainability. Local government experience has shown that the former carries more political weight than the latter. It becomes very difficult for the local politicians to implement environmental programmes in cases where their constituencies are still without shelter and are poor. The changing of this thinking will need radical political will and intervention. Land by its nature is a scarce resource therefore conflicting needs are by this very reasoning unavoidable in the urban context. The major challenge is that of satisfying and balancing the existing conflicting needs. Norms for controlling development and for conservation are often based on highly subjective perceptions influenced by income level and cultural norms (Fuggle & Rabie 1996:718)

The researcher's personal observation and experience shows that lack of environmental literacy among some decision makers, especially politicians lead to uninformed decisions regarding land allocation, and the development of urban open spaces. This factor is very critical in the urban environment because most of the urban governance decision making processes take place within the political environment of councils. It is therefore important that all urban environmental programmes take political dynamics into account. As indicated earlier, there is an urgent need for political will and champions to be able to succeed, especially in the face of tough land competition and economic competitiveness. This kind of political will is also an indication of some sort of governmental commitment to the implementation of environmental programmes. South Africa, through its former Minister of the Department of Environment Affairs and Tourism, Mr Valli Moosa, has shown that this ideal is achievable. A good example is the introduction of regulations under section 24(d) of the Environment Conservation Act No 73 of 1989 (Plastic Bags Regulations) whereby the concept of reducing the plastic bags as an environmental control measure was conceptualised and implemented.

Another example which might be relevant to the South African situation is that of the success story of green parks programme in Santiago in Chile as presented to us by Balza (Atkinson et al, 1999). In this programme sites of significant sizes were reserved as parks, and the programme enjoyed the support of the Minister (Atkinson et al, 1999:63). The success of this programme can be directly attributed to the political will as far as environmental policies are concerned.

Fuggle and Rabie (1996) argue that the will of the majority ought to prevail as opposed to that of only pressure groups. They maintain that pressure groups tend to be in minority and pursue interests based on their values, which might not necessarily be consistent with the values of the majority. One must also take into consideration that representative democracy in the form of councilors in the

urban context does not always encompass the whole political process. At times there is a failure to recognize civil society in the form of urban and environmental non-governmental-organizations (NGOs), community based organizations (CBOs), Ratepayers Associations and trade unions (Atkinson et al, 1999: 20). Those who have been previously excluded must be brought on board like blacks, and the ethnic minority, the poor, the youth and the aged. It is the researcher's submission that we need to go beyond the narrow perception of the word environment to a broader definition encompassing the principles of sustainable development to ensure better quality of life in the long term. We need to move away from the notion of environmental issues still seen as wildlife issues. It has to sink into the population's minds that the concept is far broader than that. The researcher's view of better quality of life encompasses clean air, water; un-eroded soil where people can grow their vegetables, and live in clean hygienic conditions.

The planting of trees in previously deprived areas can enhance air quality in their settlement giving the atmosphere of hope, tranquility and peace. These are practical examples that the environmentalist need to sell to the previously disadvantaged if environmental sustainability has to make sense. It is the researcher's belief that environmental sustainability must be directly linked to the people's day to day living conditions. It must not be seen as a foreign concept, distant from the ordinary people without any practical value. Some authors have argued that the politics of ecology appear reactionary in content and elitist and very much insensitive to the poor and disposed (Benton, 1996:7).

3.4.1 Some of the benefits of the natural heritage within city boundaries

3.4.1.1 Green lungs

The natural areas and urban open spaces serve as green lungs which are crucial for the continuous provision of oxygen in the highly polluted urban environment

characterising most cities. The comprehensive and integrated biodiversity plan will ensure diversity in species existence and conservation (Cooper, 1995).

The green and clean environment that most cities are aspiring to is attractive to potential investors. Atkinson (1999) argue that a bad environment makes a city an unattractive place to live, work and invests in. Dr Olver the former Director–General of the Department of Environmental Affairs and Tourism (DEAT) 1994 – 2005 emphasised the importance of national biodiversity when he spoke about exempting conservation areas from property rates under Property Rating Bill. This Bill has since been promulgated as an Act– the Municipal Property Rates Act of 2004 effective from 1 July 2005. In this context property is defined as all immovable property registered in the name of a person, including sectional title units, communal land and public service infrastructure (LG Bulletin, 2005). The nature reserves, national parks and national botanical gardens are excluded in terms of this legislation from the levying of rates (LG Bulletin, 2005:2). He argues that this will lead to the establishment of private conservancies. The conservancy concept refers to a scenario where local people jointly run a conservation area in a collective manner for the benefit of the local environment. This could encourage property owners to see conservation as directly increasing the value of their properties. The Wildlife and Environment Society of South Africa takes the concept further by advocating for the establishment of indigenous gardens, and the concept of every garden being turned into a nature reserve (WESSA, 2005). This concept will later be compared to Rosenweig's concept of reconciliation ecology, whereby the modified habitats are seen as having an important role in urban biodiversity.

The City of Johannesburg has made tremendous strides forward in greening the previously deprived areas like Soweto. It is unfortunate that most planted trees tend to be vandalized in townships. The vandals fail to understand the crucial role played by trees in providing living creatures with oxygen, and this tends to undermine all conservation efforts. Trees are being ring barked and eventually

killed. Some residents go to the extent of injecting trees with poison with the intention of killing them. We often read of neighbours fighting around the issue of tree cutting that is sometimes said to be obstructing the sea view (Ryan , 2007c). As much as the legislation makes provision for prosecution in line with the National Forests Act, Act No. 84 of 1998, most municipalities and cities seem to be reluctant to exercise their constitutional powers by prosecuting or at least fining the culprits.

3.4.1.2 Outdoor classroom

The natural environment can serve as an outdoor classroom for urban children. A good example is the Franklin Nature Reserve in Bloemfontein. Conservation and environmental education is critical in further entrenching the concept into the minds of learners thereby ensuring long term environmental sustainability. Another conservation area used for team building sessions and recreation is Shongweni Dam near Durban. Such areas have been identified by environmentalists and employers as important in team building sessions, as well as for team spirit which may ultimately increase productivity in the workplace. These areas are important for the general relaxation within the urban environment. Natural areas and open spaces become leisure spaces and areas of social cohesion.

Another good example is that of Edith Stephens Wetland Park within Cape Town Metropole. The Park is used for environmental education, training, conferences and meetings.

3.4.1.3 Reduce the impact of natural disasters

The natural environment can assist in containing the devastating impacts of natural disasters, especially flooding. The presence of open spaces along floodlines with natural vegetation like reeds can go a long way in slowing down

the rate of surface water flow. The bare and devegetated catchments can also contribute to erosion, flooding and siltation that ends up in dams and reservoirs. The occupation of land unsuitable for human settlement through land invasion and illegal occupation of open spaces exacerbate the disaster potential. Therefore proper catchment and natural resources management within the urban environment is likely to reduce the impacts of these natural disasters in that way saving lives.

The striking of natural disasters due to environmental degradation has reminded some developers that there is interconnectedness in the universe. It has brought to the fore the fact that there are benefits in preserving the natural state of developmental sites as demonstrated by Zimbali South Development discussed in Chapter 6. Some developers are not only starting to treat the environment with respect, but also embracing the concepts of integrated human settlement and sustainable development. Furthermore some developers are beginning to realize that nature has economic value (Pearce, 1998).

The researcher's observation has been that in most instances the only open spaces that were left undeveloped were those protected by servitude restrictions. These are restrictions like servitudes under the power lines enforced by the South African Electricity Utility Company called Eskom. In some instances it is sites that are on floodlines.

3.4.1.4 Muthi / traditional medicine

It is believed that 80% - 85% of the African population use *muthi,* and there is a reliance and dependency on the use of traditional medicine and the use of herbs (Nesvag, 1999). The concept of traditional medicine is very much entrenched within the ancient traditional practice which will continue to play a central thriving role in South Africa. Although western medicine is used, but a significant percentage of the African population still visit traditional healers for their health

needs (Nesvag, 1999; INR 1998). The product is mostly traded in black residential areas, and in some instances near transport nodes in urban areas. The recent recognition of traditional healers by the South African Government within the medical aid scheme framework bears testimony to the value accorded to traditional health system.

The INR report estimated that there were some 27 million *muthi* consumers in South Africa around 1998 (INR, 1998). The same report estimated that the *muthi* trade generated between 20 000 to 30 000 jobs in KwaZulu-Natal, and some 14 000 jobs in Durban alone (INR, 1998).

The plant material is prescribed by the healers in line with their treatment methods. These plants are used to boost the immune system in the face of failing immune system exacerbated by the prevalence of HIV / Aids. It is also used for several ailments like blood cleansing, pimples, skin disorders, influenza and other ailments.

In Mangaung (Bloemfontein) area about forty medicinal plants were recorded during the state of the environment study, of which eight species were exotic (MLM, 2003). These plants are being utilized by the local communities to treat various ailments. Annual trade volume of medicinal plants alone in South Africa could be as much as 19 5000 tons a year, with a trade value of R270 million (Nesvag, 1999:16). The raw materials traded and the value added through the dispensing of medicine could be worth R2 billion a year (INR, 1998). It is unfortunate that this thriving market encourages extensive harvesting of wild plants stocks, leading to a serious threat to our biodiversity. The over harvesting and unsustainable use of this resource leads to some plants becoming unavailable in certain areas. The scarcity tends to increase the price of medicine and this tends to drive more plants to extinction. In terms of the supply and demand law the demand for the indigenous plants exceeds supply and this can

lead to extinction. Irresponsible stripping is causing a threat to this important natural heritage.

There are several projects based on planting indigenous plants for muthi purposes that are currently underway across the country. The idea of a traditional plant nursery, sometimes called muthi gardens, has taken root in South Africa, and it is based on encouraging cultivation. It is critical that the gardens under South African Biodiversity Institute (SANBI) be made relevant to the majority of South Africans. Their relevance will be demonstrated by their ability to provide food, medicine, jobs and income to ordinary people. These gardens need to be complemented by extensive education geared towards the overall protection of biodiversity. The success of this programme hinges on education as opposed to law enforcement where knowledge about conservation is still lacking.

These projects must be able to reduce pressure exerted on wild fauna stocks. Silverglen in Durban was the first muthi nursery which was driven by the aspiration to restore the balance between the herbal medicine trade and conservation of our plants. In South Africa certain organisations concerned with environmental protection are encouraging the growing of indigenous plants.

The Wildlife and Environment Society of South Africa has been instrumental in advocating the conservation of natural heritage within the urban environment. This is clearly demonstrated in the WESSA policy on urban conservation. WESSA was encouraging the incorporation of natural areas in town planning, and the protection of sensitive habitats well before the formal legalisation of this approach (WESSA, 2005).

In South Africa initiatives are afoot to have the muthi industry organised along commercial lines. In a survey done in 1998 an annual trade of 1,500 tons was recorded with a rand value of approximately R21 million (Commercial products, 2006). The commercialisation of traditional medicine and the sophisticated

consumers are pushing for more hygienic packaging. Muthi shops are also mushrooming in several downtown parts of several South African cities. The western practitioners like pharmaceutical companies are also entering the trade with great vigour.

3.4.1.5 Nature reserves with a valuable history

Some of the nature reserves found in urban areas have a valuable history which can be traced back to hundreds of years. A good example is Dlinza Forest in the small town of Eshowe in northern KwaZulu-Natal, which is a treasure house of the historical events of the Zulu nation. This forest is viewed as a treasure of cultural heritage and diversity. The Franklin Nature Reserve in Bloemfontein has a rich history of the Anglo–Boer war. Hundreds of tourists visit the reserve every year to pay tribute to their fallen forefathers.

The current day nature reserve is being challenged to adopt what is normally termed “benefits beyond the boundaries”. In other words these protected areas must benefit the larger community. The community must benefit directly from these areas through job opportunities. Some of the economic benefits from these protected areas can include the procurement of goods and services, and management joint ventures.

3.4.1.6 Religious and cultural significance

It is common to find some public open spaces used by the local people as areas of religious assembly. Zetter and Watson (2006) quote an example of Latin America where the local people gather in open spaces to practise their religious activities. The researcher witnessed the same practice in KwaDukuza where the Shembe religious group was using open spaces for religious purposes.

(Source: Photograph taken by the researcher at KwaDukuza, 2007)

Among the African cultural groups there are still those who still practise the culture of “initiation” as it is called. Initiation refers to the culture of taking young men to the ‘bush’ to teach them about issues of manhood within the cultural context as part of their life skills. The Basotho and Xhosas still actively practise this culture. In urban areas they tend to make use of bush stands where they are able to practise the culture in privacy as is expected of this specific ritual. The cutting of trees and bushes and the unavailability of bush stands in urban areas puts strain in the free practising of this culture as part of their constitutional right.

There are other cultural practices that take place in open spaces like *ukwaba* (the process of the newly married bride giving gifts to her new in laws), and *umemulo* (the equivalent of the 21st birthday in the Western culture). The researcher has witnessed the practice of these cultural functions within the study area on the

streets (with road closed signs) due to shortages and lack of proper open spaces of appropriate size.

Some urban rivers and streams are used by some religious groups for baptism purposes (Pitamber, 2007). As much as these rivers and streams are crucial but in urban areas they are usually polluted by several polluters and overflowing sewer systems. These are sometimes full of litter washed away from different urban sources.

It is therefore the researcher's contention that in planning for open spaces religious and cultural groupings must be consulted. The final planning process and designs must reflect the needs of these groups in terms of location, accessibility and the general issues of security.

3.5 CONSTRAINTS AND THREATS FACING URBAN CONSERVATION AND URBAN OPEN SPACE SYSTEM

3.5.1 Homelessness and housing development

Homelessness of the people in urban areas calls for the provision of more houses which are affordable for the lower income groups. Low cost housing projects have had a major impact on the South African urban landscape since the dawn of our democracy.

It is the author's observation that the mushrooming of low cost houses in traditionally affluent areas has brought another dimension to urban landscape. A good example is the extensive building of low cost houses in the greater Cato Manor area of Durban. This kind of mushrooming must be seen within the context of housing backlog created by the skewed spatial planning of 1950s and 1960s that was geared towards segregating the city racially and socio-economically, and the spatial planning of the 21st century in South Africa

(Christoph, 2002). One can only acknowledge the interventionist role of spatial planning if the scenario is viewed within the context of the segregated apartheid city and control process of urbanisation. It is the author's observation that these developments may impact heavily on urban conservation of open spaces and creates planning conflicts. There is a realisation within the government circles and policy makers that there is a great need to house the working class closer to the areas of their employment.

The spatial inequality being discussed can easily lead to frustrations and forceful land invasions that unlawfully claim more urban open spaces. In Bloemfontein the area called Grassland which is a private open space has been invaded by informal settlers creating a serious problem for the Mangaung Local Municipality (Volksblad, 2005). Like all cities of the developing countries, South Africa has also experienced considerable cases of land invasion (Masinga, 1994). These overwhelming cases of invasions are attributed to numerous factors ranging from the lack of affordable land to the failure of governments to accommodate the ever expanding urban population (Masinga, 1994:14). Masinga (1994) argues that election campaigns are often associated with widespread land invasions.

These trends are making the issue of urban open spaces more difficult to manage, because those without land will continue to view unused open spaces as luxury. This action is also undermining the value of Spatial Development Framework (SDF) which is supposed to allocate specific areas for a particular development upfront. If this allocation is interfered with through land grabs, the whole rationale for SDFs and their objective of orderly planning is undermined.

The other challenge within the study area is that the boom in the property development has attracted several people outside the borders of the municipality in search of opportunities, this has resulted in the increase of informal settlements (KwaDukuza IDP, 2005:30).

The municipality in which the study area falls is one of the municipalities that has made remarkable progress in the provision of low cost houses. The KwaDukuza IDP states that when the Council came into office in 2000 (for the period 2000–2006), the second biggest challenge was to address the issue of housing backlogs and the clearing of slums within the municipal area of jurisdiction (KwaDukuza IDP, 2005:4). According to the IDP these efforts within the study area were sometimes frustrated by the unavailability of land where houses could be built. This situation was sometimes created by some landowners who tended to inflate land prices beyond affordability.

Land is a scarce resource needed by many people, therefore it will always be in demand in relation to supply and this tends to push the land price. Increased prices create a problem for the poor as it pushes property values beyond reach of the ordinary people.

Residential complexes are competitors for limited urban open spaces. A balanced approach to land allocation and zoning will have to be the core of future environmentally friendly urban planning. The classification of urban open spaces according to their ecological attributes will have to be prioritized. This will help in identifying those open spaces that can be developed and those that must remain 'no-go areas'. (Local Government Digest, 2000). Conflict tends to manifest itself on issues like the allocation of well located land for housing the poor as opposed to conservation of land for biodiversity (KZNPDC, 2005: 113).

The study area is currently seeing massive residential developments in estates like Zimbali Golf and Leisure Estate, Simbithi Eco–Estate, Ballito Business Park, Seaward Estate, Dunkirk Estate, Sheffield Manor, Brettonwood and Zululami Estate (KwaDukuza IDP, 2005:16).

It is of interest that despite the fact that people are being housed by the municipality, the slums continue to mushroom. The KwaDukuza municipality in its

Housing Indaba in 2005 resolved that a strategy to destroy the slums once people had taken occupation of their houses had to be adopted to ensure that there was no resettlement by other people (KwaDukuza IDP, 2005). The destruction of these slums is likely to leave the open spaces further vulnerable to illegal invasions. It is critical that a comprehensive open space plan must take this scenario into consideration.

Although the concept of housing the people is commendable, it is unfortunate that some houses are built by some municipalities in areas that are not environmentally suitable. There are instances where some of the houses are built in sensitive environments like waterlogged areas, and on floodplains making the occupants susceptible to natural disasters like floods. Some of the houses are built on very steep slopes making the area susceptible to soil erosion. Some of these houses are built without even following the correct environmental procedures like environmental impact assessments.

The upper end of the economic scale in the study area has seen the mushrooming of the so called gated communities occupying prime land. The government‘s comprehensive human settlement plan has identified key focus areas among which are:

- utilising housing as an instrument for the development of sustainable human settlement in support of spatial restructuring.
- using housing development to break barriers between the first residential property boom and the second economy slump (RSA, Department of Housing, 2005).

The former president of the Republic of South Africa, Mr Thabo Mbeki, during the opening of the Brickfields Housing Development in Johannesburg on 12 August 2005 said “ there is an urgent challenge of bringing to a stop the pro–rich housing development strategies that ensure that the best located land that is close to all the best facilities is always available to the rich; a situation where the best land is

located especially to create gated communities and golf estates, while the poor can only access dusty semi–developed land far away from modern infrastructure (RSA, Department of Housing, 2005).

3.5.2 Demand and scarcity of land

Rapid urbanisation in developing countries has been phenomenal in recent years, especially of people migrating from rural areas as they are attracted to cities. The reality of the situation is that the cities are unable to absorb the flood of landless and jobless to its fold. This situation is further exacerbated by the fact that urban land is very expensive, and this contributes to landlessness as most of these people can not afford to buy urban sites (Masinga,1994). This results in a situation where the landless create informal settlements in areas not zoned for residential purposes. It is the author's observation that in most cases these landless people settle in urban open spaces and in areas which are ecologically sensitive.

There is an increasing demand for land in urban areas for facilities like cemeteries. More and more urban cemeteries are becoming full, and the situation is worsened by the prevalence of HIV and Aids. KwaDukuza is one of the areas in KwaZulu Natal Province that is severely affected by HIV/AIDS (KwaDukuza IDP, 2005:62). Cemeteries require huge open spaces exerting pressure on the existing scarce land and natural areas. In the study area the lack of space for graveyards was also raised as a pressing issue during the IDP consultative process (KwaDukuza IDP, 2005:27).

The price of urban land in South Africa where the rate of unemployment is so high makes land to be out of reach for the majority of the people. This leaves them with little option other than settling in any open space whether its public owned or private owned. In this way the informal settlement is slowly created.

In South Africa the land issue is further complicated by the skewed land ownership patterns. This stemmed from the measures introduced under the Glen Grey Act (Act No. 25 of 1894), limitations placed on the amount of land available to African people, the restrictions placed on squatting under the Land Act No.27 of 1913 and the effects of the Land Act of 1936 (Stadler, 1989:41). These restrictive Acts effectively forced the majority of the African people to the ranks of landlessness. According to KwaDukuza IDP (2005) the issue of landlessness was raised as a concern during the 2005 / 2006 IDP consultative process, and the citizens appealed to the municipality to liaise with the Department of Land Affairs to resolve and fast track the issue of land restitution and redistribution.

3.5.3 Urban agriculture

Agriculture is the constitutional mandate of the provincial government in South Africa, but the current trend shows that more and more South African cities and towns (municipalities) are seeing the need to engage in peri-urban agriculture. The local government is seen as developmental in nature, therefore agriculture is critical in the developmental agenda of the local communities. This means that some urban land will have to be made available for agricultural projects. The open spaces do not need to be for conservation only, but the metropolitan open space system can also be used for urban agriculture (Municipal Engineer, 1995). It is not only commercial farming that is important, but also small scale urban agriculture has an important role to play in food security. The urban poor and patients of HIV / Aids can also benefit from urban food gardens.

The concept of urban agriculture can be used as an example of how open spaces can benefit the poor within the urban area. The South African National Biodiversity Institute (SANBI) is currently promoting urban agriculture in South Africa. The projects are used as a job creation vehicle for the unemployed youth. These projects are important in provision of skills while feeding the nation.

Although cultivation of food crops in public and private open spaces is common practice in most developing countries, the reality is that most cities discourage this practice (Freeman, 1991). Among other things this situation is caused by the fact that urban life is expensive and most people attracted to the city are unable to secure employment, whereas they have a pressure to provide food for themselves and their families. Rural urban migration is contributing to this scenario. Urban agriculture is common in most African cities but planners and administrators are always criticised for poor urban planning in failing to recognize this activity in urban land use system (Freeman, 1991). Freeman (1991) argues that urban agriculture was discouraged by the colonial powers from the days of colonialism, citing the example of Nairobi city in Kenya.

In the study area one observed several initiatives geared towards productively utilizing urban open spaces for agriculture.

3.5.4 Landfill sites

The other problematic issue facing urban areas is the waste that is illegally dumped on urban open spaces. Several strategies have been put forward as a way of containing urban waste, these include recycling, re-use of some materials and minimisation of waste. Although some South African cities have by-laws and legislation in place most of them have no capacity to enforce legislation. In some instances illegal dumping on open spaces takes different forms like domestic waste, building rubble and garden refuse handled by different municipal departments. At times the fragmented nature of handling it creates problems in tackling the illegal dumping challenge effectively. This scenario has led to the need for more landfill sites within the urban areas where the generated waste can be dumped.

Waste management is a priority for South Africans, and there is a need for urgent action to reduce and recycle waste in order to protect the environment.

Furthermore there is a need for the provision of efficient and effective collection and waste disposal facilities. On the other hand the reality of the situation is that waste is increasing and this necessitates the need for disposal facilities otherwise people tend to resort to illegal disposal methods which are not in the interest of the environment.

In South Africa these landfill sites claim more and more space following the need and legislative requirements for disposal of waste in registered and recognised landfill sites. These sites must comply with the requirements of the National Environmental Management Act No 107 of 1998, and they need to be environmentally acceptable sites. The focus in South Africa has slowly been shifting towards waste minimization, than waste generation. The major focus is on what is normally referred to as 3 Rs; reduce, re-use and recycle.

A good example would be the proposed landfill site under the Ekuruhleni municipality near Benoni. The local residents argued that the closer site would encroach on the arable land, and was likely to reduce the value of their properties and destroy the wetland and grasslands in the area. On the other hand the municipality argued that residents were contacted through the EIA process. (SABC 1 News Bulletin, 2006). The landfill site project was since shelved.

There has been a major shift from sites which were often available through the process of mineral working. The “holes in the ground” created by quarrying were often used as tipping sites in countries like the United Kingdom (Vigar, 2000:189). More land has to be made available to accommodate landfill sites.

There has been another concern raised by the environmentalists about the coming 2010 Soccer World Cup event and the possible amount of waste likely to be generated by urban and host cities. The host cities need to adopt waste minimization strategies leading to the 2010 World Cup and beyond.

During the 2005 KwaDukuza IDP consultation process the wards needs were listed and among them was the issue of Refuse Removal which was raised as a concern (KwaDukuza IDP, 2005). This was seen as a concern in the context of the newly established townships, especially low cost housing settlements where domestic refuse was not adequately catered for in terms of removal. This indicates the need for more landfill sites, and proper collection plan otherwise waste ends up on open spaces as illegal waste.

3.5.5 Invader Plant Species

These are the plants that have been brought into the country since the first arrival of settlers in South Africa. They originated from different countries across the globe, and adapted quite easily in this country even outcompeting the indigenous plants.

The alien plants are further threatening the existence of natural areas in urban areas, by encroaching on urban open spaces. They directly pose a threat to the rich plant life that makes South Africa the world's third most biodiverse country, after Brazil and Indonesia (Marshall, 2005). These alien plants systemically displace our natural environments and hence destroy our natural biodiversity. Their eradication becomes an expensive exercise in the face of other pressing needs like provision of health necessities, education and housing. Dr Preston who headed South Africa's anti-invasive campaign called *Working for Water* as of 2005 predicted that R430 million would be spent over the next three years to combat triffid weed in KwaZulu-Natal alone (Marshall, 2005).

KwaZulu-Natal is generally threatened by the alien invasive plants like *Chromolaena odorata* commonly known as triffid weed or paraffin bush. This plant species is regarded as a major transformer of land. The other problem species is the Lantana originating from Central America and North America which is quickly spread by birds through seeds. Alien invasives tend to suffocate the

indigenous vegetation and drive off animals which are unable to feed on them (Marshall, 2005).

These plants tend to invade arable land, and make areas vulnerability to fire, erosion, loss of grazing land and general susceptibility to flooding. These also clog lakes and rivers, and invade forests, mountains and grasslands and consume a lot of water affecting our watercourses. Some towns and cities in South Africa like Mangaung (Free State) and Centurion in Pretoria (Gauteng) have water bodies or human made lakes which act as an attraction for tourists. These lakes are sometimes clogged by weeds like South American hyacinth.

The Conservation of Agricultural Resources Act (CARA) forbids the presence of alien plants on private land. Following CARA which provides for the control of weeds and invader plants, an amendment was made in 2001 to increase declared weeds to 198. The Act has declared 198 exotic species as “weed and invader” plants and provided for stiff fines and jail sentences for trading in, or keeping them, on public or private land (Marshall, 2005). In terms of this Act the responsibility has shifted to the landowners to ensure that alien plants are eradicated on private land. This very Act is meant to contain the danger of alien plants encroaching and swallowing productive agricultural land and the natural environment. In South Africa some municipalities like Cape Town Metropole have taken stringent measures to employ municipal officers called “plant police” visiting homes to inspect gardens.

There has been a categorization of invader plants. Category one which includes *Lantana Camara* and Bug weed states that these species cannot be planted and they need to be controlled by all landowners and users. These are serious land transformers. Category two includes guava and black wattle, and these can only be planted in demarcated areas since they are exploited for commercial use. Category three comprises Jacaranda and these have been classified as of

acceptable ornamental value. They are only allowed in a biologically controlled area due to their invasive potential.

The listing of invaders and their categories seems to be on-going work in progress as new research unfolds and continues to produce new information. There is a school of thought arguing that we must be more concerned about invasives rather than alien plants per se. The argument is that we cannot paint all of them with a broad brush. A Draft Biodiversity Act on alien and invader species is being mooted.

The researchers working on invader plants and working for water programmes seem to agree that there is a need to prioritise and focus on winnable battles in terms of invader plants. They argue that there are those species that are so established that there is very little that can be done about them like the bird called Indian Mynah. On the other hand there are species like triffid weed where we still need to focus our energies because of their destructive nature on our natural heritage while completely transforming land. This prioritisation is important due to the limited financial resources available in fighting the invasives.

3.5.6 Natural bush stands as security threats

Most residents prefer that natural areas be "cleared" as they are perceived as harbouring criminals. A good example is that of Silverglen Nature Reserve in Durban, which had to close some access gates in 2002 because of criminal activities and reported criminal incidents (P4 Radio News Bulletin, 2006). The criminals can use these areas to further their criminal activities, and this can further entrench the stereotype of these areas as being undesirable. Freeman (1991) argues that the cultivation of high growing plants in cities was discouraged by colonial powers in Nairobi city as it was believed that they were used by fugitives and were seen as hiding places for undesirables. In some instances these parks are used as meeting places for drug addicts. Besides criminal

activities some parks tend to attract what can be perceived as anti–social behavior like prostitution.

Some cities across the world have introduced the idea of the “parks policemen” or what other cities have referred to as park wardens. According to the Commission for Architecture and the Built Environment (CABE), in England every urban park has a staff member present during daylight hours to encourage people back to come into the green open spaces and to discourage graffiti, vandalism and crime (IERM Bulletin, 2005). Due to fear of crime some parks become underutilised or vandalised and the parks become white elephants resulting in wasted capital in infrastructural investment. The researcher’s informal discussions with several parents revealed that they would never allow their children to play in parks especially girls, for fear of criminal activities like rape, kidnapping and even murder. This might hold true in South Africa with the number of violent incidents during 2005 shown against children and women. The well-publicised disappearance of young children as reported in the media in 2005 in Western Cape might support this assertion.

Frequent patrol of our parks might restore confidence in utilising parks within urban areas. CABE argues that the patrols can be done by wardens, rangers, youth workers and environmentalists. Although they are citing the example of England, the patrol concept can be applied across the world, and adapted accordingly to the situation in specific cities, places and areas. Sutton (2008) raises an important point of feelings of insecurity associated with open spaces, due to fear of crime. It is the researcher’s view that patrols of parks by volunteers might lead to improved utilisation since more people may use parks, and this in turn can create an environment where the community feels safer. In this way the greater use of facilities can be enhanced. Signs need to be placed giving telephone numbers of where all unbecoming incidents could be reported. In South Africa where the police force is overstretched this idea of “park policemen” is relevant and practical.

In some cities parks have recorded a significant figure of suicidal cases. The city of Bloemfontein has Franklin Nature Reserve in the heart of the city as a notorious area in terms of suicides committed. One suicide in this beautiful Nature Reserve took place on 9 August 2006 (Shibambu, 2006).

There were also other several recorded unpleasant incidents in Franklin Reserve like rape, mugging and ambushing of vehicles. The local municipality had to move swiftly to work jointly with South African Police Services in conducting joint roadblocks. The deployment of undercover policemen, and the putting up of access control to the Reserve. These measures reduced the incidents drastically (Shibambu, 2006).

3.5.7 Financial constraints

Most municipalities have areas zoned as open spaces that could not be developed to be proper developed parks due to financial constraints. Even if they are developed as basic parks, their scheduled and consistent maintenance becomes a challenge. These municipalities have other pressing financial demands which are seen as more important than monitoring the open spaces and issues of the environment. Funding of open space development and its maintenance programme is very important if these have to be conserved for urban sustainability.

3.5.8 Lack of co--operation among spheres of government

South Africa has three spheres of government i.e. national, provincial and local government. The national government places much emphasis on co-operative governance where these spheres of government are expected to work together. Unfortunately this concept of co-operative governance is not always successful

on the ground. The researcher's observation is that each sphere of government tends to have its own developmental programmes.

This disjuncture normally results in various challenges with regard to the alignment of policies of various spheres of government. The lack of alignment affects biodiversity as programmes become fragmented rather that coherence.

3.6 CHALLENGES CONCERNING OPEN SPACES

The challenge that is also dynamic and specific to South African cities is the inclusion of rural areas within the traditional urban core. This recent trend in South Africa, necessitated by the back-to-back municipal system has redefined the traditional perception of the urban environment. Some of the portions of rural land fall under the control of traditional leaders. In the study area an example would be Groutville which is a rural area governed by a traditional system from time immemorial. The area was incorporated into the urban core of KwaDukuza municipality in 1996. These rural areas mostly comprise vast open spaces still in a natural state, but the challenge is that the resources are mostly overutilised because the rural people depend on these resources, such as the use of trees as a source of energy. Educational programmes need to be put in place with the clear message of sustainable and wise use of natural resources. Some of the developmental projects in these areas are also taking place without following the proper environmental processes, and this becomes detrimental to the open spaces and natural environment (KZNPDC, 2005).

The South African Department of Environmental Affairs and Tourism has been on a campaign to extend amnesty to those industries and companies that have defaulted in terms of following environmental procedures and regulations. The enforcement of environmental legislation in South Africa has gradually made some developers adopt more environmentally friendly practices. Some developers are already seeing the benefits of this approach. In Ballito which is an

area within the study area, the developer Simbithi Eco–Estate surrounds the housing development with the natural environment including indigenous vegetation, wild animals and natural watercourses. The practice was observed by the researcher during fieldwork. This kind of urban development incorporates the natural environment that blends with the whole open space system. This trend promises to benefit the environment in the long run and ensure the sustainability of open spaces within the urban fabric.

3.7. CONCLUSION

The chapter dealt with the issue of commitment shown by South Africa to the principles of sustainable development. The chapter discussed the importance of open spaces while also looking at the challenges.

The next chapter will look at the legislative framework, while also focusing on the built environment.

CHAPTER 4

LEGISLATIVE FRAMEWORK AND URBAN OPEN SPACES IN RELATION TO THE BUILT ENVIRONMENT

4.1 INTRODUCTION

The chapter will focus on the legislative framework that affects the open spaces. The chapter will also look at the urban planning tools like the IDP and how these affect the environment. The chapter will conclude by discussing the built environment in relation to the natural environment. The latter is relevant when conservation is viewed in its totality, including the whole of the townscape and the whole urban character.

4.2 LEGISLATIVE CONTEXT IN RELATION TO OPEN SPACES AND NATURAL AREAS IN SOUTH AFRICA

In South Africa the conservation of natural resources in both urban and rural areas is firmly entrenched in the Constitution. The Constitution of the Republic of South Africa is the supreme legislation in this regard. Chapter 2 of the Constitution is referred to as the Bill of Rights and provides guidelines with respect to the environment. It clearly states that everyone has the right " to an environment that is not harmful to their health or well being; to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that:

(i) Prevent pollution and ecological degradation

(ii) Promote conservation

(ii) Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development (Republic of South Africa, 1996).

The Constitution demands that the environment be paramount in all integrated development plans which all municipalities have to compile.

The Environmental Conservation Act No 73 of 1989 has been the main piece of legislation governing environmental issues from the late 80s. The law was later replaced by the National Environmental Management Act No. 107 of 1998. The National Environmental Management: Biodiversity Act, Act No. 10 of 2004 is currently becoming key in the overall biodiversity conservation.

The National Environmental Management: Biodiversity Act, Act No 10 of 2004 makes provision for the compilation of biodiversity plans and Spatial Development Plans. According to this piece of legislation these must be aligned, and it emphasizes the need for the municipal support in achieving the goals of biodiversity conservation.

The following are some of the Acts, regulations, guidelines and policies impacting on the environment and directly on urban open spaces:

- Conservation of Agricultural Resources Act 1983 (Act No. 43 of 1983) (CARA)
- Development Facilitation Act, Act No. 67 of 1995.
- Environmental Impact Assessment (EIA) Regulations
- KwaZulu – Natal Land Use Management System: Guidelines for the preparation and Implementation of Schemes, September 2004.
- KwaZulu–Natal Planning and Development Act, Act No. 5 of 1998.
- Land Use Management Act
- Land Use Management System (LUMS) Manual of 2001.
- Local Government Municipal Systems Act, Act No.32 of 2000 (MSA)
- National Environmental Management: Protected Areas Act No. 53 of 2003
- National Biodiversity Framework
- National Forests Act, Act No. 84 of 1998.

- National Land Transport Transition Act, Act No. 22 of 2000.
- National Water Act, Act No. 36 of 1998.

The first five years of the new government's term of office saw a flurry of legislative activity, with several laws related to the management of the environment (McDonald, 2002:190). Some critics argue that "these many laws" are the very source of confusion when it comes to the implementation of environmental legislation, citing severe inconsistencies and lack of co-ordination and poor communication among stakeholders. The capacity to enforce environmental laws which are meant to safeguard the environment in South Africa is totally inadequate and our courts are also not always clear when it comes to environmental law. In some instances the law enforcement agencies do not perceive environment related crimes as serious enough to warrant prosecution and severe penalties (DEAT, 2005).

In May 2005 there were drastic amendments and changes introduced to the National Environmental Management Act (NEMA) in South Africa. There are several changes introduced that were mostly meant to improve environmental protection. Among the changes has been the introduction of environmental management inspectors who are trained and mandated to investigate and enforce environmental transgressions. These transgressions also affect the urban open spaces.

The changes and amendments include the establishment of the Green Scorpions Unit which is mandated to investigate serious environmental crimes. These law enforcement agents will see to it that issued record of decisions are not contravened. They will have powers to search and conduct inspections within residential and non residential premises under special circumstances. They will be able to issue legal notices where they suspect lack of compliance.

Another important element in terms of the amendments is the question of developers who have proceeded with development activities without following proper environmental procedures in line with legislation. The legislation makes provision for the correction of such unauthorized development activities through Section 24 G of the National Environmental Management Act. This section specifically deals with the ratification of unlawful commencement of listed activities. There are also belated directives that can be issued under these circumstances with clear conditions. Another critical amendment is the introduction of a reward system to the members of the public who have assisted the authorities in bringing about environmental prosecutions as provided for under section 34 B of the same Act.

The changes made to Chapter 7 of the National Environmental Management Act No. 107 of 1998 provides for dedicated environmental enforcement officers. This has been hailed as a major milestone within environmental circles. This amendment is relevant to the research in that it becomes a legislative requirement to have dedicated environmental enforcement officers enforcing legislation that might affect urban open spaces as well.

There are several tools that are available in South Africa which form a supportive framework to legislation and are meant to safeguard the environment.

These are the tools like:

Environmental Impact Assessment (EIA) which makes provision for the environmental assessment of any piece of land prior to the commencement of the actual development. This means that for any urban piece of land which might be an open space the environmental impact assessment needs to be carried out prior to the land being developed if it falls under the listed activities. Most of the urban open spaces fall under listed activities that need an EIA prior to any development commencing. The tool will be analyzed in depth to assess its real

contribution in conserving natural resources and open spaces within the study area.

Local Agenda 21 - this is a 600 page agenda for the 21st century signed by the governments which attended the UN conference in 1992 (Atkinson et al, 1999:225). The Agenda 21 report was compiled during the 1992 Earth Summit in Rio de Janeiro with the intention of instigating environmental action at all levels, including international, national, regional and local (Sutton, 2008:67). Agenda 21 takes the theory of sustainable development and attempts to turn it into a workable action plan. It is meant to be a local plan for sustainable development that does not only focus on environmental issues, but also looks at issues of poverty, health and livelihoods. It emphasises the fact that all environmentally related actions must take place at the local or grassroots level. The main objective of Agenda 21 was that by 1996 local authorities in every country were supposed to have undertaken a consultative process with their citizens and achieved a local agenda for their communities (United Nations, 1992).

Local Agenda 21 in this research is crucial in that the urban environment is mostly the area of high economic activity. If the issues of environment fail to address poverty, the environment will continue to be perceived as an abstract meaningless concept.

Other decision support tools - there are other decision support tools which are meant to provide information about the environment as a framework of measuring, monitoring and the management of environmental resources. Tools like the state of the environment report, environmental management plans and indicators which map environmental changes. Biodiversity illustrating maps are also used as schematic representation of the desired spatial form to be achieved by any given area like the municipal entity. Aerial photographs also contribute giving an aerial view of large tracks of land showing land features.

These tools are relevant to this research in that some of them measure and monitor the management of environmental resources within the urban environment. These tools assist in mapping and assisting the changes taking place in the urban environment that also affects urban open spaces and provide the environmental baseline.

South Africa is also a signatory to **several international protocols** meant to protect the environment. According to Local Agenda 21 South Africa has ratified the international Convention on Biodiversity committing the country to developing policies and strategies that are geared towards the conservation of biodiversity. South Africa also subscribes to several global networking initiatives that include those within International Union of Nature Conservation (IUNC), United Nations Educational, Scientific and Cultural Organization (UNESCO) and International Council for Local Environmental Initiatives (ICLEI).

4.3 URBAN PLANNING TOOLS AND THE ENVIRONMENT

Post-1994 South Africa has seen the introduction of several pieces of environmental legislation incorporated in planning system, and issues of sustainability have been promoted across disciplines.

The integrated development plans (IDPs) in South Africa promote this notion of community-based planning and decision making.

The two pieces of legislation i.e. Environmental Management: Biodiversity Act No 10 of 2004 and Environmental Management: Protected Areas Act No 53 of 2003 bear testimony to South Africa's firm commitment to issues of sustainability. These two Acts serve as a major advancement in sustainable development and conservation. Environmental Management: Biodiversity Act No 10 of 2004 maintains that we have to provide for an integrated, co-ordinated and uniform approach to biodiversity management. This can never be overemphasized in the

urban context where pockets of conservation islands make the land vulnerable to development. The alignment of planning and environmental legislation becomes very critical in the urban setting. The urban conservation goal is likely to be achieved through a systematic conservation plan as envisaged by the Environmental Management: Biodiversity Act No 10 of 2004. Municipalities will have to formulate clear municipal environmental conservation plans but also aligned to the planning legislation. This agenda will have to be guided by the local conservation needs and objectives.

Spatial Development Framework (SDF) is a tool available to the cities to clearly identify their spatial development initiatives. The SDF does have a statutory power once the IDP is adopted by the municipality, and is supposed to guide all land use management within the urban area. The spatial development framework is very important to proper planning for the "where" of development, to co-ordinate and align development while pointing out to problem areas that need attention (KwaDukuza IDP, 2005).

The SDF is important in this research as it identifies areas where development can take place well in advance. This land identification becomes important for the urban open spaces within the urban context. The sensitive open spaces and no-go areas can then be identified during this process to ensure that the sensitive environments and urban open spaces of high ecological value are not alienated for development. In this context the SDF becomes a very important tool and framework in terms of taking the natural constraints and opportunities into account. The critics of the SDF tool often accuse it of failing to take into account the whole issue of landownership.

As indicated earlier, Dr Olver the former Director–General of the Department of Environmental Affairs and Tourism 1994 – 2005 emphasized the importance of national biodiversity and the role this can play in exempting conservation areas from property rates under property rating Bill. He further emphasized that the

involvement of people through various ways as advocated by the Environmental Management: Biodiversity Act No 10 of 2004 and Local Agenda 21 will be paramount when executing these programmes. He argued that private landowners were to be encouraged to adopt this conservation approach, as this was likely to be perceived as a major return on investment. The land claims issue in South Africa is another challenge facing land under conservation. These are the claims against land that was forcefully taken from the landowners during apartheid era in South Africa. If the piece of land in question was under conservation it's crucial that the community be persuaded that it be maintained as a conservation area where appropriate.

4.4 URBAN OPEN SPACES WITHIN THE CONTEXT OF THE BUILT ENVIRONMENT

It is important to realize that the development takes place within the urban environment creating an overlap between the natural and built environment.

Larkham (1996) is bringing another conservation perspective, looking at it from the angle of built environment rather than the customary natural environment perspective. He advances the argument of the conservation of cities in the sense of buildings and urban fabric. Conservation is viewed in its totality not only as natural environment but as including the whole of the townscape and the whole urban character. This assertion is true given the fact that the built environment interacts with the natural environment at a variety of scales within the urban area (Larkham, 1996).

Larkham talks about the conservation of the familiar (Larkham: 1996). In this perspective conservation is defined as sensible use, re-use, adaptation, extension and enhancement of scarce assets (Larkham: 1996, 13). Conservation is further defined as basing feelings on concern, respect, longing for the past and

even pity for the past (Larkham , 1996: 33). This approach is similar to the idea of bringing the countryside to the city as demonstrated in the 19th century.

Linked to the concept of built environment is the serious shift from concrete jungles to an emphasis on the aesthetic value of buildings. Sustainable building results when human made environments form part of the broader open space system within the urban fabric (Urban Green File, 2006). Some analysts talk of living spaces which include malls, residential homes, tarred roads and high rise buildings. The approach is referred to as bio–engineering where indigenous plants form a strong feature of what would have been a vast expanse of concrete (Urban Green File, 2006). The 21st century architects seem to be more aesthetically aware in their building practices. They are more tuned to buildings that embrace and celebrate nature's diversity. The buildings must protect the natural environment and retain indigenous vegetation which must blend with the natural landscape.

In this context we are presented with a very interesting example in Mexico documented by Zetter and Butrina who actually analysed urban conservation in Mexican colonial cities. The example used raises interesting questions like what needs to be conserved, how and for whom. He talks of the conservation vs suitability praxis. He argues that conservation needs to form part of the integrated planning and incorporate issues of sustainability. He further maintains that buildings must reflect the aesthetic, cultural and historic values of the local community (Zetter et al, 2006).

The concept of conservation of the built environment is not going to be the main focus of this dissertation. It is included here for the purposes of illustrating the holistic conservation perspective within the urban environment.

4.5 CONCLUSION

The chapter dealt with issues of legislation relevant to environmental conservation. The overlaps between the urban planning and environmental legislation were highlighted. The chapter concluded by looking at open spaces within the context of the built environment.

This chapter served as a buildup to the next chapter looking at the issues of how the actual research will be conducted in terms of the research design. This will include formulation of the research and conceptualization. The key variables will be formed. The chapter will explore issues of sampling and design methods. It will outline the data collection methods and how the fieldwork will be conducted.

Eventually the data will have to be captured, edited and analysed to give meaning to data and to the research dissertation as a whole.

CHAPTER 5

RESEARCH DESIGN

5.1 INTRODUCTION

The chapter will deal with the design in terms of the actual research within KwaDukuza municipal area. Chapter five will also outline the research methodology to be followed in terms of this study.

5.2 RESEARCH METHODOLOGY

5.2.1 Fieldwork planning

Prior to doing fieldwork within the study area at KwaDukuza it was important and necessary to establish the conceptual framework for the study as a whole. It was also required to socially construct the field of study.

5.2.2 Sources of information

The researcher identified some of the important sources of information within the study area.

- Archival documents were studied – this included municipal documents like council resolutions, letters, memos, correspondence and speeches.
- Current municipal documents – these included documents like integrated development plan (IDP) and the website: www.kwadukuza.gov.za.
- Local newspapers served as a good source of information about the municipal area.
- KwaDukuza Museum.

5.2.3 Questionnaire

The researcher concluded that the most appropriate method of acquiring data for this study was going to be through the use of a questionnaire. The questionnaire was accordingly drafted comprising all the questions that the researcher considered to be critical to achieve the aims and objectives of the study as reflected in Chapter 1. At this stage the researcher made critical decisions such as the information to be collected and how it was to be analysed. The questionnaire was regarded as an important tool to collect data in a structured manner. The questionnaire was pre–tested in an exercise involving five trial respondents familiar with research. These comprised **four** former colleagues, and **one** researcher working for the KwaZulu-Natal Planning Commission.

- Mr Roger Naidoo – General Manager: Environmental Management [Mangaung Local Municipality (MLM)] currently finalising a PhD in Environmental Management through University of the Free State.
- Mr Kobimpe Mcejwa – Chief Operating Officer (MLM) finalising a Master's Degree in Business Leadership through UNISA.
- Dr Dianne Abrams - General Manager: Economic Development [Mangaung Local Municipality (MLM)] having completed a PhD in Economic Development through the University of the Witwatersrand.
- Ms Vivian Seekoie – Manager: Environmental Policy and Co-ordination [Mangaung Local Municipality (MLM)] Master's Degree in Environmental Management (University of the Free State).
- Mr Hloniphani Ngcobo – Research Programme Manager working for the KwaZulu-Natal Planning Commission doing a Master's research dissertation through University of KwaZulu-Natal looking at issues of local economic development within selected KZN municipalities.

The comments of these individuals were scrutinized, and this gave the researcher an opportunity to see how the questions were interpreted or

misinterpreted. The questionnaire was then modified on the basis of the feedback and inputs provided by the trial respondents.

The researcher strove to keep the questionnaire as short as possible with a maximum of 23 key and relevant questions to encourage participation. The researcher had observed a situation in the past where respondents had been unwilling to participate in research with long questionnaires. Some respondents tend to answer questionnaires for the sake of pleasing the researcher, thereby increasing chances of spoiled questionnaires.

5.2.4 Sampling procedure

In an ideal world the researcher will study the entire population, but in reality this is impossible, compelling researchers to settle for a sample. If we were to include everyone in our study it will surely be more credible as each person would have contributed to it. A sample is a portion or a subset of a larger group called a population. It is therefore important that the sample characteristics be the same as those of the population (May, 2001:93).

Two sites were identified by the researcher within the study area (KwaDukuza municipal area) i.e. the affluent urban areas of KwaDukuza municipality mostly along the coast settled by high income upper class group (in this study to be referred to as affluent coastal belt), Ballito will be used as an example, and the hinterland using an example of Shakaville settled by low income working class group (Africans).

The sampling was restricted to the two areas of Ballito and Shakaville. The rationale was for the sample to be representative of the two distinct classes and lifestyles reflected within the whole study area. This approach covered two different populations i.e. more affluent residing in Ballito, and the less sophisticated population of Shakaville. This was done deliberately to achieve a

more balanced nature of views from the societies that are quite diverse in their sophistication. The main reason was to ensure that the unique characteristics of the two different areas within KwaDukuza municipal area were adequately represented.

The issue of the sample size is very critical in any research study. According to Bailey (1982) a relatively small sample size is adequate and can allow the estimate of sampling error, and it is quick to process. On the other hand there is an argument that the size of the sample is not necessarily the most important consideration (May, 2001:93). A large poor quality sample, which does not reflect the population characteristics, will be less accurate than a small one that does (May, 2001:93).

According to Bailey (1982) the correct sample size will be determined by the nature of the population and the purpose of the study itself. You might start with a bigger sample and end up with a very small one as some people might decide not to continue or because of spoiled questionnaires.

KwaDukuza's population in 2006 was estimated at 170 000, which during peak holiday seasons, increases to over 200 000 (KwaDukuza IDP, 2005:15). It is important to specify the group of persons to be studied or the population (Bailey, 1982). The researcher strived to draw a sample that was representative in terms of gender, literacy, age group, education level, income and social class (May, 2001). The sampling procedure and the questionnaire mainly focused on the permanent residents of KwaDukuza.

A sample of 50 individuals including the households, schools, business and professionals was chosen for Ballito, and the same number again for Shakaville. The total sample for the study was 100 respondents. The sample size took into account such factors as cost, resources and time constraint on the side of the

researcher. The random sampling or probability sample was adopted to afford respondents an equal chance of being interviewed.

At Ballito the sample comprised schools, businesses, media and households. At Shakaville it was mainly schools and households.

The researcher decided to have a sample size of 100 respondents, this is partly based on the purpose of the study. The researcher‘s view is that 100 respondents were adequate to give an indication as to whether the open spaces were under threat or not within the study area. The rule of thumb is that the smaller the population the bigger the ratio of sample to population has to be (May, 2001:94).

The 100 respondents choice was also based on the number of households within the two chosen sites. The researcher’s view was that the chosen sample was quite representative of the two areas and population of KwaDukuza in general. The 100 respondents approach was also based on a notion of 25% of the households.

5.2.5 Pre fieldwork preparations

A letter dated 5 July 2005 was written to KwaDukuza municipality to get permission to conduct the study in their area of jurisdiction. The letter also explained the study and requested the authorities to furnish relevant documentation during the course of the study. The letter also served as the request to the municipality to link the researcher to the relevant people in terms of information for the study. (Letter attached as Appendix 4). The buy-in of KwaDukuza municipality was considered very important in terms of the study. Furthermore two letters were written to the councilors of the two wards that were chosen for sampling purposes i.e. Ballito and Shakaville.

5.2.6 Gaining access and research site visits

The next critical step in terms of fieldwork was to work on gaining access and engaging in a trust building exercise. The municipality responded granting permission and expressing its support for the study. The letters were followed by telephonic discussion engaging the councilors in the study.

The study area was visited during August 2005 to do an area reconnaissance looking at the general state of open spaces. Ilembe District Municipality Geographic Information System (GIS) section was also visited on 5 September 2005 to get insight into the spatial distribution of open spaces and to acquire area maps.

Subsequent visits were undertaken during 2006. The site visit was conducted again on 2 May 2007 to meet the newly appointed Environmental Officer for KwaDukuza municipality. According to the Environmental Officer of KwaDukuza Municipality no policies were in place at that stage in relation to environmental management other than the set of bylaws pertaining to environmental related aspects like waste management, animal keeping and noise pollution. The bylaws were very broad and general in their approach to the mentioned issues.

During the meeting with the Environmental Officer, the issue of Environmental Impact Assessments (EIAs) within the study area was discussed. Zimbali South Development EIA report was furnished to the researcher for scrutiny to be discussed in detail in Chapter 6 dealing with the EIA as a tool. Several photographs were taken from various open spaces within the study area from both Ballito and Shakaville.

5.2.7 Data collection and fieldwork

Most of the information was collected through the questionnaires. The main focus was in ensuring that the respondents provided the required information. The field notebook was used to capture field notes for later reference. The notes taken from the study area were documented in the field notebook specifically used for the study. The questionnaires were collected and filed in the study file. The documentation will form part of the historical information in terms of this study.

Miles and Huberman (1984) argued that qualitative researchers believe in orderliness, formalization of the analysis and explicit structure in approaching the research work, trying to avoid vague descriptions. This is the reason why all the information was properly and accurately recorded during fieldwork. It must be stressed that this recording did not take away the qualitative approach of fieldwork drawing from direct observations as well as informal observation in the field.

5.2.8 Interviewing focus groups within the study area

The purpose of interviewing various stakeholders was to draw on their experience and expertise to achieve the objectives of the study.

The following respondents were identified and interviewed through a combination of the face to face method, and administering of the questionnaires:

- KwaDukuza municipality officials and councillors
- Ilembe District Municipality (GIS Section)
- Blythedale Conservancy
- KwaZulu-Natal Department of Agriculture and Environmental Affairs
- Ezemvelo KZN Wildlife
- Planners and consultants within the study area

- Developers within the study area
- Non-governmental organizations and civil society within KwaDukuza
- Educational institutions in KwaDukuza
- Business community within the municipal area
- Locally based media (North Coast Courier)

These stakeholders were able to provide a substantial amount of information pertaining to the topic within the study area.

5.2.9 Administering the questionnaire

The use of a questionnaire is one of the popular techniques at the disposal of the researcher. The questionnaire comprised both close and open ended questions (questionnaire attached as Appendix 1). The use of an open ended questionnaire was to allow for details from the respondents.

In the area of Shakaville the respondents were the households and two local schools. The actual respondents within the schools were both educators and learners. Questionnaires were administered in a face to face manner for the households. In schools the questionnaires were also filled in a face to face manner. The teachers filled the questionnaires on their own, while the researcher waited for them for immediate collection. In the area of Ballito most questionnaires were filled by the respondents in the presence of the researcher. In Ballito most respondents were in a position to complete the questionnaires on their own. The respondents in Ballito represented households, businesses, one hotel, the local newspaper and one school.

The questionnaires used were the same in content ensuring standardisation of responses. A total of 100 questionnaires were distributed i.e. 50 per sample area. 87 questionnaires were filled and returned to the researcher, and 13 were spoiled or in some instances the respondents were not keen to participate.

5.2.10 SWOT and PEST analysis

SWOT analysis that refers to strengths, weaknesses, opportunities and threats was applied to the research process as witnessed by the researcher established during interactions with the local municipality. PEST refers to political, economic, social and technological aspects in a situation. How these influenced the research process and the responses of respondents was assessed.

5.2.10.1 Affluent coastal belt

The area comprised mostly literate residents making research work much easier. In this area the researcher worked with people who were fairly familiar with research and environmental issues, probable due to a high literacy level. There are individuals who showed signs of antagonism towards the researcher especially among business people. One of the problems mentioned by the local councillor was the issue of several criminal incidents in the area relating to house burglaries. The councillor explained that some residents were a bit sceptical about talking to strangers, let alone letting them into their houses, even after an explanation and showing them letters from the municipality and UNISA. Others appeared uneasy when answering questions. One of the difficulties was that some respondents wanted to use the study to fight their battles with KwaDukuza local municipality around environmental issues. These respondents displayed anti–administration feelings.

Some of the respondents in Ballito perceived the research as a political exercise for local government. Some respondents appeared suspicious thinking that if they responded in a particular way, it would be used against them politically by the local leadership. Ballito is a high income area and most respondents were knowledgeable showing that they do acquire information from sources such as the Internet and newspapers. The community of Ballito is better off socially and

the community is organised with identifiable structures like the ratepayers association. The ratepayers association provided the researcher with useful information about the area. It was quite easy to contact stakeholders and community structures before arriving to meet them for the filling in of questionnaires as they had telephones and e-mails where they could be contacted.

5.2.10.2 Shakaville

A strength of the survey in Shakaville (African township that forms part of Stanger town), was that the respondents related easily to the researcher due to his background and language. One of the weaknesses was that the general understanding of environmental issues and the research process was low. A great deal of explaining had to be done as the questionnaire was filled, and this might have created subjectivity in answers given by respondents after an explanation by the researcher. The researcher was likely to get first hand information regarding challenges facing these communities and this was seen as an opportunity. One of the threats was that some respondents perceived the study as irrelevant to their immediate social needs. They were complaining about inadequate social services from the local municipality. Some people showed signs of expecting provision of services from the researcher, despite the explanation given that this was independent academic research. Some respondents were not keen to complete the questionnaires, and the reason put forward was that the head of the household was not at home. Some respondents indicated that the questionnaires were a waste of their valuable time because they were not going to benefit from it.

The researcher did not experience any political suspicions at Shakaville. Some respondents used the opportunity to raise their dissatisfaction about their local municipality around issues of service delivery. Shakaville has a high unemployment rate, which sometimes make it difficult for people to participate in

the study because of other immediate survival priorities and responsibilities. The African family institution is mostly led by men, so in households where men were not at home some female members were reluctant to fill in the questionnaire, apparently without the authority of the head of the household. The social status of most respondents created a situation where detailed explanation had to be done. The researcher had to clearly outline the study objectives and the relevance of the study to the community. It was not possible to phone or e-mail respondents upfront as most of them did not have telephones nor were they connected in an e-mail system.

5.3 DATA CAPTURING AND EDITING

5.3.1 Data reduction and coding procedure

Some information was captured in fieldnotes for later reference, but the main focus was to ensure that the respondents supplied the information needed as set out in the questionnaire. The first step was to transform the raw data in questionnaires and fieldnotes into meaningful information. A total of 100 questionnaires were distributed within the study area, and 87 were returned to the researcher.

The Excel programme was chosen to capture and analyse data. It was chosen firstly because most of the questions were close ended making their capturing much easier e.g. “yes” and “no” responses. Secondly the respondents did not give long answers to their responses on open ended questions. The shorter answers made it easy to capture answers as themes.

The questionnaires were numbered from one (1) to eighty seven (87) to make working with them easier and less confusing.

5.3.2 Closed questions

All the close ended questions were coded as 1,2,3,4 and so forth depending on the number of categories within the question. For example, for question 1 [gender] the responses were coded 1 and 2 for male and female respectively.

The response for each and every question was captured across in the Excel worksheet. The coded responses were counted using the autosum Excel formula instantly giving a total for all responses of all the units. The auto sum formula was used to minimize the counting errors. The same was done for the rest of the coded responses counting using the autosum excel formula and dividing the total by the category units giving the number of responses. The formula made the counting of responses a fairly easy job. As a way of ensuring accuracy in counting the total of counted units was to be equal to the number of questions which is 87 in this case.

5.3.3 Open ended questions

All the responses of the open ended questions were captured in the electronic format of the Excel programme. All the responses for each question were captured establishing the theme from the given responses, as well as the frequency of answers. These were listed in the electronic format. The next step was to combine responses with similar themes while noting the emerging views within each question. Using the example of the last question “What are your recommendations regarding the future of these spaces”? All the responses were captured and similar themes were merged leaving only different themes within a particular response. The analysis and discussion was then to be based on these emerging views, and the frequency of the responses. [Refer to Appendix 2]

5.3.4 Data display

At this stage one needs to identify emerging patterns. The researcher needs to break data into manageable themes, patterns, trends scale, relationships and to make a clear linkage with the original hypotheses and theories. Results need to be related to existing models and theories whether they are supported or falsified by new emerging trends and patterns.

The next step was to systematically display, organise and represent information so that it could be meaningful to the reader. In embarking on this important part of the dissertation one had to refer back to the original aims and objectives of the study as stated in Chapter 1. It must be remembered that the aims and objectives are at the core of the study, therefore in analyzing data we need to revisit them and make proper linkages.

5.4 DATA ANALYSIS AND INTERPRETATION

5.4.1 The composition of the study sample

Knowing the general composition of the sample is helpful in understanding the people that were involved in the study with respect to their background.

In introducing data analysis we start with general closed questions like gender, nationality, occupation, age group, income categories as a way of giving background to the sample.

Fifty five out of 87 respondents of the sample were female comprising 63% of the total returned questionnaires. The total population of KwaDukuza is dominated by females (KZN Municipal Portfolio, 2005), therefore this constitute a true reflection and representation of the demographics of the area. Males comprised 37% of the respondents.

South Africans comprised 92% of the respondents, with only 3% being British and the rest (5%) failed to indicate their nationality. This is important in that we can say with confidence that most of the respondents were South Africans who might have observed the changing scenario of open spaces within KwaDukuza over a period of time. The questionnaire only asked nationality and did not go as far as the race of the respondents.

When looking at marital status, 33% of the respondents indicated that they were married, and 62% indicated that they were single, while only 5% indicated they were divorced and widowed. In analyzing the age category it transpired that 34% of the respondents fell under the age category 15 – 25, and 23% under the age group 26 – 35. The South African definition of young people is between 14 and 35 years. In this context it can be stated that 57% of the respondents can be regarded as young people. This pattern is consistent with the overall number of young people within the population of KwaDukuza. The figures show that 43% of the population is in the 0 – 19 years bracket, while 14.3% of the population is older than 50 years (KwaDukuza IDP, 2005). The sample comprised a very small percentage of pensioners i.e. those above 65 years of age.

In terms of the respondents' occupations a significant percentage of the respondents were professionals with educators alone comprising 33% of the total sample. This was followed by an assortment of professionals accounting for 26% of the sample, with 5% being clerical staff. Only 3% indicated that they were unemployed. Those who indicated they were in business comprised 8% of the sample, and most of them indicated they were self employed. Learners comprised 18% of the sample, with 7% not indicating their responses.

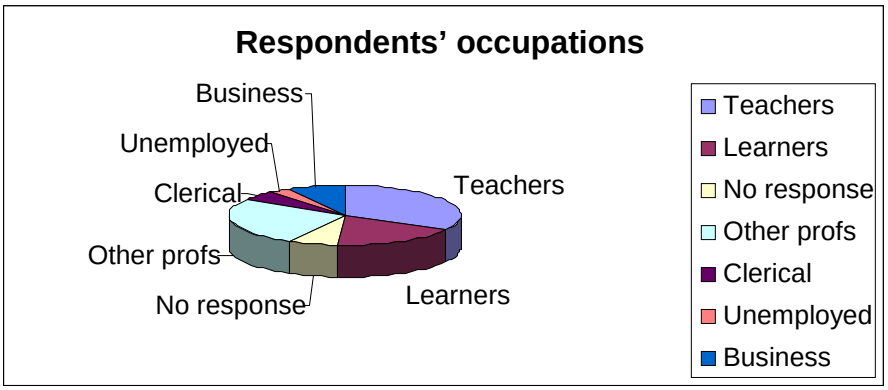

Figure 5.1: Respondents' occupations

The majority of the respondents (26%) are earning between 20 000 – 100 000, followed by a 1 000 – 20 000 category at 21%. Those earning above 100 000 comprised 15% of the sample, while 6% were earning between 0 – 100 000. It is noted that 32% of the sample did not indicate their income. The none disclosure of income can be attributed to two factors. Firstly there might be a significant number of learners who might have left the questionnaires blank on the income question, and secondly the issue of secrecy that is normally associated with ones income. It is clear that the majority of those who responded to the question were indeed receiving income, and therefore they can be said to be fairly mobile within the study area to observe changes in open spaces.

The respondents with secondary education comprised 47% of the total sample, and 53% indicated they had tertiary education. It was interesting to note that none of respondents were either illiterate or only possessing primary education. The sample can then be regarded as comprising fairly literate respondents.

Among the respondents 86% indicated that they were residents of KwaDukuza. This means that the majority of the respondents were the people who resided in KwaDukuza who were likely to have observed all the changes that had taken place over a period of time. This could also mean that most respondents were reasonably familiar with the study area. This is critical because these are the

people who were likely to have witnessed changes taking place in their surroundings. Only 11% indicated that they were not residents of KwaDukuza, but most of them were working within the study area. The remaining 3% did not indicate where they were residing.

5.4.2 Understanding linked to definitions and knowledge base

5.4.2.1 Understanding of open spaces

The majority of the respondents defined an open space as an area that has no infrastructure, buildings or houses. The next highest percentage defined open space as comprising natural resources with a special emphasis on indigenous trees. They further defined the concept as referring to the area that is undisturbed or comprising natural bush. The issue of areas conserved for future generations and future use also featured frequently from the respondents responses.

5.4.2.2 Understanding of the natural environment

The majority of the respondents (82%) defined the natural environment as undisturbed area with trees, untouched or virgin. The natural environment was also defined as natural resources comprising of water, trees, soil, beach, green belt, ecosystem, sustainability, air and animals. A total of 3% viewed natural environment as God’s creation and areas of quietness and reflection. On the other hand 15% of the sample indicated they did not know what the natural environment is or failed to answer.

5.4.2.3 Visit to parks within KwaDukuza

Those who had occasionally visited the parks comprised 47%, and 20% of the sample indicated that they had regularly visited the parks. If one was to combine those who have occasionally and regularly visited the parks in KwaDukuza they

comprise 67% of the total sample. This is an indication that most respondents might have indeed observed change as they have been visiting the parks. A total of 31% of the sample indicated that they have never visited the parks. An insignificant 2% failed to indicate whether they have visited the parks or not.

5.4.3 How the natural areas and open spaces are perceived by the community within the study area

This was one of the key objectives of the study, it is therefore critical to assess how the respondents define and perceive open spaces.

5.4.3.1 Whether the parks are under threat in KwaDukuza

As high as 41% of the respondents registered a strongly agree response with regard to the fact that parks in KwaDukuza are under threat, and 28% just agreed. Therefore a combined 69% agreed with the hypothesis that the open spaces were under threat in the area of KwaDukuza. A total of 10% of the sample disagreed, while 7% strongly disagreed to this contention, while 8% did not answer, and 6% registered a neutral response in terms of defining the threat to open spaces.

5.4.3.2 Whether parks are of any value

The respondents who strongly agreed that the open spaces were of value and benefit comprised 28%, and those who just agreed that open spaces were of value and benefit comprised 44%. Therefore a combined 72% confirmed that the open spaces were of value and benefit in KwaDukuza. Only 18% disagreed and strongly disagreed about open spaces being valuable and beneficial. The rest of the respondents (10%) were either neutral or unable to answer.

5.4.4 Current condition of open spaces within identified areas in KwaDukuza

In defining the state of the open spaces within the study area 34% of respondents felt that they were bad, neglected, filthy, unkempt and generally in a very bad state. A total of 28% of the sample felt the open spaces were good and well maintained. The issue of dumping was cited by 5% of the respondents, while 18% indicated that they were either developed or overdeveloped and shrinking. It is of interest that 15% was unable to indicate how they felt about the state of open spaces in KwaDukuza.

5.4.5 What is reducing open spaces?

Those who felt the open spaces were reduced by development comprised of 33% of the respondents, while 34% felt that the KwaDukuza municipality was irresponsible and failed to do enough to safeguard the open spaces in the form of control measures and regulations. A total of 18% cited dumping and squatters as responsible for the reduction of open space. A total of 2% felt the residents were responsible as they were not doing enough in terms of environmental activism. It is interesting to note that 1% felt poor planning was responsible for the general reduction of open spaces, while another 1% cited the problem of alien plants as contributing in reducing open spaces. It is noted that 2% of the respondents accused the residents of taking full responsibility for their environment, and 9% did not know.

5.4.6 Assessment of the level of awareness of mechanisms meant to safeguard open spaces

The research revealed that 28% of the respondents were aware of the mechanisms to safeguard open spaces. A significant figure of 62% of the respondents indicated that they were not aware of any mechanism in place that

would safeguard open spaces. The other 10% failed to respond to this specific question. The high percentage of those who were not aware was a bit surprising given the fact that 53% of respondents indicated that they had tertiary education and 47% had secondary education. One might have expected the high level of education to be proportional to environmental literacy.

5.4.7 Problems in relation to open spaces

A total of 68% of the sample confirmed that they had encountered problems associated with open spaces. These problems range from very serious ones to minor ones. Among the problems mentioned are hiding places for criminals, dumping, prone to shack building, robberies, rape and theft. Some of the problems encountered and indicated included dumping, habitat destruction and places where snakes were hiding. The issue of crime stuck out as a serious concern accounting for 20% of the stated problems about open spaces. The respondents who indicated that they had not encountered any problems with open spaces comprised 22% of the sample. The rest (58%) of the respondents either said they did not know or did not answer the question.

5.4.8 Awareness of any present or future development that has impacted [negative & positive] on open spaces

When looking at the issue of awareness regarding any current or future development that might impact on open spaces 52% of the respondents indicated that they were not aware of such. On the other hand 39% said they were aware of developments that might have affected the open spaces either negatively or positively within KwaDukuza. The lowest percentage was that of respondents who indicated that they did not know, and those who did not answer who comprised a figure of 9%.

5.4.9 Analysis of how land use conflict can be addressed

On the issue of land use conflict 45% of the respondents indicated that this can be addressed through community involvement. In other words the community needed to take active part and interest in land related planning meetings. A total of 16% said this can be addressed through policies and legislation. Surprisingly 29% of the respondents indicated that they did not know how this could be addressed while within this category others did not answer. Education was cited by 10% of the sample as the best way of dealing with the issue of land use conflict.

5.4.10 Awareness of the EIA tool and its effectiveness

When looking at the EIA tool and the respondent's awareness of this tool 28% of the respondents indicated that they were aware of this environmental tool. A significant 62% indicated that they were not aware of the EIA as an environmental tool, while 10% indicated that they did not know.

Of those who indicted they were aware, four of them indicated that the tool was ineffective, and two said it assisted in environmental monitoring, while others said it is ineffective and can be manipulated. Others felt the tool lacks enforcement capabilities and budgetary support from the government.

5.4.11 Any suggested interventions to safeguard open spaces

On average 21% of the respondents indicated the need for intervention around legislation, community and public involvement as well as security around these spaces. The issue of education as an important intervention to safeguard these spaces was cited by 13% of the respondents. A total of 8% cited co-operative governance as crucial in safeguarding open spaces.

5.4.12 What role can the respondents play in terms of conserving open spaces?

A total of 34% of the sample felt they could assist in terms of education, i.e. educating fellow citizens, especially youth, as well as supporting education programmes. While 21% said they can be involved in action based projects like tree planting, cleaning campaigns and environmental committees.

The rest of the respondents indicated that they could assist through whistle blowing, voluntary law enforcement and reporting to the local media. Other respondents felt they needed to be afforded an opportunity to comment on development applications. A small percentage felt helpless about the whole situation.

5.4.13 Respondents' recommendations in relation to future management of natural areas and open spaces within the study area to ensure long term environmental sustainability

When looking at the issue of recommendations around future management 16% felt that the spaces needed to be properly maintained. There was a need to use them wisely. These respondents cited the example of using open spaces for tourism projects. The latter involve good maintenance of open spaces and promoting them as tourist attraction sites. The planting of trees on open spaces came up raised by 16% of the sample. Education once more came up cited by 13% of the sample who maintained that education is critical in ensuring proper future management of open spaces, while 7% felt legislation was very important in ensuring long term sustainability of open spaces.

The rest of the respondents cited several factors that could assist in their sustainability like sustainable community projects. They also raised the issue of regulated building on open spaces, especially the building of low cost houses. They also mentioned environmental projects like cleaning campaigns and the compilation of long term management plans.

5.5 CONCLUSION

The chapter has looked at the research methodology and data interpretation. The data has been captured, edited and analysed to give meaning to data and to the research dissertation as a whole.

The survey investigated community perceptions on the state of natural areas and open spaces. From this survey it is evident that open spaces do benefit the community in different ways. One good example is the use of open spaces as religious sites. It is evident that development is posing a serious challenge to the existence of open spaces. It also transpired that community participation is not on the same level in the different communities investigated.

The survey showed that the perception of the participants on land use conflict is biased towards formulation of policies and legislation by the local authority.

The next chapter will look at the EIA as a tool available to safeguard open spaces. It will touch on the origins and legislative framework and will assess the level of awareness and its effectiveness.

CHAPTER 6

ASSESSMENT OF AVAILABLE TOOLS TO SAFEGUARD OPEN SPACES AND THE NATURAL ENVIRONMENT USING ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

6.1 INTRODUCTION

The issue of effective and useful tools to safeguard our environment is at the centre of long term environmental sustainability. It is against this background that this dissertation will dedicate a chapter to the assessment of such a tool using the EIA as an example. The assessment of the EIA tool is relevant to this study because most of the urban open spaces need environmental impact assessment to be carried out before any development can take place. The assessment will be based on its use within the study area using an example of one major development, i.e. the Zimbali South Development at Ballito.

It must be pointed out that EIA is but one of the available tools that is meant to safeguard the environment. There are several other tools like the Strategic Environmental Assessment (SEA) which assesses the environment at a programme and strategic level.

One of the study objectives as outlined in chapter 1 is directly linked to environmental impact assessment. This objective has clearly stated that among other things this study will assess the value of the EIA as a tool and scrutinize its value in safeguarding natural assets and open spaces within the study area.

6.2 KEY PRINCIPLES OF THE EIA CONCEPT

The tool is defined as both a “planning” tool and as a rational way of gathering and analyzing information, as well as a “political” tool in the sense that it can be useful in influencing the attitudes (Randolph, 2004:612). EIA is a widely used policy tool for reducing the negative environmental consequences of development activities and for promoting sustainable development (Lee & George, 2000:1).

Environmental impact assessment is one of the tools used by most governments to regulate development of sensitive environments. Randolph (2004) further defines this tool as a process of finding out about a possibility of development harming an environment, and each identified harm is referred to as the impact. This technique relies on a systematic analysis of alternatives. Therefore EIA as a tool becomes a very useful technique for collecting information about environmental effects of a project, so that an informed judgment and decision can be reached. The EIA approach employs systematic, holistic and multidisciplinary principles in that it looks at environmental, social, political, cultural, archaeological and economic worldviews (Randolph, 2004). The EIA tool attempts to take all worldviews into consideration to reach a balanced and informed decision that will benefit the environment in the long run.

EIAs are therefore crucial to ensuring that all the environmental impacts associated with the development of the site are investigated, in order to contain environmental degradation. Furthermore EIAs analyse and evaluate the positive and negative environmental effects of proposed developments. Such an analysis will allow proper red flagging that will need to be addressed during planning and construction phases (Randolph, 2004).

The key role of the EIA tool is to ensure that impacts are identified at an early stage of any planned development. It is a systematic attempt to predict changes and impacts due resulting from the proposed action (Randolph, 2004:613). All these measures are geared towards sustainable development, while ensuring economic and social development. It must be stressed that the EIA tool does not limit itself to the assessment of environmental variables only, but it also look at social, environmental, political and cultural aspects.

At the centre of the EIA process is public participation which ensures the quality, comprehensiveness and all inclusiveness of the decision taken by the responsible authority. The EIA process presents an opportunity for the public's views to be taken into account in the decision making process. The process strengthens the voice of the civil society in a decision making process.

It is against this backdrop that the dissertation will also assess the level of awareness of this particular tool within the study area. If the residents are not aware of the EIA tool, this effectively means they are unable to participate in environmental processes. If the public's level of environmental management concept's understanding is low, it makes it difficult for the public to make any meaningful contributions to issues affecting their lives. It is under the latter circumstances that the EIA tool becomes questionable and some times regarded as ineffective.

6.2.1 The origins and development of the EIA tool

Recent years have seen an increase in environmental interest in relation to environmental issues. The major focus is around sustainability, and development that is in harmony with the environment.

EIA technique was developed in United States of America in 1969, and subsequently in the United Kingdom in 1988 (Fuggle & Rabie, 1996:763). The

tool is playing a pivotal role in long term environmental sustainability, although some of the developers still perceive it as another costly time consuming constraint. The use of the tool has since spread worldwide in more developed countries, expanding to Third World countries. The success or failure of the EIA tool in third world countries makes interesting reading, but is not the subject of this dissertation.

In South Africa the EIA concept has been continuously developed and applied since the 1970s and 1980s (Lee & George, 2000:36). This has been followed by EIA regulations and other environmental tools and initiatives like Strategic Environmental Assessment (SEA). While the EIA tool is seen as project specific, the SEA concept takes the assessment to the next level of expanding from projects to policies, plans and programmes.

6.2.2 Legislative framework with special reference to South African environmental law

As the environmental management concept gathered momentum and gained more general acceptance, the need to legislate it became apparent. In the United States this was done through the National Environmental Policy Act of 1969 which was known as NEPA.

EIA as an environmental tool has been used extensively in South Africa. As indicated earlier the Environmental Conservation Act No 73 of 1989 was followed by several other tools like EIA regulations. Moreover, environmental protection is well entrenched in the South African Constitution.

The National Department of Environmental Affairs and Tourism (DEAT) is the leading organ of state mandated with safeguarding the environment. Specific powers are delegated to all nine South African provincial environmental and conservation departments. There are several non governmental organizations

and pressure groups in South Africa assisting in serving as watchdogs for the protection of the environment. These organizations are making a meaningful contribution in averting unjust actions that are perceived to be detrimental to the environment.

For over a decade the EIA tool has been of great value assisting the authorities to take informed decisions in relation to development activities. Other than flagging key environmental issues the tool has afforded the affected communities an opportunity to air their views about development projects affecting them. This has happened through the public participation process enshrined within the EIA legislative framework.

On 21 April 2006 new EIA regulations were promulgated in the South African government gazette. These new regulations came into effect on 1 July 2006. This has been a response to the need to streamline the process and introduce flexibility in the whole EIA process and procedures. The old EIA regulations were often criticized for creating unjustified delays and costs, hence the 2006 modification. The new regulations have completely overhauled the categories of listed activities that require EIA.

The new EIA Regulations contained in the National Environmental Management Act (NEMA) have officially replaced Environmental Conservation Act (ECA). The nine South African Provinces are still responsible for the implementation of the new EIA Regulations, except projects of national importance which are handled by the National Department of Environmental Affairs and Tourism (DEAT).

The new regulations have been divided into two components i.e. schedule 1 and schedule 2 categories. Schedule 1 includes those activities that involve transformation of land which will be subjected to basic assessment process. Schedule 2 will include those activities that require detailed reports and undergo a full EIA process like the power stations. In response to the complaints about

delays caused by the EIA process, the new regulations have introduced timeframes that the authority has to adhere to in terms of the EIA delivery time. The Minister of Environmental Affairs and Tourism in 2005, Mr. Schalwyk estimated that the new approach was to reduce delays by at least 20% (DEAT, 2006). During the KZN Growth Coalition Seminar in August 2008 John Barton, the co-chairman of the coalition complained that projects worth billions of Rands were delayed due to the EIA process. In the same seminar Mark Taylor, the managing director for the eLan Group which is the company responsible for the development of the land for the Blythedale Coastal Resort project, which is within the study area leveled the same accusation (Dardagan, 2008:1).

The new regulations are also very strong on the public participation process. They emphasize that the relevant organs of state must be contacted for comment in the area where they are key stakeholders. The regulations further emphasize that the community adjacent to the project site at a radius of 100 metre must also be contacted. The small scale activities will be subjected to basic assessments, while the major ones to scoping and full EIAs assessments. The decisions previously known as Record of Decision (ROD) is now known as Environmental Authorization.

The latest development around environmental legislation has been the proposed amendment to the Minerals and Petroleum Resources Development Act. The Act intends exempting the Department of Minerals and Energy and its activities from the provisions of NEMA. This effectively means that the assessment of the mining applications will be dealt with in terms of the Minerals and Petroleum Resources Development Act.

6.2.3 Awareness about the EIA tool and its effectiveness within the study area

The researcher felt that it was very important to assess the level of awareness of this particular environmental tool within the study area. This was critical in knowing whether the residents are knowledgeable about the EIA tool, which plays an important role during the roll out of development projects. The residents can only participate during EIA processes if they are aware of the tool and the inherent process. The knowledge of the tool in question can equip the residents to participate in a meaningful way in development projects taking place within the study area. This was one of the questions in the questionnaire that was to be answered by the respondents. This has not only tested the level of awareness, but also confirmed whether those who are aware of the tool felt it was effective in safeguarding the environment.

The responses of the respondents made it clear that 62% of the respondents within the study area were not aware of the EIA tool. This is a significant percentage in terms of knowing the tool in question. On the other hand only 28% of the total sample indicated that they were aware of this environmental tool and 10% of the respondents did not respond. As indicated earlier this shows that as much as the sample comprises fairly educated respondents (53% having indicated that they had tertiary education and 47% having secondary education) but the general level of environmental literacy is low within the study area.

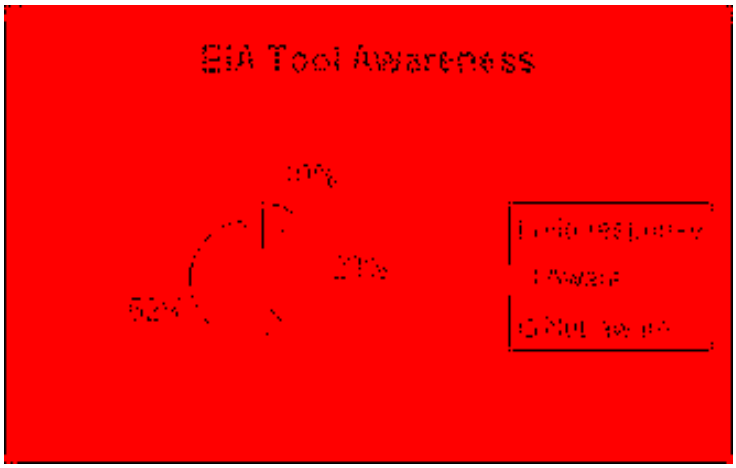

Figure 6.1: EIA tool awareness

Among those who indicated that they were aware of the tool, raised the issue of the ineffectiveness of the tool, while others acknowledged that the tool assisted in environmental monitoring. Some of the respondents registered their reservations about the EIA tool and pointed out its proneness to manipulation by the developers and in some instances government departments. The awareness of the tool can be attributed to higher levels of environmental awareness and environmental literacy.

The awareness about the tool will assist in that the public can participate during EIA public participation sessions. Participation in the EIA process can serve two purposes for the members of the community. It can expose the public in how the decisions are taken by the authorities, and it can also be empowering by providing environmental information to the participants to be able to make meaningful contribution to development taking place within their area.

6.2.4 EIA use within the study area

The study area falls under the jurisdiction of the province of KwaZulu-Natal. In terms of environmental responsibility it falls under the KwaZulu-Natal Department of Agriculture and Environmental Affairs (DAEA) as per the powers delegated to the KwaZulu-Natal province's Member of the Executive Council (MEC) responsible for the environment. Although the KwaDukuza municipality has jurisdiction over the area in terms of the planning legislation and its approval, the municipality has no environmental authority over the area. The municipality can only be a key stakeholder during the EIA process and give official comments on certain aspects of developmental projects. The municipality can also oversee environmental compliance within their area of jurisdiction, and report on non-compliance tendencies to the province.

Ezemvelo KZN Wildlife has a small component concerned with integrated environmental management within the Planning Division which also contributes to commenting on EIAs across the province of KwaZulu-Natal. They also have a biodiversity map that indicates the sensitivity of different habitats across the province. The map shows those areas that are sensitive to development, those that can be developed and those regarded as no-go areas. The biodiversity map serves as a guide when Ezemvelo KZN Wildlife comments on development projects as required by legislation.

Furthermore the study area has active non governmental environmental interest groups like Blythdale Conservancy. These groups play an important role in monitoring the development that is taking place within the study area. The coastal stretch under the jurisdiction of KwaDukuza municipality has seen massive development projects that fall under listed activities in terms of legislation, and therefore need to be assessed environmentally.

The local media is also very vocal on environmental issues within the study area. One of the newspapers that seems to serve as the community watchdog on environmental issues within the study area is the North Coast Courier. The newspaper normally carries weekly articles exposing observed environmental abuses within the study area.

6.2.5 Case Study – Zimbali South Development

Most of the projects that are being carried out within the study area fall under scheduled activities in terms of the EIA Regulations, and require environmental assessment. There is a range of projects including those that encompass change in land use from conservation to residential, development of virgin land, sewerage infrastructure and construction of resorts facilities. This dissertation is going to look at Zimbali South Development within the study area as a case study in terms of how the EIA tool has been applied. This is one of the major development projects within the study area that is associated with a major change in land use.

Zimbali Development project will be scrutinized as it falls under the listed activities in terms of legislation thereby requiring a full EIA. This specific project was to be assessed in terms of ECA which was in place until 30 June 2006. It is of interest to note that Zimbali South development has several activities within itself, what is normally referred to as activities within a listed activity.

Zimbali South Development is located south of Zimbali (refer to figure 1.1.) as the name indicates, and falls under the KwaDukuza municipality along the north coast of KwaZulu–Natal. The development is located on a 50 hectare site, along the coastline to the south of Zimbali and north of Tongaat River. During the time of the application this development consisted of about 110 residential sites, a hotel with 400 rooms and a private recreational facility including restaurant, retail

outlets, swimming pool and club house, parking facility and pedestrian access point to the beach.

As much as the development itself has a residential outlook, but it comprises of other associated structures like sewerage disposal facility to be built within the proposed settlement, resorts and associated facilities, the development of the virgin ground and change in land use from conservation amenity to residential.

The dissertation will assess how the EIA process unfolded for this particular development. The site in question was previously an area classified as open space in the form of sugar cane, grass and forest areas. Prior to any proposed large scale development coastal forest partially covered this site.
Although the project site is of great conservation importance it is noted that there were signs of disturbance through sugar cane farming prior to the proposed development. Some irresponsible citizens were also using this site as a dumping ground (Nicolson, 2002). There were also areas showing dune damage, and the project was compelled to ensure that the dunes were protected during both the construction and operational phases. The development was therefore compelled to look at all aspects within the project site to ensure total environmental protection. The Zimbali Development model might serve as an example for other projects of this nature and magnitude, especially those located along the coast.

The project tried its best to contain any large scale destruction of the indigenous trees and degradation to the environment. The project ensured minimal disturbance of the natural drainage systems, catchment and wetland systems. The areas that were disturbed were rehabilitated as part of the project's rehabilitative programme (see Figure 6.2).

Figure 6.2: Photograph showing a conserved wetland within the study area (Source: Photograph taken by the researcher at KwaDukuza, 2007)

Several specialists' studies were requested from the developer including archaeological, sewerage disposal, and vegetation study. These specialist studies formed a very important component of the EIA study.

6.2.6 Looking at the effectiveness of the EIA tool

The success or failure of the EIA tool in South Africa has been generally assessed in a manner that shows mixed feelings. There are areas where the tool has really protected the environment. One example is the case of the MEC for Agriculture, Conservation, Environment and Land Affairs (Gauteng Province) v Sasol Oil (Pty) Ltd and Another decided on 16 September 2005. In this particular case the Supreme Court of Appeal ruled that the construction, erection or upgrading of a filling station is an activity that requires authorization in terms of section 22 of the Environment Conservation Act, No. 73 of 1989 (Ndlovu, 2006).

The other well documented example is the abandonment of St Lucia dune mining operations at Richards Bay in KwaZulu-Natal in the 1980s and early 1990s.

There are instances where the decision taken by the authorities has created controversy like in some areas along the south coast of KwaZulu-Natal. A good example is the proposed road that is meant to go passed the Wild Coast in KwaZulu-Natal. Some municipalities have also been accused of turning a blind eye to some of the developmental projects that require an EIA prior to commencement. Some municipalities in KwaZulu-Natal lack the capacity to comment and handle environmental issues adequately.

In terms of the Zimbali South Development project the EIA tool has really gone a long way in ensuring compliance with legislation, environmental management strategy and minimal disturbance of the natural environment. One of the useful components of the EIA tool is the compilation of an environmental management plan that clearly states how the environment is going to be protected during construction and operational phases.

Among other important extra mile initiatives taken by the Zimbali South Development project was the voluntary creation of wider road reserves. The untouched three metre belt around buildings and properties, and the wetland protection strategy. The development specifically left some servitudes and open space system which are managed by the Zimbali Management Conservation committee. Some of these mitigation measures are not legally enforced but indicate a willingness on the part of the developer to go an extra mile in protecting the receiving environment.

6.2.7 Zimbali South Development EIA application

The Zimbali South Development application was lodged to the KZN Department of Agriculture and Environmental Affairs in 2002. The application was assessed

in terms of the Environmental Conservation Act (Act 73 of 1989) which was applicable at the time.

The application was lodged on 9 September 2002, and a Record of Decision was issued on 8 May 2003. The duration of this specific Scoping / EIA process was about eight months from lodging of an application to the actual issuing of the Record of Decision. Given the number of specialists studies that were carried for this project, it can be said that the timeframe was reasonably shorter than the average turn around time for normal EIAs. The researcher suspects that because of the project's magnitude and its strategic nature it might have been prioritized by the KZN Department of Agriculture and Environmental Affairs. The project investment at the time of the EIA process was estimated at the value of R800 million to R1, 5 billion.

6.2.8 Public participation methods adopted by the Zimbali South Development project

6.2.8.1 Approach

Public participation is the most critical element in the whole EIA process, as it gives stakeholders an opportunity to scrutinize the project from different perspectives. The Zimbali South Development environmental assessment practitioner and the project team identified a range of stakeholders that were to be consulted, and they were accordingly invited to the project public meeting. The stakeholders ranged from interest groups, heritage, ratepayers association, business people and government departments. The diverse nature of the stakeholders was meant to provide a platform for the exchange of information.

The EIA process was advertised in several newspapers including the Daily News and the local North Coast Courier. The Daily News and North Coast Courier are both English medium newspapers that were used to invite stakeholders to the scheduled public meeting. The public meeting was held at Ballito to commence at 17.00. According to the project Scoping Report some stakeholders were invited by letter, e-mail or telephonically.

6.2.8.2 Challenges

Randolph (2004) summarizes the challenges well when he refers to them as “obstacles and opportunities in participation”. He argues that no matter what the planner does but it is impossible to have everyone participate. Some people could be missed out during the stakeholder identification exercise, and end up not being invited. It can also happen that meetings are scheduled at times and in places that are inconvenient or inaccessible (Randolph, 2004:64). Randolph (2004) like Lee & George (2000) argue that the language of the project presentation might be too technical for ordinary people to understand or might completely ignore the stakeholders that are not English speakers. The existence of distinct social or linguistic groups may require the use of particular consultation methods (Lee & George, 2000:278)

6.2.8.3 Identified project related challenges in relation to public participation

There were several challenges that were observed by the researcher with respect to the EIA process that might have contributed to the process not being regarded as fully inclusive. Methods that were used during the public participation process might have been problematic. The fact that these meetings were advertised in English newspapers in its own becomes a problem for the majority of the previously disadvantaged groups. Most people in South Africa rely on the radio and sometimes the indigenous language newspaper for a specific area as a way of getting information. The Ilanga is a widely read iSiZulu newspaper in

KwaZulu–Natal. Since September 2008 this Thursday publication had a readership of 600 000 (Mbili, 2009). Most people within the study area are not employed and are generally not literate (KwaDukuza Municipality IDP, 2005), so it is possible that they might not be in a position to afford to buy newspapers. The level of illiteracy might also prevent some people from accessing written information.

The meeting was held at Ballito which is an up market suburb at 17.00; this poses a challenge to people who do not own vehicles. The location of Ballito makes its accessibility difficult especially in the evening when there is no public transport available.

The chosen day of the week might have made it difficult for previously disadvantaged groups to attend because of work commitments many of whom lack work flexibility as compared to better off stakeholders. Middle class professionals might have a luxury of flexi hours or are in a better position to make necessary arrangements with their employers. Most working class people knock off at 17.00 and still need to take public transport to their areas of residence, mostly in distant locations away from urban centres. On arrival at home most working class people still need to attend to household chores because they cannot afford the luxury of domestic assistants.

The poor and indigenous people tend to be outsiders in the world of technological power, and are said to form a new underclass in terms of information and technology (Tuman, 1992). This might explain the difficulty ordinary people might have in accessing e-mails and obtaining information available on websites. During the public meeting it was mentioned that stakeholders were free to add their views via e-mail and telephone. This technology is unfortunately out of bound for the majority of the people within the study area.

On the basis of the foregoing it is clear that there were several gaps, and challenges that prevented broader participation of the previously disadvantaged communities in this project. The assessment of the stakeholders who were invited and those who actually attended reveals a much skewed picture in terms of the demographics of KwaDukuza.

Even if the previously disadvantaged people had attended the meeting it is doubtful whether the process would have been able to accommodate them. It is doubtful if the meeting was going to be able to translate to them in order to understand the technical process and EIA jargon used.

The availability of Scoping Report for comments only at the Ballito and Salt Rock libraries made it difficult to access these important documents, let alone that they were mostly written in English. In studying the documents there was no indication as to whether there were any attempts to translate the documents to accommodate languages other than English.

6.2.8.4 Challenges facing stakeholders in engaging and questioning the EIA process

Those who tend to complain in cases of dissatisfaction are those stakeholders who have resources to do so. These are the people with access to telephones, e-mailing, and are able to articulate their grievances in writing. This effectively excludes those without resources, and those who are unable to read and write. An example was the complaint that was registered by the local ratepayers association in terms of Zimbali South Development project in their letter dated 29 September where they questioned the realignment of the M4 Road.

Closer scrutiny of the attendance register confirmed the reality of the challenges highlighted above. Most of the people who attended the meetings were from previously advantaged groups. It is against this backdrop that the participation in

EIA process becomes one-sided and biased towards the advantaged. The challenges highlighted in this public participation process clearly indicated that EIA processes are not always inclusive despite good intentions of some developers at times.

6.2.9 Technical assessment of Zimbali South Development project

The Zimbali South Development project identified several variables that were regarded as critical for the assessment of the area. The identified variables included air, water, soil, biological communities, animal species and ecological processes. Furthermore the project had to protect wetlands, geology and soil within the site and drainage lines, and controlled access to the beach. As indicated earlier, this project comprised a number of associated activities that also needed assessment in addition to the main activity which was residential development.

One of the major concerns of the project site was the susceptibility of the soil to erosion. The project had to safeguard against the removal of soil cover (vegetation) that would render the soil susceptible to erosion. The development in question took place along the coast, which is a sensitive and vulnerable environment. It was therefore critical that the walking of people to the beach was to be carefully assessed as this tends to worsen susceptibility of the coastal environment.

The visual impact is another element that had to be assessed, especially as the project was highly visible from the distant M4 Road. This visibility had to be taken into account to ensure that the buildings blended with the environment.

6.2.10 Record of Decision now called Environmental Authorization

The Environmental Authorization procedure previously known as the Record of Decision (RoD), was issued by DAEA in May 2003. The authorization stated that the development was to commence within 36 months, failing which a new application had to be lodged with the KZN Department of Agriculture and Environmental Affairs. The independent environmental consultant made available the issued RoD to the interested and affected parties. The RoD allowed for a transparent appeal process routed through the office of the MEC responsible for the environment within the KwaZulu-Natal Provincial Government.

The RoD clearly stated that the set conditions were valid for the lifetime of the project. The actual decision was based on several key decision factors as contained in the Record of Decision itself. It is important that the decision taken be justified by providing reasons for such a decision. Among some of the stated reasons was that the project was seen as being in line with the integrated development plan of KwaDukuza municipality. The project was seen as consistent with the principles of a developmental state and developmental local government. Moreover the project was seen to be a major boost in the economy of KwaDukuza and viewed as of great benefit to the wider community (Nicolson, 2002).

It is clear that the RoD took the issue of unemployment into account which is a major concern for most South Africans, and also evident within the study area. Sustainable development is based on assessing issues looking at environmental, social and economic factors; and the decision had to take all these factors into account, and balance them.

The decision makers came to the conclusion that the no-go option was detrimental to the broader community of KwaDukuza, as this was going to result in the forfeiture of the socio–economic benefits associated with this development.

The conditions presented in the RoD also compelled the developer to rehabilitate the environment should there be some evident impacts. It is noted that, prior to this development, the area was already used as a dumping ground by some irresponsible citizens. The development was therefore forced to look at all issues within the project site, in the best interest of the environment. There was also a noted dune damage prior to the project, and the project was compelled to ensure that dunes were protected.

The RoD clearly stated that all wetlands had to be delineated to ensure their protection. Touring of the project site by the researcher showed that wetlands were not destroyed (see figure 6.2). The wetlands play an important role in providing a habitat for most species especially water birds. The protection of wetlands also enhances the beauty of this coastal environment.

There are several specialists studies that were also conducted to ensure the fulfillment of the principles of sustainable development which take into account social, environmental, economic and cultural resources. One of the studies conducted was the archaeological study to determine that the cultural remnants in the area were not destroyed.

A clear building protocol was proposed to ensure compliance during implementation. This was to ensure that all the contractors engaged during construction understood the implications of their actions on the environment. The contractors were expected to fully comply with the conditions of authorization.

KwaDukuza is one of the main tourist destinations along the north coast of the province of KwaZulu-Natal as it offers both the warm coastal environment and the rich history. Tourism serves as a vehicle and a revenue generator in an impoverished area like Ilembe District in which KwaDukuza falls. The project was therefore viewed as an important and strategic tourism catalyst.

The public participation conducted for the project was deemed adequate by the KwaZulu-Natal Department of Agriculture and Environmental Affairs (DAEA). This was obviously decided upon within the context of the location of the project site itself. The site is situated along the well developed Ballito area where most of the middle class people stay.

The RoD clearly stated that the project was authorized with the condition that it embraced the concept of the duty of care and remediation. The duty of care and remediation is in line with the provisions of Section 28 of the National Environmental Management Act. DAEA made it very clear that it intended inspecting the project at any stage during construction and operational phases.

As part of promoting co–cooperative governance the developer was requested to liaise with the Department of Water Affairs and Forestry in line with the National Forests Act (Act No.84 of 1998) in relation to any possible cutting or damage to the indigenous trees and protected species within the project site. This liaison was to happen prior to the commencement of the project.

The Environmental Management Plan was also a prerequisite prior to the commencement of the project to ensure that mitigation measures were in place, aiming at environmental protection during the construction and operational phases. The recommendations of the specialist studies conducted for the project were to be followed and adhered to as contained in several specialists reports. It was also made clear that the buildings themselves were to blend with the environment to reduce the impact of visual pollution. The RoD’s tone is that of conservation and the protection of the environment.

6.2.11 Implementation phase

The project was implemented immediately after authorisation was given by the Department of Agriculture and Environmental Affairs. The scoping report for the project included the contractors/sub–contractors/suppliers protocol document that was meant to guide the construction phase. The tone of the protocol and its major thrust was the adherence to the RoD and the overall protection of the environment from any possible adverse effect flowing from the construction phase.

The researcher observed some important facts in terms of conserving some of the most critical environmental and conservation features. The Zimbali South Development project seems to have gone an extra mile in protecting these critical environmental features like wetlands, indigenous trees and soil erosion. (see Figure 6.3.)

6.2.12 Monitoring phase

It was critical for the researcher to assess if the project implementation was conducted in line with the conditions of the RoD. At a broader level the project seemed to have adhered to the set conditions. As indicated earlier, due to the shortage of monitoring officials some of the finer details of the authorization conditions sometimes fall in between the cracks. KwaDukuza municipality seemed to have addressed this shortcoming by appointing its own Environmental Officer in 2007.

One of the compliance shortcomings picked up by the newly appointed KwaDukuza environmental officer was that the project was supposed to have been completed within 36 months, but this did not happen as stipulated in the RoD. The developer was supposed to have at least requested and applied for the extension / relaxation of the condition relating to completion period. This confirms

what Randolph raised in saying that post project monitoring is rarely conducted (Randolph, 2004: 616). He further argues that proposed mitigations are sometimes not implemented. The RoD clearly stated that if there was a delay in commencement that extended beyond the stipulated time the competent authority reserved the right to demand that the process be started afresh. The developer corrected the situation but endorsed this with a comment that it is sometimes difficult to accurately time projects of Zimbali's nature and magnitude and tie them to a rigid timeframe. The developer argued that the buying of the sites is dependent on buyers and to some extent to the market forces.

In instances where there were delays the RoD makes provision for the developer to lodge a formal application for extension. In this instance the developer should have made a formal application for extension to the KZN Department of Agriculture and Environmental Affairs.

6.2.13 Critique of the EIA tool

The critique of this tool is that the EIA as a tool rarely refuse development applications outright, but tends to merely reshape proposals (KZNPDC, 2005). The critics maintain that all that the tool does is to make minor changes to project proposals, which are mainly cosmetic to development that would probably happen anyway. Some environmentalists further argue that although the EIA has its role, it is reactive, and does not indicate what could be acceptable, nor does it give direction to future development in an area (KZNPDC, 2005). There are other processes meant to guide future development in the area like land use management systems and spatial development frameworks. The difficulty with these processes is that they are rarely aligned to environmental planning. This disjuncture between planning and the environment remains a problem in the South African planning environment.

Another weakness is that some decision makers within the urban environment are environmentally illiterate. There seems to be a weakness in terms of environmental expertise and insight at a policy level. Some policy makers at a local level lack a deeper understanding of both the environment and planning processes. This scenario leads to a situation where decisions are sometimes taken by people who might not be competent in those areas.

The critique of the EIA tool can best be illustrated by the example of the appeal process lodged against the building of the King Shaka International Airport project in 2008, a huge project adjacent to the study area. Carne (2008), in his article, scrutinized the nine appeals that were lodged by stakeholders including the La Mercy Airport Environmental Forum against the construction of this airport in relation to the noise pollution from jet aircrafts. The decision proved difficult for the Minister Marthinus van Schalkwyk of Environmental Affairs and Tourism due to the political pressure in terms of the project and a massive investment which was in the tune of R6.8 billion (Carne, 2008). These appeals stemmed from the approval of the project by the Minister in August 2007 after a mandatory environmental impact assessment. The delays in making a decision on the appeals actually fuelled the perception that the EIA was largely a politically driven and a rubber stamping procedure. The major concern of the stakeholders was that the noise levels predicted in the EIA study were based on computer modeling predictions, while the stakeholders indicated that they were concerned about the actual noise. The stakeholders argued that the residents were hearing the actual noise.

The EIA tool is further criticised as sometimes coming too late in the planning process and its information is not integrated into decisions (Lee & George, 2000). There is always a concern around the issue of accurate prediction of cumulative impacts that extend beyond the project (Randolph, 2004: 616). Despite the wide use of the EIA tool, there is still a degree of uncertainty regarding its success and

effectiveness. The environmental impacts cannot be assessed and predicted with certainty.

Since the EIA evolved in the Western world it is generally perceived in a negative light, with a wide perception that it is anti-development (Pearce, 1998). There is always a perception that EIA practitioners may not be fully independent, as they are hired and paid by the developers (Pearce, 1998).

6.2.14 The significance of the EIA tool

Despite all the criticisms that are generally leveled against the EIA tool it must be indicated that it remains an important tool. It does make a contribution to safeguarding the environment. The examples are many in South Africa where it has saved sensitive environments that might have been otherwise destroyed.

The EIA tool plays a very important role in encouraging debate and dialogue from various and often opposing viewspoints. The EIA process serves as a platform to raise issues affecting the community and the environment. The EIA tool also goes a long way in keeping the developers in check and holding them accountable for their actions. The technical studies assist in ensuring that all aspects of development are assessed and scrutinized.

The Zimbali South Development initiative is one good example where the tool has made a huge contribution to ensure the protection and conservation of the environment. In some instances the developer has gone the extra mile in protecting the environment around the Zimbali South Development project.

The EIA tool might need refinement, which must be brought about by the contribution made by the members of the public during its review process.

6.3 CONCLUSION

The chapter gave a full analysis of the EIA process from its origins and how the concept has evolved in South Africa. Like all tools, EIA has its own strengths and weaknesses. The chapter attempted to outline the EIA tool drawing from the example of Zimbali South Development.

The researcher ‘s observation was that the EIA tool played a very important role in shaping the Zimbali South Development with the scale tilting in favour of the environment. The overall conservation principles as reflected in this development are not difficult to see and witness as photographed within the project area. Others interviewed even argued that Zimbali Development must be used as a benchmark for all South African coastal projects, and other huge residential projects.

The process would have been more credible if it had taken into account the involvement of the previously disadvantaged communities within KwaDukuza. This is one of the shortcomings detected by the researcher during both the scoping and EIA processes.

The next chapter will look at the results and presentation of the overall study. Chapter 7 will present the results and discuss them in a way that is meaningful to the reader. The chapter will also align models and theories to the emerging trends seen in the results.

CHAPTER 7

PRESENTATION AND DISCUSSION OF RESULTS

7.1 INTRODUCTION

The intention of this chapter is to present and discuss the research work by pulling data together thus giving information to the reader. It is imperative that the results must be presented and discussed in a way that gives meaning to the reader, and paints a clear picture as to what different things mean. The pulling of the dissertation chapters together entails looking at patterns, regularities and explanations. All the noted observations need to be interpreted by relating results to existing models and theories as discussed in Chapter 2, demonstrating whether they are supported or falsified by the emerging trends from the presented results.

The research results will be linked to all the chapters robustly reflecting the three aims as outlined in Chapter 1. The results will have to capture the state of natural areas and open spaces, community perceptions, community participation, benefits, threats and challenges facing these areas within the study area. The results and discussion have to reflect the nature and extent of land use conflict in relation to the dynamics of the planning scenario within the study area. Finally the results will have to present the value of the Environmental Impact Assessment (EIA) as a tool to contribute to safeguarding the natural assets and open spaces within the study area.

For the purposes of the structure this chapter comprises three main parts based on results of the analysis of the questionnaire. The first part will be anchored on how the natural areas and open spaces are perceived by the community. The second part will be linked to the issue of community participation within the study

area. The third part will focus on recommendations for the future management of natural areas and open spaces within the study area, for long term sustainability.

The chapter concludes by summarizing and discussing salient points taking into account the whole dissertation. The chapter will also discuss the noted gaps in the research study, surprising results, quality of data and any abnormalities that might have emerged. An attempt will be made to demonstrate whether the results confirm or deviate from the expected, giving reasons for such a scenario.

7.2 HOW THE NATURAL AREAS AND OPEN SPACES ARE PERCEIVED BY THE COMMUNITY WITHIN THE STUDY AREA

7.2.1 Threats to open spaces

The majority of the respondents demonstrated a fairly good understanding of, and insight into the meaning of open spaces. Their understanding was assessed by the nature of responses given when defining “open spaces”, looking at the key words. The answers served as a barometer and an appropriate point of departure in terms of assessing the general understanding of the topic by the respondents. It was observed that the majority of the respondents defined an open space as an area that has no infrastructure, buildings or houses. The next highest percentage defined open space as comprising of natural resources with a special emphasis on trees which are indigenous. The respondents further defined the concept as undisturbed area or natural bush. The issue of areas conserved for future generations and future use featured frequently from the respondents responses. The question “what is your understanding of open spaces” was asked with the intention of assessing the respondents knowledge base of the topic early in the process. On the basis of responses given one could conclude that the majority (82%) of the respondents were well positioned to make a meaningful contribution to the study. The respondents who did not know what open spaces were, were a minority (15%).

The research sample reflected a fairly good level of literacy. As much as the level of literacy was high among the respondents this was not proportional to the actual level of environmental literacy demonstrated by respondents. There was a notable difference in the level of environmental literacy between the two sample areas. The respondents from Ballito showed a higher understanding of environmental issues than Shakaville area. This difference can perhaps be attributed to the level of exposure, environmental awareness, class differences, social background and economic status.

These differences can be explained by drawing on aspects of social theory discussed in chapter 2. Ballito is a highly urbanized expensive up-market suburb and most of its residents and therefore representative respondents are likely to be better off in terms of exposure to local issues. The economic status of these residents reflects a high degree of exposure and affordability in terms of material things like owning a television set, access to the Internet and a telephone, buying newspapers and ownership of property. Expensive schools like Sea Forth which is a private school, are also found in the area. These resources give a respondent from the area an advantage over a respondent hailing from Shakaville, who might not have these luxuries. On the other hand, Shakaville is located on the periphery of KwaDukuza. Shakaville is a mostly working class area with very few well-off residents.

When analysing class differences the Marxist theory maintains that economic forces have determined the course of history. The economic status of an individual determines his or her social status in society, and tends to decide where an individual will reside, attend school and have access to information. Marxist theory also reflects on residential location in relation to class. The theory argue that the elite are the ones who can afford to occupy what Marx called privileged space, at the expense and exclusion of the working class. The area of Ballito can be regarded as privileged space with a good open space system, natural environment, golf estates and gated communities. Some of the residential

areas, like gated communities, are highly restricted and regarded as private property. The privileged space which, according to Marx, is supposed to be a common property has changed to be private property accessed by the privileged few in line with their social status. Marxist theory sees this uneven spatial development as a direct result of a capitalist system. He perceived this as a manifestation of an ever increasing gap between the middle and the working class and directly linked it to industrial capitalism. (Knox, 1994). Knox (1994) refers to this unevenness as the social distance, defined as a way of ensuring adequate distance between the middle and working classes.

In Marxist terms, the current expansion taking place within the study area threatening the open spaces, can only be explained in class and economic terms. The capitalists are making a massive investment in the area in the form of residential development and townhouses at the expense of the working class, who are working there but enjoy no direct profits from the economic boom. It is of special interest that this has opened a debate around the whole issue of spatial imbalance and gated communities in KwaZulu-Natal, including the study area itself. Questions are being asked about the effect these up-market gated communities like Zimbali and Simbithi are having on the wider community of KwaDukuza and other areas along the north coast. The former Chief Executive Officer of the Durban Chamber of commerce and industry Professor Bonke Dumisa said in 2005 “perhaps these gated communities are not such a bad idea” (Gibson & Kitchen, 2005). The late Municipal Manager of KwaDukuza Mr N. Mthembu argued that the gated communities are the sad legacy of the past, pointing out that exclusive estates like Zimbali numbering some 100 units, less than 10 are owned by or occupied by black people. Mthembu concluded by suggesting that the municipality was to safeguard against what he perceived as a return to apartheid settlement patterns along racial and class lines (Gibson & Kitchen, 2005).

The majority of respondents felt that the open spaces were under threat in KwaDukuza. The “strongly agree” response which was in the majority (41% of the total respondents) is a clear indication that flowing from the understanding of the concepts under discussion as reflected in the definition response, emphasized that respondents see a serious threats to the open spaces and natural environment.

The reality of the situation is that KwaDukuza Municipality is under severe pressure to increase tax base in the form of rates collection. The revenue collected should allow the KwaDukuza municipality to address the service development backlogs in its area of jurisdiction. The municipality is also under pressure to create a conducive environment for investment and the creation of job opportunities. This is a reality in an area where only 42.8% of persons in the age group 15–64 are employed and earning an income (KwaDukuza IDP, 2005/2006:20). The Marxist theory maintains that the very nature of capitalism is manipulative and allows capitalists to exert pressure on government. The government has very little room to manoeuvre under these circumstances, because all is done in the name of development even if it is at the expense of open spaces and the environment. The language used by capitalists is that the development will increase the tax base for the local authority and stimulate local economic development.

The respondents showed knowledge of open spaces as 67% indicated that they had indeed visited the parks in the past six months (47% occasionally and 20% regularly). Only 31% indicated that they had never visited the open spaces. Based on this percentage it can be concluded that the majority of the people in the sample were well informed about these open spaces and the changes that had taken place over a certain timeline.

Such a significant percentage of visitors to parks can be attributed to the level of literacy reflected by the sample. The issue of income is also very important in

terms of people being able to move within the study area including the visit to parks. As much as some of the people from Shakaville might lack surplus financial means to visit parks due to other pressing social needs and immobility but they might have seen changes in open spaces in their own immediate environment. Some respondents might have visited open spaces not only for pleasure but perhaps for religious or cultural purposes. Some of the people might also be employed in construction projects taking place on open spaces.

The other reason for not visiting parks that was put forward by the respondents was the issue of fear and concern about crime.

In Chapter 3, one of the mentioned constraints and threats to open spaces was said to be the natural bush stands perceived by the community as security threat. This security threat was confirmed by the responses received from the respondents. Some of the municipalities are unable to clean these bushes due to lack of funds, and communities put pressure to have them cut. The example of Silverglen Nature Reserve in Durban was quoted in Chapter 3, where the reserve was closed because of criminal incidents. The number of responses indicated that the members were indeed fearful of these parks. Freeman (1991) substantiated this point when quoting from the city of Nairobi where bushes were cut as there was a belief that they were used by fugitives and were seen as hiding places for the undesirables.

The reality is that in South Africa it is unlikely that the South African Police Services or the municipal security personnel would be able to patrol parks due to other pressing needs and financial constraints. Maybe the idea of volunteers and reservists might be explored in this regard to increase visible policing and restore confidence and encourage people to visit parks, and this might in turn reduce vandalism and criminal activities. Most of the parents spoken to within the study area confirmed that they could never allow their kids to go alone to play in open spaces for fear of crime.

7.2.2 The value of open spaces as perceived by the respondents.

If one were to combine those who strongly agreed to open spaces being of value and those who just agreed, it gives a significant percentage of 72% of the sample. Again it shows that the majority of the respondents attached a great deal of importance to open spaces. The general view of the respondents is that open spaces are of value and benefit but there has been general acknowledgement that there are things that needs to be done to ensure their sustainability. The level of education and lifestyles might have contributed to this response. The same pattern that was revealed under threats seems to be repeating itself in this instance.

Those who felt that open spaces were of little or no value were in the minority. It is of interest that those who tended to devalue open spaces and the natural environment cite crime as their main reason. They view open spaces as areas that are used by criminal elements to pursue their criminal acts.

One of the main problems cited by respondents with respect to open spaces is that of perceiving them as crime spots. The vacant plots are mostly associated with criminal activities. In some instances the residents felt these open spaces were the source of their problems. The researcher witnessed the residents of Umlazi township in Durban in 2007 taking it upon themselves to clear the bushes suspecting that they were being used by criminals. Further the researcher also witnessed the case of one Durban North house that was for a very long time on the market because prospective buyers were not comfortable to buying it as it was closer to a huge open space with trees.

In recent years there has been a substantial increase in the incidence of sexual violence involving children (Latif, 2008:1). The study conducted in Cape Town by van As et al (2005) found that children in the 2–to 6 year age category were

found to be highly susceptible to sexual victimization. The painted scenario caused parents to be wary of allowing their children to go alone to play in parks and open spaces.

Maslow's theory of needs might assist in explaining the value that the respondents attached to open spaces. Maslow's theory argued that those who are at the lower level of developmental hierarchy, tend to be more concerned with issues of basic needs, while the upper class had achieved some of the basic needs and had reached the level where they can entertain other higher needs like the issues of the environment, and are driven by the desire that they have done something for the environment. The responses show that some of the people in Shakaville sample might have gone beyond the level of basic needs like food and shelter, but they might have not reached the higher levels of the hierarchy. Some among those who attach low value to open spaces might be due to their own bad experiences with the open spaces like having encountered crime.

7.2.3 Current state of open spaces within KwaDukuza

Although the majority of respondents recognize the value of open spaces, there was a strong indication that they were indeed in a very bad state. The respondents felt the open spaces were neglected, unkempt and generally very dirty. Dumping on open spaces was raised as a concern in terms of open spaces.

Eighteen percent of the respondents indicated that some open spaces were in good shape and well-maintained. The latter view is likely to have emerged from the Ballito area where traditionally, the parks and gardens have been well maintained. Even in the area of Ballito there are respondents who might have felt that the maintenance standard of parks and gardens has dropped. The level of maintenance might also not be the same from one area to the other.

The lack of good maintenance, and illegal dumping on open spaces and any sign of neglect in terms of the open spaces might perpetuate the perception that they are of little or no value. In the literature review one of the factors that came strongly was the state of neglect and illegal dumping in open spaces in most African countries. Some respondents (16%) cited dumping and squatters as responsible for reducing open spaces. The municipal IDP identified the challenge of refuse collection and the provision of landfill site as one of the priorities within the municipal area. The noted dumping points out that this has an impact on open spaces and the environment in general.

Illegal dumping seemed to be a serious problem in the KwaDukuza area. Some irresponsible citizens seem to have no respect for the environment by just dumping all their garden and domestic refuse on open spaces. The photograph below indicates the magnitude of the problem as highlighted by the respondents.

Figure 7.1: Photograph showing the challenge of illegal dumping within the study area
(Source: Photograph taken by the researcher at KwaDukuza, 2007)

7.2.4 Factors that are reducing the open spaces

Development was cited as one of the reasons for the shrinking and disappearance of open spaces, cited by 33% of the total respondents. The reasons put forward included housing development, estates and commercial development.

This is a clear indication that KwaDukuza is among the fastest growing municipalities in terms of property development, as observed by the researcher and captured in photographs (see figure 6.2). Other than the low cost houses that have been built within KwaDukuza over the past few years, there is also a massive residential and commercial development in the Ballito area.

There is currently much business investment in the area of Ballito supported by all spheres of government because it benefits both the local economy and the local community. KwaDukuza municipality also supports this massive development as it provides job opportunities for the unemployed within its area of jurisdiction, and contributes to local economic development. Development also increases the tax base for the municipality as it is likely to collect more rates which will in turn help in the provision of services.

In his theory of urbanisation Marx maintained that the state is pressured to increase its tax base, in this context, business expansion becomes inevitable. The latter analysis can assist in providing an explanation for the current expansion and growth around Ballito.

Most respondents cited irresponsibility shown by KwaDukuza municipality as a contributory factor in the shrinking of open spaces. The respondents felt that the municipality as a local authority was not doing enough to safeguard open spaces in the form of putting control measures and regulations in place.

The expansion in the area has unquestionably caused an impact on natural resources. The assertion by Marx that capitalism has created vulnerability of natural resources within the urban environment can be directly linked to large scale development within urban areas. This argument is partly the cornerstone of this dissertation which argues that natural resources are adversely affected by any unchecked development within the urban areas. This kind of development needs more energy in the form of electricity, water for domestic use and watering of golf courses, building space which has resulted in more natural resources being used.

Squatting has been identified as another factor that reduces open spaces. KwaDukuza has been one of those areas most affected by the challenge of squatters especially pre 1994. It is of interest to note that KwaDukuza has been one of the municipalities that has made strides in the provision of low cost houses in its quest to eradicate homelessness and squatters (KwaDukuza IDP, 2005).

The practice of people acquiring low cost houses and renting them out has been noted. As a result of this practice the KwaZulu-Natal Provincial Government has responded by introducing the KwaZulu–Natal Elimination and Prevention of the Re–emergence of Slums Act of 2007. Among other things, this Act is meant to deal with the issue of people acquiring low cost houses and continuing to put up slums elsewhere for rental purposes. Therefore the assertion that the squatting have contributed for reducing open spaces is true. Unfortunately these squatters have no formal land that they own, as result they tend to build on open spaces.

The responses also pointed out to the complacency on the side of citizens in making a meaningful contribution in safeguarding open spaces. Some respondents felt that the municipality has to have more control, and be more actively involved in protecting open spaces. A significant percentage of respondents cited development as a threat which is authorized by the

municipality and endorsed by the Provincial Department of Agriculture and Environmental Affairs through the EIA approvals. Therefore the municipality needs to play a more prominent and active role in the EIA process to discourage and halt any irresponsible development.

Alien plants were also mentioned as culprits and contributors to the shrinking of open spaces. The researcher's observation was the widespread growth of alien plants within the study area that needed serious attention. The SEA study conducted within the study confirmed the presence of alien plants.

The view of the majority of the respondents might have been confirmed by the municipality's response to the threat to its natural resource base in the form of several initiatives taken during the study period. The municipality commissioned a Strategic Environmental Assessment Study during 2007 that was finalized in October 2007. Towards the end of 2006 the municipality employed a full-time environmental officer. These are some of the responses to the urgency of safeguarding the open spaces and ensuring environmental sustainability that were taken by KwaDukuza municipality.

The foregoing discussion confirms almost all the factors that were cited in the literature review presented in Chapter 2. The respondents re-iterated the very same factors that were raised in the reviewed literature. The reasons seem to be consistent with all the concerns that have been raised and contributing factors in the general reduction of open spaces.

7.2.5 Level of awareness of the EIA tool

The majority of the respondents indicated that they were not aware of any mechanism in place to safeguard open spaces. The percentage figure was as high as 62%, which is quite surprising given the level of education of the respondents. The specific question on the EIA tool indicated that 61% of the

respondents were not aware of the actual tool. The level of ignorance on the available mechanism and that of the EIA as a tool reveals consistency in responses. Only 28% indicated their knowledge of the mechanisms in place including the EIA tool.

Although the respondents demonstrated a higher educational level, secondary and tertiary this does not necessarily translate into environmental literacy. Thus environmental education is important even for the people who have a reasonable high level of education. A person might be literate but show tendencies of environmentally illiteracy, in some instances, this is due to the person's socialisation circumstances.

This scenario of a lack of awareness is a cause for concern since most developmental projects need public participation through the process of the EIA. One of the critical elements of making a meaningful contribution to such processes is to be environmentally literate, in order to engage with the process. It is unlikely that people showing lower levels of environmental understanding can make a meaningful contribution to the EIA process. This point was made in Chapter 6 where the EIA as an environmental tool was analysed in a detailed manner. The few people that attended the EIA meeting scheduled for the Zimbali Development used as an example in this dissertation, might be the confirmation of this lack of knowledge about the EIA process and EIA as a tool. It is likely that most of the respondents who were not aware of the EIA tool are from the previously disadvantaged area. The imbalanced level of environmental understanding leads to a situation where the voice of the advantaged becomes dominant in developmental issues.

Each academic research study tends to have its own assumptions, and several of these were also noted for this particular study. One would have expected a higher level and awareness of environmental issues given the level of education of the respondents with primary, secondary and tertiary educational levels. This

development raises a question of the nature of our educational system and the curriculum in terms of environmental content. Is the current school curriculum emphatic enough on environmental issues. Are the educators themselves adequately equipped to deal and effectively teach environmental education. It is important that some educational programmes must also target educators through workshops.

Some of the respondents who were aware of the EIA tool pointed out that it was ineffective, lacked enforcement strength, and was considered open to manipulation.

7.2.6 Assessment as to whether the respondents had encountered any problems in relation to spaces

It was noted that 68% of the respondents confirmed that they had encountered problems in relation to open spaces. The problems mentioned by the respondents include the fact that these areas were used as hiding places by the criminals. The building of shacks on the open spaces was also mentioned as a problem. Some people tended to associate the shacks with poverty, unemployment and crime. It is generally noticed that people tend to look at shacks with suspicion. The up-market residents are often up in arms if shacks are built in their immediate surroundings for fear of a decrease in their property values. A good example has been the use of open spaces for the pitching of tents to provide shelter to the victims of xenophobic attacks in South Africa in 2008. Most citizens were up in arms and they did not want the tents erected in their neighbourhood.

The issue of snakes also featured strongly in people’s responses perceiving these areas as hiding places for snakes and other rodents. There might be genuine fear and perception regarding diseases that might be brought by wild animals like snakes and rodents to the households.

There are respondents who did say they never encountered any problems with the open spaces. The researcher's analysis of such responses would be that these are the people who are aware of the importance of the environment and the role it plays in the ecosystem.

Overall most of the responses suggested that most citizens still view the existence of open spaces as a threat to their own personal lives and security. It becomes a challenge to achieve the ideal of adequate open spaces system in an urban environment under such perceptions. This is a clear indication that a lot of education and genuine attempts to address their concerns is needed to restore their confidence in the expansion of open spaces in their neighbourhood.

7.2.7 The level of awareness of the present or future development that has impacted [negatively & positively] on open spaces within the study area

Most respondents mentioned the examples of housing development, like estate developments, low cost housing commonly known as RDP houses as some of the development projects in their area that have impacted on the open spaces. If one looks at the level of housing development in KwaDukuza in terms of low cost housing and estate development, the responses indeed confirm the researcher's observation.

As many as 39% of the respondents noticed the development taking place within KwaDukuza in relation to the impact on open spaces but, there are people who had not noticed the changes. One reason for not noticing any development might be people staying around Shakaville and not mobile enough to have seen the widespread development of low cost houses and the remarkably massive development around Ballito area.

7.2.8 Analysis of how land use conflict can be addressed in relation to open spaces specifically looking at the nature and extent of land use and planning conflict.

Most respondents felt that the conflict around land use planning that affects open spaces can be resolved through encouraging communities to participate in planning processes. The view of the researcher is that municipal IDPs meetings are relevant forums to discuss such issues. These forums must also be used to educate people about the whole range of issues including environmental awareness, planning processes and their rights in municipal decision making processes. Some respondents suggested that good policies and legislation must be in place to guide land use matters. The researcher's experience is that these policies and legislation become useless if not properly monitored. It is the researcher's view that the monitoring systems need to be in place for any policy or legislation to be implemented successfully.

Land is a scarce resource that will always be in demand. Some of the high capacity municipalities like Mangaung in the Free State province have set up a land disposal committee and a policy to decide on applications for land use within the municipal area. The approach has assisted the municipality as in some instances several applications are received for one piece of land.

The South African government has come up with some legislative framework in the form of spatial development frameworks and land use management systems. These are meant to reduce land use conflict in that each piece of land is assigned to a particular and specific use upfront. The process is supposed to be all inclusive in terms of stakeholders having a say in these processes.

KwaDukuza municipality has a well established economic development and planning directorate. Furthermore the municipality has a fully operational IDP office that deals with development projects. The KwaDukuza municipality has

created a post and employed an environmental officer responsible for the environment within its area of jurisdiction. In addition, the KwaZulu-Natal Department of Agriculture and Environmental Affairs has an environmental education office at KwaDukuza responsible for the whole Ilembe District covering the study area. There are several non-governmental organisations that are active within the study area like Blythedale Conservancy.

If all these resources are pulled together they can go a long way in aligning the planning and environmental issues within KwaDukuza. There is enough capacity within the municipal area to educate citizens and policy makers about the environment.

In most cases the government's environmental programmes are very fragmented and much duplication takes place. Each sphere of government tends to acquire funding and roll out its own programmes in isolation of other spheres of government who might also be doing some interventions in the same area. The respondents did indicate in their responses the need for co-operative governance.

7.3 COMMUNITY PARTICIPATION WITHIN THE STUDY AREA

7.3.1 Suggestions and interventions to safeguard open spaces

One of the suggestions in safeguarding and intervention regarding the open spaces was that of policing and providing security. The provision of security is not always practical due to financial constraints experienced by municipalities in the face of other pressing social needs. This is where community and public participation comes in as residents can be involved unofficially policing of the open spaces themselves and report any illegal things happening in open spaces.

Those who are already conscious of environmental ills can assist by educating others about the environment. The changing of negative attitudes towards the environment can really go a long way towards creating feasible interventions.

The analysis of the responses points in the direction of inadequate legislative controls and the lack of enforcement in instances where the legislation is already in place. The participation of the residents is seen as a solution but people can only intervene once they know what is happening to the open spaces.

Legislation was also recommended, but the truth is that without education it becomes a challenge to enforce any environmental legislation. Legislation can only be effective if it gets strong community support as part of enforcement. In areas where the members of the public are well informed they can report any illegal action by phoning certain numbers for action.

7.3.2 What role can the respondents play in terms of conserving open spaces?

The majority of the respondents felt that they could assist in conserving open spaces by educating fellow citizens about the importance of these spaces and the environment in general. Most respondents referred to the importance of an environmental education programme packaged for the youth. Practical and action based projects were also cited by a significant number of respondents referring to things like tree planting, cleaning up campaigns and the formation of environmental committees.

Playing a more active role in environmental programmes like greening and cleaning by the KwaDukuza residents was cited as of utmost importance. Education and workshops especially for the youth was also raised frequently. The respondents felt that the environmental advisors were needed to highlight

environmental importance and its associated economics. KwaDukuza has responded on this felt public need by employing an environmentalist.

A comprehensive open space plan for KwaDukuza was suggested by the respondents. The Strategic Environmental Assessment project can be seen as a response to the holistic approach to environmental conservation in KwaDukuza. The employment of security personnel to patrol the open spaces and the fencing of spaces was also suggested. It is questionable whether the latter is practical within the financial constraints faced by smaller municipalities in the face of other pressing needs. The control of development by the Municipality was seen as important.

Whistle blowing was cited as another way of contributing in the most practical way in safeguarding open spaces. The reporting of transgressions to the media was also cited as another practical contribution. It was noted that one newspaper The North Coast Courier, was most influential in reporting environmental injustices and incidents within KwaDukuza. The North Coast Courier journalist Heidi Gibson had strong views about urban conservation and the conservation of open spaces when she was interviewed.

It is interesting to note that some respondents felt deprived of an opportunity to comment on development projects. This is not surprising given the fact that a significant percentage showed ignorance about the EIA as one of the environmental tools for ensuring the conservation of open spaces. A very small percentage felt helpless and frustrated about the whole situation and lacked conviction of the foreseeable role they could play.

The perception of some residents was that they are not allowed to comment or participate in the affairs of the municipality even though those affected their lives. The municipality is obliged in terms of the Municipal Systems Act to create a conducive environment for community participation. Knowledge of rights needs to

reach the people on the ground through the use of existing community structures like ward committees and community representatives like councillors.

Education is once more highlighted by the respondents as important in terms of personal involvement. This can be through educating others or coming up with environmental education projects, and ensuring that they were incorporated in the municipal IDP.

7.3.3 Respondents' recommendations in relation to future management of natural areas and open spaces within the study area to ensure long term environmental sustainability

One of the recommendations coming from the study was the use of open spaces for tourism projects. Among other things this could involve using open spaces as tourism attractions by initiating revenue generating projects like establishing relevant infrastructure like braai areas and hiking trails. A small entrance fee could be charged by the local municipality to ensure that they were maintained in a sustainable manner. In this way open spaces can be used in a profitable manner, while being maintained. Small local emerging contractors can also be used to maintain those open spaces. The small local contractors can obviously benefit from such involvement. Their involvement can also go a long way in instilling a sense of pride in caring for one's environment.

Some respondents recommended the planting of more trees. Such planting can be done during the Arbor Day which is a tree planting day celebrated all over the world in September. In South Africa this day is celebrated every year, and it can be used as a vehicle for planting of more trees and education. This is very important in that trees provide oxygen, and this is critical in urban areas where the air is being polluted by several factors like vehicle exhausts and factories. Most towns and cities are aspiring for a green and healthy environment. The pleasant environment is perceived as important in attracting investors.

7.4 STUDY RECOMMENDATIONS

7.4.1 Introduction

This section will deal with recommendations that stem from the analysis and data presentation resulting from this research. The recommendations will also encompass issues for consideration in future management of natural and open spaces within the study area for the long term environmentally sustainability.

7.4.2 Municipal Environmental Policy framework

The KwaDukuza Municipal Economic Development and Planning Directorate need to pull all issues relating to the environment and planning together. These issues include all the existing studies like the completed Strategic Environmental Impact Assessment, and the compilation of KwaDukuza Urban Open Space System Policy. The policy needs to talk to other planning tools like Spatial Development Framework (SDF) and Integrated Development Plan (IDP). The draft document needs to be shared and discussed with the Ilembe District Municipality and KZN Provincial Ilembe District Department of Agriculture and Environmental Affairs Advisory Services Unit in a workshop setting. This would assist in ensuring alignment and co-operative governance at an early stage of policy development. The document needs to involve all the environmental interest groups within KwaDukuza. A database of those interest groups and other relevant stakeholders need to be compiled for easy and sustained reference. This exercise should be driven by the municipal environmental officer through a committee comprising other municipal Directorates. The envisaged policy document would have to be adopted by KwaDukuza municipal council and will serve as a guiding framework for all future development affecting the environment within KwaDukuza and subjected to a yearly review.

7.4.3 Focused and sustained educational programme

The educational programme needs to focus and target specific groups to achieve the necessary outcomes. The educational programme needs to be aligned to Ilembe District Department of Agriculture and Environmental Affairs Advisory Services unit for maximum output.

Presentations should target policy makers, in order to influence their thinking in favour of environmental protection. Environmental days like Arbor Day and National Marine Day could be used to involve high profile people for environmental educational purposes.

7.4.4 KwaDukuza Environmental Forum

Active community participation is crucial for the success of any programme. Participation of the citizens is key in confronting some of the challenges facing open spaces within the study area and beyond. The KwaDukuza Environmental Forum can serve as the umbrella body where environmental issues are discussed with all identified groups and stakeholders captured in the database. The forum can meet quarterly, but some projects could be done jointly, when appropriate, through small committees and friends of organizations. Although it is not always easy, the forum can be linked to other existing structures like policing forums, ward committees within KwaDukuza where it is appropriate and practical.

It is important that any forged partnership must be sustainable to ensure continuity of the project.

7.4.5 Practical Environmental Projects

The projects need to be based on community needs as expressed during the yearly IDP review process or on any research findings that might have been done

within the municipal area like SEA, academic studies like this dissertation and customer satisfaction surveys. These projects need to take into account vulnerable groups within the municipal area like the disabled, youth and women. The projects need to be of practical nature and must directly address environmental degradation and issues of poverty. Some of the projects have been identified by the respondents in this dissertation, such as control of illegal dumping, tree planting and educational programmes.

The developers and private sector must be encouraged to fund some of the identified projects as part of their social responsibility projects. The developers involved in KwaDukuza must also make a contribution in funding some of these projects.

7.4.6 KwaDukuza municipality constitutional obligations

As much as partnerships are important , some functions remain the constitutional responsibility of the municipality. The municipality must budget and motivate for grant funding for functions like open space maintenance and control of illegal dumping. The appointment of the environmental officer was a great milestone in this regard. It was also observed that in August 2008 the municipality also created and advertised the post of Manager: Waste Management with a responsibility of waste management function within KwaDukuza municipality.

7.4.7 Volunteer groups and Friends of organizations

The concepts of volunteerism and friends of organisations need to be encouraged. Friends of organizations refer to a group of individuals who come together with the intention of making a contribution to the environment through a particular project. These can assist in patrolling some of the open spaces regarded as crime spots and report illegal environmental actions.

7.5 STUDY LIMITATIONS

Each study tends to have its own gaps, limitations, shortcomings and uncertainties that might require further researching and scholarship.

Respondents were not categorized according to their racial groups, therefore the analysis was restricted to a general overview of opinion. It therefore become difficult at times to see who exactly had put forward a particular point of view in terms of racial groups. Unfortunately this tends to be an issue in South Africa because of its history which was very much based on racial differences.

With regard to data collection the researcher prepared 100 questionnaires but some were spoiled with 87 in the final analysis. Some households especially in Shakaville needed a bit of explanation of the research process and this sometimes tended to introduce an element of unintended bias.

A reasonable amount of time was spent in the field allowing for more observations and discussions with interested and informed groups.

Crime was discussed but no statistics were acquired from security formations to substantiate some of the assertions. The South African Police Services was not too keen on giving statistics, they indicated that statistics were controlled at a national level in Pretoria. The researcher had to rely on academic studies, reports and personal communication with respondents and people within the study area.

7.6 SALIENT POINTS

Open spaces within KwaDukuza are indeed under threat as confirmed by the findings and some of the studies done like the SEA. The recommendations of this dissertation are critical in making a contribution in safeguarding further uncontrolled threats. The recent creation of official posts requiring people with

environmental background is an indication of how dire the situation is viewed by the leadership of KwaDukuza municipality.

The dissertation referred to several theories that were used to analyze and explain some of the situations in the field. The study related mainly on social theory. These assisted in explaining some of the emerging results. It must be pointed out though that results cannot be solely explained within these theories.

In the main the results have confirmed the expected in terms of the theories, models and hypothesis. A combined 69% agreed with the hypothesis that the open spaces were under threat in the area of KwaDukuza, i.e 41% of the respondents strongly indicating that open spaces were indeed under threat, and 28% just agreed that open spaces were under threat.

It is hoped that the findings and recommendations of this dissertation will be noted and implemented by the environmental fraternity at KwaDukuza. The researcher sees this dissertation as a humble contribution to environmental conservation, ensuring that the environment be safeguarded and thus be enjoyed by many more generations to come.

REFERENCES

Allison, M.C. & Harpham, T. 2000. The Relevance of a Governance. Framework to Environmental Health in South Africa. *South African Geographical Journal,*82(2): 98 – 106.

An estate agency that knows golf estates. 2007. The Mercury, 20 September: 17.

Arde, G. 2007. Pledge to break EIA logjam. The Mercury, 8 August: 1.

Arhem, K. 1985. Pastoral Man in the Garden of Eden. *The Maasai of the Ngorongoro Conservation Area, Tanzania*. Uppsala: Vilhelm Ekmans Universitetsfond.

Atkinson, A. Davila J.D., Fernandes E. & Mattingly M. 1999. *The Challenge of Environmental Management in Urban Areas.* England: Ashgate Publishing.

Backlund, E. A. & Stewart, W. P. & McDonald, C. 2004. Public Evaluation of Open Space in Illinois: Citizen Support for Natural Area Acquisition. *Environmental Management,* 34 (5) 634 – 641.

Bailey, K. D. 1982. *Methods of Social Research*. New York: Free Press.

Behrens, R and Watson, V. 1996. *Making urban places: principles and guidelines for layout planning*. Cape Town: UCT Press.

Beningfield, J. 2006. *The frightened land. Land, landscape and politics in South Africa in the twentieth century*. London: Routledge.

Benton, T. 1996. *The Greening of Marxism*. New York: Gilford Press.

Best, S. 2003. *A Beginners Guide to Social Theory*. London: Sage Publications.

Boron, A. A. 1999. *A Social Theory for the 21st Century*. Current Sociology, 47(4) 47 – 64.

Broadbent, G. 1990. *Emerging concepts in urban space design*. London: E & FN Spon.

Burger, M.1992. *Reference Techniques*. Pretoria: University of South Africa.

Burton, L. 2002. Worship and Wilderness. *Culture, Religion, and Law in Public Lands Management*. Wisconsin: Wisconsin Press.

Canter, L.W. 1977. *Environmental Impact Assessment.* New York : McGraw – Hill.

Carne, T. 2007. “Don’t blame the greenies”. The Mercury, 9 August: 5.

Carne, T. 2008. “Minister silent on noisy planes”. The Mercury, 15 May: 4.

Carrell, R.M. et al. 1999. *Human Resource Management in South Africa.* Cape Town: Maskew Miller Longman.

Chanda R. 2000. *Towards Contextualizing Urban Environmental Quality in the South African Development Community Region*. *South African Geographical Journal,* 82 (2):122 – 129.

Chapman, D. 2000. *Environmental Economics.* Theory Applications and Policy. Cornell University: Addison Wesley Longman.

Christoph, H. 2002. *The informal settlement Phola Park in the context of Cape Town’s plans for socio-spatial integration* 13 (2), p.21 & 26.

City of Johannesburg, and Strategic Environmental focus. 2002. *Joburg metropolitan open space system.* Johannesburg, South Africa: City of Joburg.
Commercial Products: From the Wild: Brief 6, July 2006.

Conway, T. M. 2005. *Modeling the Ecological Consequences of Land - Use Policies in an Urbanizing Region. Environmental Management*, 35 (3): 278 – 291.

Cooper, K.1995: *South Africa must cultivate public involvement in urban conservation*. *Municipal Engineer*, 26 (4): 54 – 56.

Council for the Environment. 1989. (a) *Guidelines for environmental conservation and environmental creation in the structure planning of the urban environment*. Pretoria: Joan Lotter Publications.

Council for the Environment. 1989. (b) *Guidelines for the planning and management of natural open space in urban areas*. Pretoria: Joan Lotter Publications.

Dardagan, C. 2008. Land claim delays ‘have cost KZN R10bn’. The Mercury, 6 August: 1.

Development and Nature – creating sustainable futures. 2007. The Mercury, 20 September: 17.

Dorasamy, A. 2007. Fuming squatters’ flat invasion threat. Tribune Herald Issue, June 24:3.

Edel, M. 1992. *Urban and Regional Economics – Marxist Perspectives*. New York: Harwood Academic Publishers.

Enact International. 2003. A Guideline for Environmental Decision-Making by Municipalities in KwaZulu-Natal prepared for: The Provincial Planning and Development Commission, KwaZulu-Natal.

Ensulin – Payne, S. 2007. KwaZulu – Natal‘s premier plans to fast – track rezoning. The Mercury Business Report, 8 August: 3.

eThekwini Municipality. 2002. *Durban Environmental Services Management Plan.* Durban, South Africa: Environmental Management Branch of eThekwini Municipality and Urban Explorations.

Freeman, D. B. 1991. *A city of farmers – Informal urban agriculture in the open spaces of Nairobi*. Nairobi: [‘s.n.’].

Fuggle, R.F. & Rabie, M.A. 1996. *Environmental Management in South Africa*. Cape Town: Juta & Company

Gibson, H. & Kitchen, L. 2005. Lip service to tree conservation. The North Coast Courier, September 9, 2005: 5.

Giddens, A. & Turner, J. 1987. *Social Theory Today*. Oxford: Blackwell Publishers.

Gilbert, A. & Gugler, J. 1992. *Cities, Poverty and Development.* Oxford: Oxford University Press.

Glasson, J, Therivel, R. and Chadwick, A. 1994. *Introduction to Environmental Impact Assessment*. London: UCL Press Limited.

Gosling, Melanie. 2006. Cities key to conserving the environment. The Mercury, 28 February: 4.

Guidelines for human settlement planning and design / compiled under the patronage of the Department of Housing by CSIR Building and Construction Technology. Publisher: Pretoria: CSIR Building and Construction Technology, c2000.

Harrison,C & Davies, G. 2002. *Conserving biodiversity that matters: Practitioners’ perspective on Brownfield development and urban nature conservation in London*. Environmental Management, 65 (1): 95 – 108.

Haswell, R. Wanted: new South African Town. Sunday Tribune, 23 July: 21.

Hekman, S. J. 1983. *Max Weber and Contemporary Social Theory*. Oxford: Martin Robertson.

Henderson, L. 2001. *Alien weeds and invasive plants*. Pretoria: Agricultural Research Council.

Herbert, DT. And Thomas CJ. 1997. *Cities in space, cities as place*. 3rd edition. London: David Fulton.

Institute of Environment and Recreation Management (IERM). Bulletin. September 2005 Edition.

Institute of Environment and Recreation Management (IERM). Bulletin. April 2007.

Institute of Environment and Recreation Management (IERM). Bulletin. July 2007.

Institute of Environment and Recreation Management (IERM). Bulletin. August 2007.

Institute of Natural Resources (INR). 1998. *The Marketing of Indigenous Medicinal Plants in South Africa: A Case Study in KwaZulu-Natal*. Institute of Natural Resources Investigation Report No. 143. Pietermaritzburg, University of Natal.

Ilembe District Municipality. 2005. Ilembe District Integrated Development Plan 2005 / 2006. KwaDukuza.

Jencks, C. 1984. *The language of post-modern architecture*. London: Academy Editions.

Johnson, W.T. 2003. *Island Oases: Urban Open Space Values and Trends*. *Electronic Green Journal*, 18, p. 1.

Johnstone, B. 2000. *Qualitative Methods in Sociolinguistics*. New York: Oxford University Press.

Jones, P. 2003. *Introducing Social Theory.* Cambridge: Polity Press.

Joseph, J. 2006. *Marxism and Social Theory*. New York: Palgrave MacMillan.

Kaplan, R & Kaplan, S. 1989. *The experience of Nature*. Cambridge: Cambridge University Press.

Keat, R & Urry, J. 1975. *Social Theory as Science*. London: Routledge & Kegan Paul Ltd.

Knox, P.L. 1994. *Urbanization: An Introduction to Urban Geography*. New Jersey: Prentice Hall.

Krenz, C. & Sax, G. 1986. *What Quantitative Research Is and Why It Doesn't Work*. American Behavioral Scientist, 30 (1) 58 – 69.

Krohne, D.T. 2001. *General Ecology*. New York. Thomson Learning.

KwaDukuza Municipality. 2005. KwaDukuza Integrated Development Plan. KwaDukuza

KwaZulu – Natal Municipal Portfolio. KwaDukuza Municipality. Retrieved July 5, 2005 from www.kwadukuza.gov.za

KwaZulu – Natal Planning and Development Commission (KZNPDC). (2005) Relationship between environment and planning. Pietermaritzburg: University of KwaZulu Natal.

Larkham, P.J. 1996. *Conservation and the City*. London: Routledge

Latif, S. 2008. *"Deaf ears and closed minds: Do you hear the child's voice" Exploring disclosure from the perspective of child rape victims*. Durban: University of KwaZulu – Natal.

Lee, N. & George, C. 2000. *Environmental Assessment in Developing and Transitional Countries*. Chichester: John Wiley & Sons Ltd.

Lemon, A. Ed. 1991. *Homes Apart*. Cape Town: Indiana University Press.

Lemon, A. Ed. 1995. *The Geography of change in South Africa.* Chichester: Wiley.

Ley, D. 1996. *The New Middle Class and the Remaking of the Central City*. New York: Oxford University Press.

Local Government Bulletin, 7 (2) p1, July 2005.

Local Government Digest, 19 (8) p36 – 39, March, 2000.

Louts in the park will be dealt with. 2007. Northglen News, 21 September:4

Lyon, L. 1989. *The community in urban society.* Waveland: Waveland Press.

Mabin, Alan. 1992. C*omprehensive segregation: the origins of the group areas act and its planning apparatuses*. *Journal of Southern African Studies* 18, (2) (June): 405 – 29.

Mabin, A. & Smit, D. 1997. *Reconstructing South Africa's cities? The making of urban planning 1900 – 2000.* Planning Perspectives 12, (2) (04): 193 – 223.
Makhaye, C. 2006. Youths hack down muggers' haven. Sunday Tribune, 17 December:4.

Mander, M. 1999. *Marketing of Indigenous Medicinal Plants in South Africa: A case Study in KwaZulu–Natal: Summary of Findings*. [S.I.:S.N.].

Mangaung Local Municipality. 2003. Mangaung State of the Environment Report. Bloemfontein: Environmental Management Unit.

Mangaung Local Municipality. 2007. Mangaung Housing Policy. Bloemfontein: Housing Sub–directorate.

Marcus, C.C. and Francis, C. Eds. *People places: Design guidelines for urban open space*. 2nd edition. New York: Wiley.

Marshal, L. 2005. The day of the triffids. Sunday Tribune, 11 September:17.

Marshal, L. 2007. Top lawyer joins forces with greens. Sunday Tribune, 9 September:2.

Masinga, H.L. 1994. *Local Government Approach to Land Invasion: A Case Study of the Durban City Council*. Durban: University of Natal.

Maslow, A.H. 1998. *Maslow on Management*. Canada: John Wiley & Sons.

May, T. 2001. Social Research. *Issues, methods and process.* 3rd edition. Berkshire: Open University Press.

Mayo, H. B. 1960. *Introduction to Marxist Theory*. New York: Oxford University Press.

Mbili, Lettie. 2009. Personal interview, Journalist, Ilanga Newspaper. 16 February, Durban.

McDonald, David A. 2002. *What is environmental justice? In Environmental Justice in South Africa*. Athens: Ohio University Press.

Menino, T. M. 2002. *City of Boston: Open Space Plan* 2002 – 2006, p. 1 – 2. Retrieved July 28, 2005 from: http://www. cityofbosto.gov/parks/openspace.asp

Meyer, J. 2007. Airport gets the go-ahead. Sunday Tribune, 26 August: 17.

Michelson, W. 1975. *Man and his urban environment: a sociological approach*. 2nd edition. Reading, Massachusetts: Addisson-Wesley Publishing Company.

Miles, M.B. & Huberman, A.M. 1984. *Qualitative Data Analysis*. Carlifonia: Sage Publications Ltd. Retrieved 20 February 2006 from www.wilderdom.co .

Miles, S. 2001. *Social Theory in the Real World*. London: Sage Publications.

Miller, S. I. & Fredericks, M. 1994. *Qualitative Research Methods*. New York: Peter Lang Publishing, Inc.

Mokoena, L.J. 2007. *The identification of a municipal policing model for Mangaung Municipality*. Pretoria: University of South Africa (Florida Campus Press).

Momberg, E. 2007. Golf course blamed for damage to Stone Age site. Sunday Tribune, 15 July: 7.

Mouton, J. 2001. *How to Succeed in your Masters and Doctoral Studies*: a South African Guide and Resource Book. Pretoria: Van Schaik.

Munch, R. 1994. *Sociological Theory*. *From the 1850s to the 1920s.* Volume 1. Chicago. Nelson-Hall Publishers.

Munch, R. 1994. *Sociological Theory. Development Since the 1960s*. Volume Three. Chicago. Nelson-Hall Publishers.

Ndlovu, S. 2006. *The principles of sustainable development prevails*. Environmental Management, 1 (3) p.11.

Nesvag, S.I. 1999. *D'Urbanised Tradition the Restructuring and Development of the Muthi Trade in Durban.* Durban: University of Natal

Nicolson, G. 2002. Environmental Scoping Report on the proposed Zimbali South development. Durban

Nicolson, G. 1988. *To provide a Durban Metropolitan Open Space System Plan*. Durban: University of Natal.

Oelofse & Patel. 2000. *"Falling through the net: Sustainability in Clermont Township, Durban*". *South African Geographical Journal*, 82 (2).

Owen Sithole College of Agriculture. (1986). Conservation Management. Empangeni:OSCA

Pearce, D. 1998. *Economics and Environment. Essays on Ecological Economics and Sustainable Development*. Cheltenham: Edward Elgar Publishing Limited.

Peckham, B. & Rowntree, K. 1999. *Law and environment in South Africa*. In Fox, R & Rowntree, K. eds. 1999 the geography of South Africa in a changing world, 459. Cape Town: Oxford University press South Africa.

Pieterse, E. 2002. Recasting Urban Integration and Fragmentation in Post Apartheid South Africa. Cape Town: UCT Press. Retrieved 17 January 2009 from www.isandla.org.za/papers/urban.

Pillay, T. 2007. Well–off land invaders stay put, despite court order. Sunday Times, 8 July: 6.

Pitamber, P. 2007. Putting a bit of green back into Soweto. City Press, 3 June: 27.

Powers. C. H. 2004. *Making Sense of Social Theory*. Oxford: Rowman & Littlefields Publishers.

P4 Radio News Bulletin, September 2006.

Randolph, J. 2004. *Environmental Land Use Planning and Management*. Washington: Island Press.

Ravetz, J. Howe, J and George, C. 2004. *Environment and the City*. London: Routledge.

Reaves, C. C. 1992. *Quantitative Research for the Behavioral Sciences*. Canada: John Wiley & Sons. Inc.

Republic of South Africa. 1996. *The Constitution of the Republic of South Africa*. Vol. Act 108 of 1996. Government Gazette 378 (17678).

Republic of South Africa. 1998. Local Government: Municipal Structures Act No. 117 of 1998.

Republic of South Africa. 1999. Local Government: Municipal Structures Amendment Act, No 58 of 1999.

Republic of South Africa. 2000. Local Government: Municipal Structures Amendment Act, No 33 of 2000.

Republic of South Africa. National Department of Agriculture. *CARA legislation made easy*. Pretoria: Government Printers.

Republic of South Africa. National Department of Agriculture. *Declared Weeds and Invader Plants*. Pretoria: Government Printers.

Republic of South Africa. Department of Environmental Affairs and Tourism. 1998. Preliminary State of the Environment Report for KwaZulu-Natal.

Republic of South Africa. Department of Agriculture and Environmental Affairs [DAEA]. 2002. KwaZulu-Natal Provincial Government Environmental Implementation Plan, First edition, prepared by Chief Directorate: Environmental Management.

Republic of South Africa. Land Use Management Bill: 2001, Government Gazette
Republic of South Africa. Land Use Management Bill: 2001, Government Gazette

Republic of South Africa. Statistics South Africa. 2001. *A Survey of Time Use: How South African women and men spend their time*. Pretoria: Statistics South Africa.

Republic of South Africa. Department of Environmental Affairs and Tourism. 2002. National Framework Document – Strengthening Sustainability in the Integrated Development Planning Process.

Republic of South Africa. 2002. Planning Profession Act, No 36 of 2002. Cape Town: Government Printer.

Republic of South Africa. Department of Environmental Affairs and Tourism [DEAT]. 2002. World Summit. Retrieved June 5, 2005 from :www.environment.gov.za

Republic of South Africa. Department of Agriculture and Environmental Affairs [DAEA]. 2003. Guideline Document: Integrated Environmental Programme for Municipal Integrated Development Plans, prepared by Chief Directorate: Environmental Management.

Republic of South Africa. Department of Traditional and Local Government Affairs. 2004. Provincial Planning and Development Commission (PPDC). 2005. KwaZulu – Natal Land Use Management System: Guidelines for the Preparation and Implementation.

Republic of South Africa. Department of Environmental Affairs and Tourism. (2006) Guideline 5: Assessment of Alternatives and Impacts in support of the Environmental Impact Assessment Regulations, 2006. Integrated Environmental Management Guideline Series, Department of Environmental Affairs and Tourism (DEAT), Pretoria.

Republic of South Africa. Department of Environmental Affairs and Tourism. 2006. Regulations in terms of Chapter 5 of the National Environmental Management Act, 1998.

Republic of South Africa. Department of Housing. Retrieved August 24 , 2005 from www.housing.gov.za

Republic of South Africa. Free State Provincial Government. Department of Local Government and Housing. Guidelines for Land Use Scheme, 2005.

Republic of South Africa. Department of Water Affairs and Forestry. Retrieved August 5 , 2005 from www.dwaf.gov.za 5 August 2006

Robinson, J. 2007. Invader plants are thriving in Durban. The Mercury, 10 August: 8.

Romm, N & Sarakinsky, M. 1994. *Social Theory*. Cape Town: Rustica Press.
Rosenzweig, M. L. 2003. *Reconciliation Ecology and the future of species diversity*. Oryx, 37, 194 – 205.

Ryan, M. 2007. a. Gardens deliver a harvest of hope. Sunday Tribune, 24 June: 18.

Ryan, M. 2007. b. Green gathering lures brass. Sunday Tribune, 24 June: 14.

Ryan , M. 2007. c. Protected indigenous tree giants destroyed in battle for views. Sunday Tribune, 26 August: 12.

Ryan, M. 2007. d. Washed away: how nature took revenge. Sunday Tribune, 15 July:7

Savides, M. 2007. KZN staff shortages delay EIA reports. The Mercury, 20 August: 2.

Schimidt, S. J. 2008. *The evolving relationship between open space preservation and local planning practice*. Journal of Planning History 7, (2) (May1) : 91 – 112.

Sheate, W. 2008. Journal of Environmental Assessment Policy and Management, 10(1)

Shibambu, R. 2006. Personal Interview, Senior Nature Conservationist, Mangaung Local Municipality. 9 August, Bloemfontein.

Sica, A. 1998. *What is Social Theory*. Malden: Blackwell Publishers.

South African Broadcasting Corporation (SABC) 1 News Bulletin, 2006. 13 August.

South African Journal of Green Building. August 2007 Volume 1 Issue 4.

Sowman, M. (2002). *Integrating Environmental Policy issues into Local Government Planning and Decision Making issues*, in S. Parnell, E. Pieterse, M. Swilling and D. Wooldridge (eds) Democratizing Local Government – The South African Experiment. Cape Town: UCT Press, pp. 181 – 203.

Stadler, A. 1989. *The political economy of modern South Africa.* Cape Town: David Phillip.

Stangor, C. 2004. *Research Methods*. Boston: Houghton Mifflin Company.

Sutton, C.M. 2008. Urban Open Space: A Case Study of Msunduzi Municipality. Unpublished MSc dissertation: Queen's University Kingston, Ontario, Canada.

Tietenberg, T. 2003. *Environmental and Natural Resources Economics*. New York: Daryl Fox.

Tietenberg, T. 2006. *Environmental and Natural Resources Economics 2nd edition*. New York: Daryl Fox.

Tuman, M.C. 1992. Word: Perfect: *Literacy in the computer age*. Pittsburgh: University of Pittsburgh Press.

Turner, R.K., Pearce, D & Bateman, I. 1994. *Environmental Economics*. London: T.J. Press.

United Nations Conference on Environment and development. 1992. *Agenda 21 – action plan for the next century.* Rio de Janeiro: UNCED.

Urban Green File. City steps up bush clearing with new coordinating unit. Volume. No. 6. February 2006. Pietermaritzburg: PPDC.

Urban Green File. Journal for the planning professions. Vol. 11 No. 2. June 2006.

Urban Green File. Urban River pollution. Volume 11 No. 1. April 2006.

Urban Green File. Vol 11. No 4. October 2006.

Urban Management Programme. 1987. *Metropolitan Open Space System*. Towards a plan for Durban.

Urban Open Space Foundation. 2003. *Benefits of open space*, p.1. Retrieved July 28, 2005 from: http://www. uosf.org/benefits.html

Urban Open Space Foundation. 2003. *Community Open Space Partnership*, p.1 - 2. Retrieved July 28, 2005 from:http://www.uosf.org/cosp-forums.html

van As, A.B. Withers, M. Du Toit, N. Millar, A.J. W. & Rode, H. 2001. *Child rape: Patterns of injury, management, and outcome*. *South African Medical Journal*, 91 (12), 1035 – 1038.

Vigar, G. Hull, A and Davoudi. 2000. *Planning, governance and spatial strategy in Britain: An institutionalist analysis*. Hampshire: Macmillan.

Volksblad. 2005. Land invasion. 9 July: 5.

Walter, B. Arkin, L and Grenshaw, R. Eds. 1992. *Sustainable cities: Concepts and strategies for eco-city development*. Los Angeles: Eco-Home media.

Wheeler, SM and Beatley, T. 2004. *The sustainable urban development reader*: London: Routledge.

Woolley, H. 2003. *Urban open spaces*. London: Spon Press.

Welz, A. 2004. *Winning concept seeks work*. Diversity and Distributions, 10, 505 – 508.

Wildlife and Environment Society of South Africa [WESSA]. *WESSA Policy on Urban Conservation*, p. 1 – 2. Retrieved July 28, 2005 from: http://www. wildlifesociety.org.za.

Williams, S. 1995. *Outdoor Recreation and the Urban Environment*. New York: Routledge.

Williams, P. T. 2005. *Waste Treatment and Disposal*. West Sussex: John Wiley & Sons, Ltd.

Zetter, R and Watson, G.B. 2006. *Designing Sustainable Cities in the Developing World.* :Ashgate.

APPENDICES

- Appendix 1 - Questionnaire
- Appendix 2 - Data capturing / analysis sheets
- Appendix 3 - University of South Africa study confirmation letter
- Appendix 4 - KwaDukuza Municipality permission letter – to carry the study within the municipal area
- Appendix 5 - Letters written to the two affected ward Councilors
- Appendix 6 - Request take to take photographs at Zimbali

Appendix 1

Questionnaire for the Research Study of "**Urban conservation and urban spaces in post 1994 South Africa**" – **KwaDukuza Case Study**.

This study is carried out to establish if the future existence of open spaces and natural environment in the urban areas of post 1994 South Africa (specifically KwaDukuza) are threatened by development. A research of this nature is very critical in an area like KwaDukuza which has to balance development and conservation of open spaces while safeguarding its natural resource base for the future generations.

You have been chosen to participate as an important stakeholder of the KwaDukuza area, and you potentially represent many inhabitants of the area, therefore your opinion is very important.

1. Gender:

Male		Female	

2. Nationality…….....
3. Marital status…….....
4. Age……...
5. Occupation …….
6. Income (tick the relevant income bracket). [0 – 1000] [1000 – 20000] [20000 – 100000] [above 100000] per annum.
7. Level of education……..
8. Are you the resident of KwaDukuza?.....
9. What is your understanding of open space?.....
   …….
10. What is your understanding of the natural environment?.....
    …….
    …….
11. Have you visited a park or natural environment within KwaDukuza in the past 6 months?

Regularly		Occasionally		Never	

For the following questions please indicate your answer as follows:

Strongly agree / agree / neutral / disagree / strongly disagree / unable to answer

12. Do you think the open spaces are under threat or not within KwaDukuza?
    …….

13. Do you think these spaces are of any value or benefit?
    …….

Please answer the following questions in full

14. What is the state of spaces in your area?.....
    ……
    ……
15. In your view what is reducing or threatening open spaces and natural environment in your area?.....
    ……
    ……
16. Are you aware of any mechanisms in place to safeguard the existence of these spaces?.....
    ……
    ……
17. Have you encountered any problems with these spaces in your area? If yes, please elaborate on the types of problems……
    ……
    ……
18. Are you aware of any present or future development that has negatively or positively impacted on these spaces? If yes, elaborate on the positive and negative impacts……
    ……
    ……
19. How can land use conflict in relation to open spaces be addressed in your opinion?.....
    .....
    .....
20. Are you aware of the EIA as an environmental tool? If yes do you think it's effective in safeguarding our environment?.....
    ……
    ……
21. What interventions do you think are important in safeguarding these spaces?.....
    .....
    .....
22. What role do you think you can play in terms of open spaces?.....
    ……
    ……
23. What are your recommendations regarding the future of these spaces?
    ……

Please indicate if you would like to get a summary of the research results

- ***Yes……***
- ***No……..***

THANK YOU FOR YOUR TIME AND COOPERATION

APPENDIX 3

UNISA university of south africa

TO WHOM IT MAY CONCERN

Re Study Leave for Mr Mthembu

I would like to confirm that Mr Brian Mthembu (636-307-5) is registered at Unisa for a Masters degree in Geography with the following title: "Urban conservation and urban open spaces post 1994". He will be visiting Pretoria on various occasions in order to discuss his research with his supervisors and visit the library.

Yours sincerely

Mrs AE de Jager
Department of Geography
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APPENDIX 4

KWADUKUZA
MUNICIPALITY

P O Box 72
KWADUKUZA
4450
Tel : 032 – 437 5006
Fax: 032 – 552 2729
E-mail: Zodwam@kwadukuza.gov.za

17 October 2005

CORPORATE SERVICES
HUMAN RESOURCES DEPARTMENT

Mr B Mthembu
Mangaung Local Municipality
P O Box 3704
BLOEMFONTEIN
9300

Sir

MASTERS RESEARCH STUDY WITHIN KWADUKUZA MUNICIPAL AREA

I am pleased to advise that the Municipal Manager has granted permission for you to be assisted with all relevant information to assist you with your Masters studies.

The Municipal Manager would like you to liaise with Mr Cecil Viramuthu @ 032- 437 5000 for all information that you might require in this regard.

May I take this opportunity to thank you for choosing KwaDukuza as your study area and to wish you all the best in your studies.

Thank You

ZODWA MBATHA (MS)
HR DEPARTMENT

APPENDIX 5

232 Rinaldo Road
Glen Anil
4051
4 October 2006

KwaDukuza Municipality

Dear Clr Khuluse

Distribution of the questionnaire – 16 – 20) October 2006.

Our telephonic discussion yesterday refers.

Find the attached questionnaire for the M Studies through the University Of South Africa. As indicated we have the approval of the Municipality and we intend sharing the results of the study with the Municipality on completion.

Yours faithfully
Mondli Mthembu
0824187708

232 Rinaldo Road
Glen Anil
4051
4 October 2006

KwaDukuza Municipality

Dear Clr McDonald

Distribution of the questionnaire (Ballito area) – 16 – 20 October 2006.

Our telephonic discussion yesterday refers.

Find the attached questionnaire (for information) for the M Studies through the University Of South Africa. As indicated we have the approval of the Municipality and we intend sharing the results of the study with the Municipality on completion.

Thanks for the other referrals you gave us. We might request for your assistance in the distribution exercise.

Yours faithfully
Brian Mondli Mthembu
0824187708

APPENDIX 6

P O Box 22536

Glenashley

4022

13 August 2007

Fax: 0866907157

Zimbali Lodge [Zimbali South]

Ballito

Attention: Mr Rorry Daniels

Request for taking few landscape photographs at Zimbali South Lodge surrounding for study purposes

Our telephonic discussion yesterday (13/8/07) in relation to the above mentioned issue and your advice for the writing of this letter refers.

I am studying towards a Masters degree doing a research dissertation on a topic “Urban Conservation”. I have taken few photographs in several sites within KwaDukuza municipal area as part of my studies.

I humble make a request to take at least three landscape photographs on Saturday 18 August 2007 at about 10.30 am. I would also like to have a look at the lodge area with the intention of getting the sense of the place.

Yours faithfully

Brian Mthembu

0824187708 / 0826799841