EVALUATING THE ROLE OF SPATIAL PLANNING AND ENVIRONMENTAL IMPACT ASSESSMENT IN FACILITATING ENVIRONMENTALLY APPROPRIATE DEVELOPMENT:

THE CASE OF THE BIG BAY DEVELOPMENT IN BLAAUWBERG, CAPE TOWN

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ABSTRACT

This dissertation assesses the roles of spatial planning and Environmental Impact Assessment (EIA) in informing appropriate development in the case of the Big Bay development. The roles considered are those that relate to the planning of the bio-physical environment. The dissertation further assesses how the roles relate to the nature of the relationship between the processes followed by the two disciplines. The study found out that planning and EIA had essential roles in informing the development. The roles of EIA related to the identification of environmental issues while those of planning related to the incorporation of those environmental issues into the development proposal. The nature of the roles related to the levels at which the two disciplines were applied and the manner in which they related. EIA was applied at the project level long after the decision to develop the site was made. EIA was thus not used to evaluate the development alternatives so as to identify the development that was suitable for the Big Bay bio-physical environment. The proponents of Strategic Environmental Assessment (SEA) argue that SEA is best placed to inform the selection of appropriate development. Planning was applied at various levels and, thus, it was involved at both the strategic level and the project level. At the strategic level, planning attempted to identify environmental issues but could not go beyond obvious physical features like dune systems and the coast. At the project level, planning relied on EIA for the identification of environmental issues for incorporation into development proposals. Throughout the planning process, the Big Bay site was sub-divided into smaller precincts with guidance from the EIA on environmental issues. At the lowest level of planning including Site Development Planning (SDP), however, many precincts were so small that the EIA did not identify any new environmental issues – each precinct was either entirely suitable for conservation or development. Planning and EIA related in a series of coordinated interactions. The dissertation associates the interactions with integration and mutual adjustment. In their interaction, planning and EIA mutually adjust to each other. On several instances, the two disciplines had to compromise their positions to facilitate consensus in decision making. In the case study it was found that the two coordinated so well and the flow and incorporation of information was successful. The flow of information was done in time and the information influenced the outcomes of each process.

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List of Acronyms and Abbreviations

BBDF	Big Bay Development Framework
BCA	Blaauwberg Conservation Area
CCC	Consultative Community Committee
CCTM	City of Cape Town Municipality
CGC	Common Ground Consulting
DEADP	Department of Environmental Affairs and Development Planning
DEAT	Department of Environmental Affairs and Tourism
DECAS	Department of Environmental, Cultural Affairs and Sport
DPLGH	Department of Planning, Local Government and Housing
EA	Environmental Assessment
ECA	Environment Conservation Act (73 of 1989)
EIA	Environmental Impact Assessment
I&APs	Interested and Affected Parties
IDP	Integrated Development Planning
IEM	Integrated Environmental Management
LUPO	Land Use Planning Ordinances (15 of 1985)
MOSS	Metropolitan Open Space System
MSDF	Metropolitan Spatial Development Framework
NEMA	National Environmental Management Act (107 of 1998)
NEPA	National Environmental Policy Act
ROD	Record of Decision
SDP	Site Development Planning
SEA	Strategic Environmental Assessment
UN	United Nations
USA	United States of America
WCED	World Commission on Environment and Development

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1. INTRODUCTION

This introductory chapter outlines the purpose and intentions of the study. The first purpose of the study was to investigate the relationship of spatial planning and Environmental Impact Assessment (EIA). The second purpose was to explore the value added by project level EIA in informing environmentally appropriate development. The background and the problem statement of the study follow. A section on the topic reflects on the roles of spatial planning and EIA in response to the perceived conflict between environment and development. The discussion shows how the debates revolving around the operational mechanisms of spatial planning and EIA came to be. Then, the aims and objectives of the study follow in the third section of this introductory chapter. The aims re-echo the two purposes outlined under the rationale of the study. The objectives outline the specifics of how the two aims were to be achieved. The chapter ends by outlining the research methodology in the fourth section. The methodology describes the nature of this research and outlines the techniques that were used to attain the objectives of the study. A qualitative research methodology was used while the techniques therein were mainly document analysis and interviews.

1.1 The Rationale of the Study

This study served two purposes. First, it explores the value added by Environmental Impact Assessment (EIA) and spatial planning in informing environmentally appropriate development. This value was assessed in terms of how the two disciplines informed the Big Bay coastal development as the case study of the research. The Big Bay development is a coastal urban development in Blauuwberg, Cape Town. The study further assessed the value added by EIA in the absence of an overarching SEA. This was done by comparing the Big Bay development EIA to the conceptual underpinnings of Strategic Environmental Assessment (SEA). This first purpose of the study responds to current debates about the respective roles of planning and EIA to the attainment of sustainable development as discussed in the literature review in Chapter 2. Secondly the study investigates how planning and EIA processes should relate to better inform appropriate development. The relationship of the processes in the case study was used to inform this purpose of the research. The key informants who were involved in the development were also interviewed to further elaborate how

the disciplines interacted. The findings from these two purposes of the research are outlined and discussed with a view to making some recommendations. Conclusions are also drawn from what was observed in the research and these can inform other similar research.

1.2 The Background and Problem Statement of the Study

The world increasingly faces growing concerns about a number of issues like loss of biodiversity, climate change, depletion of the ozone layer, land degradation, species extinction, habitat destruction, overuse of resources and pollution. Most of these problems are mainly associated with inadequate focus on environmental and developmental processes. This was noted by the World Commission on Environment and Development in 1987 when it was realised that there is a need to balance environmental and developmental interests (Bartelmus, 1994). Ever since, world states have been formulating and instituting environmental laws to provide a competing side to the developmental laws that have long existed. The advent of recent environmental law thus brought with it debates concerning the need to mainstream environmental issues into planning as well as to integrate planning and environmental management.

South Africa is not an exception to the formulation of these environmental laws and the debates revolving around their operational mechanisms. This is evidenced by the inclusion of the environmental right in the Constitution of the Republic of South Africa Act 108 of 1996 and subsequently the promulgation of the National Environmental Management Act (NEMA) 107 of 1998. Section 24 of the constitution provides for the promulgation of reasonable legislation and other measures to safeguard sustainable use of the environment. The NEMA was formulated to give effect to this environmental constitutional right. Section 24 of NEMA hence makes provision for consideration, investigation and assessment of potential impacts of listed activities. According to Sowman (2002), these assessments are effected mainly through the undertaking of EIAs.

EIA is a concept similar to planning as it is concerned with the protection and improvement of the physical, social, economic, and the biophysical environment,

through the development of land and public services (Hill, 2004). Due to the similarities between the two disciplines, the extent to which they should influence, communicate or relate to each other is an unsettled matter. Since most development proposals have to be considered through EIA and planning processes, debates relating to the mainstreaming and integration of environmental considerations into planning have become prominent.

Currently, there are separate sets of environmental and planning legislations in South Africa. The environmental law facilitates an environmental assessment process while the planning law facilitates the planning process. There are also, to some extent, separate authorities administering these sets of legislation. Due to this separation, there is an on-going debate questioning the credibility of the roles of these disciplines in informing appropriate development. Dewar (2007) is one of those who question this credibility and reasons that the dual consideration is expensive and delays developments. He also highlights unresolved conflicts between land use planning and environmental assessment laws, unmanageable stresses on vetting agencies, conflict between the socio-economic development issues and environmental concerns, and confusion in the responsibilities of relevant players. In some instances, the debate extends further to question the credibility of EIA because it is often applied to the level of projects. De Villiers and Hill (2007) note the application of EIA to projects as a concern, both in general and in the agricultural sector specifically. In their research, they conclude that project level EIA resulted in piece meal and reactive decision making which caused significant losses to bio-diversity and ecological amenity.

In summary, this study responds to the need to promote environmentally appropriate development. The study focuses on spatial planning and EIA as the tools that are normally used to ensure appropriate development. Debates relating to the administration of these tools in achieving appropriate development thus form the basis for undertaking this study. The debates involve discourses on whether there is need to integrate the two disciplines as well as questioning the success of EIA.

1.3 Aims and Objectives of the Study

This section outlines the aims and the objectives of the study. The aims were to assess the roles played by EIA and planning as well as their relationship in informing appropriate development. There are five objectives through which the aims were addressed.

1.3.1 Aims

The aims of this research were to:

- determine the respective contributions of planning and EIA in informing appropriate development with respect to the bio-physical aspect of the environment, in a case study situated in the coastal zone or any other environmentally-sensitive area, in the absence of an overarching SEA, and
- evaluate the extent to which EIA and the planning application processes complemented each other, or otherwise in a case study situated in the coastal zone or other environmentally-sensitive area.

1.3.2 Objectives

The aims of the research were addressed by the following five objectives;

1. Document the two development application processes, their timelines and outcomes.
2. Identify the timing and extent of interaction between the planning and EIA processes for the Big Bay development.
3. Characterise the nature of the interactions / relationships between the actors involved in the planning and EIA processes for the Big Bay development.
4. Evaluate the respective contributions / outcomes of the planning and EIA processes to bio-physically appropriate development in the regional environment of the Big Bay development, in order to protect environmentally-sensitive areas.
5. Evaluate the outcomes of the Big Bay development EIA against the theoretical underpinnings of SEA - because of its large scale this development has aspects of plan or programmatic assessment (almost a new town).

1.4 Methodology

This section outlines the justification of why the study has adopted the approach it has:- this includes the reasons the topic was chosen as well as research methods and design that were adopted. It also outlines the manner in which the data was analysed and handled. Finally, it describes the ethics that were observed in the research.

1.4.1. Why This Topic?

I am a town planner who has been in the profession for ten years. This research forms part of the academic qualification I am pursuing in the field of environmental management. My exposure to town planning and environmental management has sparked an interest in how the two disciplines relate. The interest gained greater impetus from the ongoing scholarly debates concerning the two disciplines, which anchor around perceptions that town planning is pro-development while environmental management is anti-development. It is against this background that the study assesses the relationship of the two disciplines and their contributions to the planning of the bio-physical environment.

1.4.2. The Research Approach

The research is qualitative in nature because its intention is to probe deeply (Leedy and Ormrod, 2005) to obtain a complete understanding of the relationship between the planning and EIA processes. According to the authors, qualitative research involves deep investigations about the phenomenon studied. In this type of research, understanding of the phenomenon is based on what particular interactions of its elements bring about meaning. It involves studying phenomena in all their complexity (Payne and Payne, 2004). A qualitative research approach is then best placed in studying the interactions of planning and EIA. The approach also facilitates the objectivity of the research. Objectivity is necessary because the interaction of elements can never be simplified but can be understood in its multi-faceted form (Miller and Brewer, 2003).

1.4.3. The Research Design

This research uses a case study design. According to Payne and Payne (2004), in a case study, a single unit is studied in detail, although the case study design can be applied to more than one case. The unit that is selected for research in this instance is a single example of the many cases that make up the type of phenomenon in question. This research uses the Big Bay development as a single case study. This case study was recommended to the researcher as exemplary of how planning and EIA can be integrated. Vaus (2001) highlights that case studies are useful in achieving high internal validity. By observing particular causal factors in combination with other causal factors one can assess both the relative importance of particular causes and the way in which various causes interrelate. The causal factors referred to by Vaus (2001) are those individual factors that have a role, one way or the other, in the case study. In the case study development, multiple factors have a role: such as people, land, inflation, perceptions towards the development, and climate. All these and many other factors relate in many ways to influence a development, and a full understanding of this development requires an understanding of these factors. The scope of this study, however, is limited to selected factors including actors, communication, time, environment and their interactions. Payne and Payne (2004) further note that because case studies focus on single, compact units, they can be carried on a small scale, even by a single researcher. That this study was undertaken in six months by a single researcher was one of the factors why the case study design was selected. Focusing on compact units is, however, described by Vaus (2001) as one of the disadvantages of using the case study design. According to Vaus (2001), there cannot be any confidence, in any statistical sense, that a case represents a wider class of cases. In a single case, the generalizations are only tentative and should await the outcomes of other studies. Yin (2003) recommends that other studies undertaken should follow the replication logic to better attest the outcomes of the original case. In the replication logic, a number of cases are considered one after the other with each case serving a specific purpose within the overall scope of inquiry. The outcomes of the investigations in each case are supposed to refine and further qualify or disqualify the outcomes of previous cases. Another case may be considered in future considering only the contribution of the planning process towards informing appropriate development. The outcomes of the case would be compared with the outcomes of this

study to qualify whether planning and EIA processes really need to relate in order to better inform appropriate development. Yin (2003) recommends replication logic as opposed to sampling logic in the development of a general theory through the use of case study method. In sampling logic, a survey method can be used to test prevalence or frequency. The case study method of survey is therefore not the best to test prevalence or frequency since a single case cannot in any statistical sense represent a wider class of cases (Vaus, 2001).

In this research the case study design was complemented by the use of key informants. Payne and Payne (2004) describe key informants (expert witness) as people having more information to impart. They are visible because they occupy formal positions of authority. The actors in the Big Bay development are utilised as key informants and are interviewed to gather more information and any other general information related to the study.

1.4.4. The Use of Techniques for Data/Evidence Collection

Data collection in qualitative research is often undertaken through observations, interviews, analyses of documents and past records, and review of audio visual materials (Leedy and Ormrod, 2005). In this study, data was collected through the analysis of documents and interviews. The documents were analysed to gather information about the context surrounding the case, in terms of the physical environment and any historical, economic, and social factors that have a bearing on the case, as advised by Payne and Payne (2001). The documents for the case study development were obtained from the City of Cape Town Municipality (CCTM) and the Department of Environmental Affairs and Development Planning (DEADP). The CCTM is a local authority in the Western Cape Province. The authority is responsible for executing numerous tasks including consideration of, and decisions on, development applications. The DEADP is a provincial department charged with the responsibilities of executing duties relating to environment and development planning, including consideration of and decisions on EIAs for development applications. The analyses of documents from these organs of state were complemented by the undertaking of interviews. The interviewees provided information on the case study and any other general information that had a bearing on

the case study. Miller and Brewer (2003) hold that interviewees should be asked similar questions to avoid differences or bias from the interviewer. A standard interview schedule (Annexure 2) has thus been designed to facilitate interviewing a number of actors that were involved in the Big Bay development. These actors included town planners and environmental professionals from DEADP, CCTM, and respective consulting companies. The details of the research techniques/methods used are outlined below.

- Analyse the CCTM and DEADP planning records regarding the case study.
- Interview Town Planners from the CCTM and DEADP who were handling the planning application of the case study.
- Interview consultants who were handling the planning applications for the case study.
- Interview Environmental Officers from the CCTM who participated in the undertaking of the EIA.
- Interview Environmental Officers from DEADP who participated in the environmental authorization of the case study.
- Analyse environmental authorisation records of the case study from DEADP.
- Interview consultants who were handling the EIA for the case study.
- Analyse how the outcomes of the case study EIA compare to the theoretical underpinnings of SEA.

1.4.5. Indication of How Data was analysed

This research adopted a method for data analysis, sourced from Leedy and Ormrod (2005), which involves the following steps:

- Chronological organisation of details (facts).
- Categorisation of data.
- Interpretation of single instances: specific documents; occurrences; other bits of data were examined for the specific meanings they might have had in relation to the case.
- Identification of patterns.
- Synthesis and generalizations; conclusions that may have implications beyond the case drawn.

Data was coded; raw materials converted into a more organised format that was easier for the researcher to inspect and understand. Interview notes were computer stored to make them easy to read while audio tapes were transcribed into verbatim written format (Payne and Payne, 2001).

1.4.6. Ethics

According to Payne and Payne (2004), quality research observes an ethical approach. Gray (2004) defines an ethical approach to research as concerning the appropriateness of the researcher's behaviour in relation to the subjects of research or those who are affected by it. Gray (2004) outlines some ethical issues that should be observed in any research. These ethical issues were observed in this research and are listed below.

- People have the right not to participate or choose to participate at reasonable times and to withdraw at anytime.
- Promises from the researcher must be minimised and where done, must be fulfilled.
- The research should not put people under psychological stress, legal liabilities or ostracism by peers.
- Data must be confidentially kept.

The ethical value was enhanced by maintaining maximum objectivity towards the outcomes of the research. Payne and Payne (2004) say that as far as possible, researchers should remain distanced from what they study so that findings depend on the nature of what was studied rather than on the personality, beliefs and values of the researcher.

1.5 Structure of the Dissertation

This section outlines the structure of the dissertation to help the readers conceptualise the content. This first chapter introduces the research work in terms of purpose, intentions and proposes means to achieving the purpose. It stipulates the rationale of the study as well as the background of spatial planning and EIA as tools that inform appropriate development. The chapter further outlines the adopted methodology.

The second chapter is the literature review, which discusses the disciplines and concepts underpinning the research. The disciplines discussed are spatial planning and EIA and reflection is also made on their meanings and processes. Under spatial planning, emphasis is placed on SDP since it is the common level of planning where development applications are considered. SEA is discussed in the chapter as a discipline having some implications on the roles of EIA. The literature review discusses integration and mutual adjustment with a view to determine the way spatial planning and EIA ought to relate to inform appropriate development. The discussion is preceded by a concise background of how the two disciplines evolved and how they relate to each other. The review further highlights the impacts of development on coastal bio-physical environments, given the setting of the Big Bay development.

Chapter three reviews how the case study development was undertaken in terms of both the spatial planning and EIA processes. The administrative and geographical context of the Big Bay development is outlined, and the coordinated spatial planning and EIA process is discussed.

The findings of the empirical research are discussed in Chapter four. The sections of the chapter are aligned to the objectives of the study, to ensure that all the objectives of the study are addressed in the research. In chapter five, the findings are evaluated against the conceptual underpinnings in chapter two. The last chapter of the study draws observations, conclusions and recommendations from the findings of the study.

1.6 Assumptions, Boundary and Limitations of this Research

There are two assumptions underlying this research. The first two objectives were formulated with an assumption that their findings will inform the goal of the study. The assumption is that the timing and extent of interaction, as well as the relationships between the actors, define the outcomes of planning and EIA. The second assumption is obtained from Hill (2004) that environmental assessment is assumed to include EIA and SEA.

The boundary of this study was influenced by various factors including the time and resources. The study was undertaken in six months, a duration in which it was not

possible to fully address the complexity of the interactions between the two disciplines. This study focuses on a single case and only selected actors were interviewed.

It should be appreciated here that debates concerning the integration of environmental assessment and planning is reflected in a much broader literature context. The context includes the themes of co-operative governance; decision making theory; policy, procedural and institutional integration and procedural efficiency. Due to the level at which the research is undertaken, limited time frame and resources, the study is not explicitly contextualised in terms of any of the themes. Rather, the study briefly lends itself in broad terms to all the themes without placing emphasis to any.

Despite the above limitations, the researcher exercised the necessary responsibilities to ensure that the study was as objective as possible. This does not, however, imply that the findings of the study should be adopted generally without question and scrutiny. The findings should be subject to further attestation and qualification in future research.

1.7. Conclusions from the Introductory Chapter

The study firstly explored the value added by Environmental Impact Assessment (EIA) and spatial planning in informing environmentally appropriate development. Secondly it investigated how planning and EIA interact to better inform appropriate development. These two purposes of the study were in response to the global challenge of environmental degradation and deterioration. In its purposes, the study considered the current debates about the roles of planning and EIA. These debates anchor around the need to balance developmental and environmental interests by critiquing the way planning and EIA interact. Planning is a tool that is renowned for fostering development while EIA is known for enhancing environmental integrity. The study assessed the roles of these disciplines through the use of interviews and analysis of documents. The documents and interviewees were from the CCTM and DEADP. Other interviewees were from the consulting companies that had a role in the case study development. Document analysis and interview data collection

techniques were best suited for use in this type of qualitative research. Qualitative research seeks knowledge about the phenomena studied by observing the meaning from the simplest elements within the phenomena studied. A case study design is used to facilitate maximum interaction with each of the elements that had a role in the case study. Throughout, the study maintains an ethical approach and a high level of objectivity. It is paramount as in itself, the study is inadequate to reveal the whole truth about the interaction of the elements in planning and EIA. The research study has been broken down into, Introduction, Literature Review, Review of the Case Study, Findings from Research, Discussions of the Findings, and Observations, Conclusions and Recommendations.

2. LITERATURE REVIEW

According to Van der Linde (2006) South Africa's legal system contains a broad and interdisciplinary branch of law known as environmental law. This law includes, among others, legislation on planning and environmental assessment. Planning and environmental assessment are enacted and implemented separately and, in some cases, by different organs of the state. The planning law is mainly administered through the provincial Land Use Planning Ordinance (15 of 1985). Environmental assessment is currently administered through several Acts but mainly through the National Environmental Management Act (107 of 1998) (NEMA) and EIA Regulations (2006) under the NEMA amendment Act of 2004. At the time of the case study investigated in this research, the EIA Regulations of 1997, promulgated under the Environment Conservation Act (73 of 1989) (ECA), were in force. These were superseded after a greater part of ECA was repealed by NEMA. Worth noting is that there are certain listed activities that require environmental assessment in terms of NEMA. These are mostly the same activities that are affected by the planning legislation. This implies that certain developments have to undergo both the EIA and planning processes.

The setup of these separate laws as well as their administration has resulted in a debate concerning their effectiveness. The review below therefore highlights the conflicting discourses of whether there is a need to merge planning and EIA, or to keep them as distinct and separate processes. However, the review on the discourses is preceded by the general background of the relationship between environmental assessment (EA) and planning. EA is the general discipline that embraces all environmental assessment tools including EIA and SEA. The background indicates how EA was introduced to help reduce the impacts of developments that seemed to degrade the environmental quality. The review of the discourses is followed by the review of the EIA and planning processes. As for the planning, emphasis is placed on the site development planning (SDP) process. This is due to the fact that this study seeks to assess the role of EIA and planning on the development of individual sites. The discussion of these processes includes an overview of concepts from EIA and planning. The role of SEA against the conceptual underpinnings of EIA is discussed following the review of planning and EIA. The purpose of the review is to lay a conceptual framework for evaluating the effectiveness of EIA without an overarching

SEA, as per the situation in the case study. The last section, before the conclusions, considers the coasts as one of the most sensitive environments in which the role of planning and EIA could be assessed.

2.1 The Advent/Conception of Environmental Assessment (EA)

According to the 'United Kingdom Communities and Local Development' (nd), good planning ensures that people get the right development, in the right place, at the right time. Planning improves peoples' lives in that it provides homes, jobs, and better opportunities for everyone. At the same time, it protects and enhances the natural and historic environment, and conserves the countryside and open spaces that are important to everyone. Dewar (2007) and Parfect and Power (2007) contend, however, that planning ensured the right development only some decades ago. They note that planning lost power to the market place with the collapse of communism in 1989. In that era, the criteria of need and desirability of development became over-shadowed by the fact that a developer was prepared to invest. Development then was a priority over all issues including environmental since it was believed to be the only hope for economic revival. As a result, international organisations intervened as a way to ensure the need to preserve the quality of the environment. Among the many efforts, in 1987 the United Nations (UN) sponsored the World Commission on Environment and Development (WCED) through which the environment and sustainable development were core foci of debate (Mebratu, 1998). It was therein that the term sustainable development was re-looked into with a view to optimise harmony between the environment and development. This term, as well as other initiatives, encouraged many countries to take part in saving their environments. South Africa also took up the challenge and included within its laws, improved environmental legislation. The National Environmental Management Act (107 of 1998, NEMA) was enacted in accordance with the constitution's environmental right. The NEMA (1998) makes provision for environmental assessment including Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA) on development projects, plans, programs and policies. Environmental Assessment therefore became a complement of planning in making decisions on developments with a view to focus on environmental issues.

2.2. Overview of Planning, EA and the Development of Sensitive Coastal Environments

To facilitate an easy understanding and logical approach to this study, this section describes the main themes involved in the study. The description focuses on meanings and background of the disciplines and how they relate to the bio-physical environment. The first discipline discussed is town planning. Town planning is one of the disciplines whose role in informing appropriate development is assessed in this study. The general description of town planning is derived from Hall (1980) as a decision making process of what should be where; how and why. This definition signifies the relationship of town planning and the environment. Certain developments are permissible in certain environments in a certain form for some reasons including environmental reasons. EIA has been developed as a discipline that is used to facilitate this role of planning. It helps with the assessments of potential developmental impacts on the environment. For this reason, EIA is discussed as the second discipline in the section. The third topic discussed under the section is whether EIA fails appropriate development in the absence of an overarching SEA. The last part of the section before the conclusions reviews the effects of development on the coastal environment.

2.2.1. Overview of Town Planning

The first part of this sub-section provides a general overview of planning, its definition and its role in conserving the environment. The second part focuses on SDP. Planning functions at various levels spanning from strategic planning to SDP. SDP is the lowest level that functions at the level of a plot – in South Africa a plot is often used as referring to an erf or small piece of land on which a house is built. SDP is the level of planning where most development applications are considered. This is the reason the review below focuses on SDP.

2.2.1.1. Town Planning

Hall (1980, p. 1) gives two definitions of town planning. The first definition is that town planning is "a process whereby decision makers engage in logical foresight before committing themselves". This form of planning is also known as physical planning, town and country planning or urban and regional planning. The second

definition is that planning is about how much of what is put where. The first definition is, however, implied in the second in that the decision makers make decisions to determine how much of what is put where. The second definition is meant to be broader in that decision makers refers to everybody else who engages in some form of decision making outside the process called Town and Country Planning.

The decisions being made in planning concern all forms of development and that includes conservation and maintenance of the environment. This statement is implied in the writings of Parfect and Power (1997) who argue that a system based on what planning prevents is not likely to be as successful as the one that actively promotes high standards of environmental quality. Planning conserves by preventing certain developments in some areas, and it maintains the value of the environment by promoting high quality standards. This is the aspect of planning that accords it an opportunity to deal with matters relating to the bio-physical environment. The bio-physical environment has been considered in planning when the Garden City concept of urban design was introduced by Ebenezer Howard (Macfadyen and Hist, 1933). Since then, good planning has been viewed as understanding the natural environment it is dealing with. This statement is further validated by Moughtin (1996, p.1) who says, "in these circumstances any discussion of aesthetics of city design in a pure or abstract form unrelated to environmental concerns could be described as superficial and rather like rearranging the deck chairs on the titanic". It may thus be safe to conclude that planning has a role in addressing the status of the bio-physical environment.

While planning is charged with this role of making green towns, this has not always been the case. The titanic sank on many occasions. Parfect and Power (1997) express worry that our cities suffer increasingly from inappropriate development. Many cities of the world have been designed on the basis of functionality and rationalism into functional machines, and not place to live in. Lofty and compact buildings cluster people in one area to facilitate short distances between two destinations; otherwise known as efficient and cost saving cities. According to these authors, societies are alienated from their surroundings by these grey barrier walls. They do not interact with fresh soft spaces as earlier intended in the Garden City Model. The question would then be what went wrong despite this 'good' intention of planning. 'Good'

because some rationalists and functionalists out there may still maintain that compact and dense developments are the best. In that instance, the Garden City Model would not be any good.

Numerous reasons on why planning failed the green environment in the most city designs have been identified and some of them are outlined below. Hall (1980) says many of these planning disasters are a result of forecasts that were later found inadequate and misleading. Planning works by predicting the future or forecasting and the amount of certainty is determined by the factors involved in forecasting. These factors include the quality of personnel, ethics of the time, and accuracy of equipment used. Other problems were identified by Parfect and Power (1997). Firstly, their view is that the planning system is often under-resourced and overstretched. Secondly, that the problems of bad planning resulted from a general decline in the economic life, with towns and cities desperate for new development at almost any price. Planning was then redirected to facilitate this vision of 'more economically rewarding developments'. These authors and many others thus contend planning should regain ways and means to control development if these problems are to be redressed. Parfect and Power (1997) believe that the WCED in 1987 has to a certain extent, helped redirect planning.

The problems highlighted above of cities and towns having failed to incorporate the bio-physical aspect of the environment did not emerge in that manner all at once. The failure was a cumulative effect of poor development of individual sites. Earlier, neighbours shared site boundaries but the concepts of urban restructuring and densification were used to address the ever rising population numbers (Parfect and Power, 1997). Now people have neighbours above, beneath and on all sides. It is due to this reason of sites that gradually transform into new developments that the discussion of planning places emphasis on SDP.

2.2.1.2. Site Development Planning

Development plans vary in type. They range from structure plans, local plans to unitary development plans. Structure plans are intended to set the strategic planning framework for a longer term, resolving the balance between development and

conservation and making sure that realistic provision for development is made in line with national and regional policy. Local plans contain detailed policies and specific proposals for the development and use of land. Unitary development plans translate functions of structure and local plans into the lowest planning level. They result in maps indicating specific uses of specific areas (Adams, 1995). These specific uses of areas are termed land-use zones. The land-use zones and related development guidelines inform every parcel of land that is to be developed. The development of individual parcels of land (site) is the level at which the finest details of the unitary development plans are manifest. This level of planning is termed site development planning. In the overall planning process, site planning occurs after strategic planning has taken place and after the land-use has been decided in relation to social, economic and environmental needs (Beer and Higgins, 2000).

Site (development) planning is an integral part of the land-use planning process; it determines the detailed layout on an area of land so that the area functions effectively in relation to a given range of land uses on the site and others around it. Lynch and Hack (1993) define SDP as an art of arranging structures on the land (site) and shaping the spaces between. SDPs locate objects and activities in space and time. These plans may concern small cluster of houses, a single building and its grounds, or something as extensive as a small community built in a single operation.

According to Lynch and Hack (1993) the aim of SDP is moral and aesthetic: to make places which enhance everyday life. Site planning informs decisions on how site structures and spaces should be made. It facilitates the decision-making process on whatever goes on any piece of land to curb detrimental effects on the environment (Beer and Higgins, 2000). Lynch and Hack (1993) express a concern that often SDPs are seen as minor adjuncts to the dominant decisions of developers, architects, engineers and developers. This neglect is a dangerous error, since the site is a crucial aspect of the environment. It has a biological, social and psychological impact that goes far beyond its obvious influence on cost and technical function.

2.2.2. Environmental Impact Assessment

Environmental Impact assessment (EIA) is the second discipline discussed in this section. Weaver (2003: p. 6 citing Wathern, 1998) defines EIA as "a process having the ultimate objective of providing decision-makers with an indication of the likely consequences of their actions". The South African EIA regulations of 2006 promulgated in terms of the National Environmental Management Act (107 of 1998) define EIA as a discipline relating to an environmental authorisation application to which scoping must be applied. EIA is a process of collecting, organising, analysing, interpreting and communicating information that is relevant to the consideration of that application. The two definitions are similar in that an application for authorisation referred to in the second definition is considered in a process of decision making as per the first definition.

EIA dates back to the adoption of the National Environmental Policy Act (NEPA) by the United States of America (USA) in 1969. Officially, the introduction of EIA in South Africa was marked by the establishment of an EIA committee in 1983. The research undertaken by the committee resulted in the development of the Integrated Environmental Management (IEM) procedure in 1989. IEM is an approach that seeks to integrate environmental considerations into all stages of the planning and development process. At that time, however, the approach was voluntary. A mandatory procedure was provided with the introduction of EIA regulations in 1997. The regulations were promulgated under the Environment Conservation Act (73 of 1989, ECA). The regulations demanded the undertaking of environmental assessments for the undertaking of certain activities. In 1998, the National Environmental Management Act (NEMA, 107 of 1998) repealed a greater part of ECA (Barbour, 2002). The repeal resulted in the amendment of the regulations in (1999), with a new set of EIA regulations coming into force in 2006 after amendment of the NEMA.

It is generally accepted that the stated objective of EIA is to improve and enhance the decision making process (Barbour, 2002). Underwood (2007) recognises a number of ways in which EIA is valuable. The first way is that the EIA process engages with stakeholders at a relatively early stage, and so it is possible to assess opinions and

refine a project in order to address issues. Other authors, however, contend that EIA is reactive and comes in when the design process is already complete. Underwood (2007) determines the second value of EIA to be that it obliges developers to obtain input from environmental specialists during the planning stage, and this can make a positive contribution to a project provided facts are placed on the table early. The third value of EIA is that most developers are forced to take the EIA process seriously whether they like it or not, and so they will try and produce a project that yields an acceptable result without high negative impacts.

Though seen as beneficial by Underwood (2007), De Villiers and Hill (2007) are of the opinion that EIA is not always a success in informing environmentally appropriate development. They identified four ways in which EIA is failing in an agricultural context and in general. The first is that EIA is reactive as it is normally introduced long after the inception of projects. It therefore places emphasis on impact mitigation rather than proposal modification. The second is related to its fragmented application. A number of EIAs may be undertaken across a uniform landscape. Unlike a single uniform assessment, small area impact assessments may result in fragmentation to the ecosystem. The third way EIA is seen failing by De Villiers and Hill (2007) is that it often fails to consider the substantive desirability and appropriateness of proposed development, and instead focuses on compliance with procedures and reporting requirements. Fourthly, these authors argue that EIA is often largely oblivious to cumulative impacts. The scope of study is often limited to an activity on a site, and does not give adequate attention to the surroundings and long term aggregated effects of repeated impacts on the ecosystem.

2.2.3. Strategic Environmental Assessment and EIA

The third discipline under discussion is Strategic Environmental Assessment (SEA). SEA is defined as "the formalised, systematic and comprehensive process of evaluating the environmental impacts of a policy, plan or programme and its alternatives, including the preparation of a written report of the findings of that evaluation" (Bina, 2007: p. 588 citing Therivel *et al*., 1992: p. 19-20). SEA does not replace EIA, but rather complements the project-level assessment by providing an effective instrument for environmental assessment at the plan and programme level.

While seen as complementing EIA, SEA is not as compulsory in South Africa as EIA is. The Department of Environmental Affairs has, however, compiled guidelines for utilisation by those undertaking the process but the guidelines are not legally binding (DEAT, 2000; Retief, *et al*., 2007).

The proponents of SEA believe that it provides a high level of protection to the environment and contributes to the integration of environmental considerations into the preparation and adoption of plans and programmes. It promotes sustainable development by ensuring that an environmental assessment is carried out for certain plans and programmes which are likely to have significant effects on the environment (European Union, 2001; Dalal-Clayton and Sadler, 2005). Unlike EIA, SEA further ensures that environmental issues are addressed from an early stage in the process of formulating policies, plans and programmes, and incorporated throughout this process. As elsewhere, SEA in South Africa is recognised as a tool that facilitates the integration of the concept of sustainability into the social, economic and biophysical goals of the country. The benefits of SEA are listed in the Department of Environmental Affairs and Tourism (DEAT, 2000: p.10) SEA guidelines, and are that it:

- "pro-actively informs the development of plans and programmes;
- identifies the opportunities and constraints which the environment places on development;
- provides guidelines to ensure that development is within sustainable limits;
- has the liability to integrate across areas, regions or sectors;
- improves the way in which cumulative effects are dealt with in environmental assessments … and
- focuses on the maintenance and enhancement of a chosen level of environmental quality, rather than on minimising individual impacts".

Bina (2007) argues to the contrary that SEA is oversold unnecessarily since EIA can perform some of the roles said to be only suited for SEA. Bina (2007) says firstly that EIA, just like SEA, can be applied at the level of PPP. The author refers to the United States of America's (USA) National Environmental Policy Act which allowed consideration of environmental implications of PPP. Secondly, the argument by SEA

proponents that EIA is not capable in undertaking some of the environmental assessment roles is misplaced. Bina (2007) says the success of EIA is clouded by other factors like the lack of political will. SEA will soon be seen to be failing because it will encounter the same problems. Marsden and Dovers (2003) and Marsden (2008) say that SEA and EIA are so closely related such that the two must be carried out effectively and in a well integrated manner to avoid duplication. Bina (2007) may be right! This study will compare the case study EIA with the theoretical underpinnings of SEA to find out the extent to which the development could have been better with an overarching SEA.

2.2.4. Impacts of Development on Coastal Bio-Physical Environments

The coast is discussed in this section as a sensitive environment and complex system on which the above disciplines are often administered. According to Beer and Higgins (2000), people are also complex in the way they use land. They are capable through their land use and land use management actions of irreparably ruining the sustainability of ecosystems. There is a realisation at last that all land use developments must be carried out within the constraints set by the physical and natural environment; if its further damage is to be avoided. Since every change on the surface of the land has an impact, however small, on the environment, every change has to be thought through carefully by the proposer, the developer and land-use planners (Beer and Higgins, 2000).

The coastal zone is one of the most complex environments as it includes both terrestrial and marine components (Gillespie, *et al.*, 2000). The Department of International Development in UK (nd) corroborate this idea by saying coasts represent the point of interaction between diverse ecosystems and multiple resource systems, they are inherently dynamic and complex. Due to their complexity, Glavovic (2000) recognizes coasts as areas that give rise to high biological productivity, with a great abundance of fish, sea birds and seals. These areas are associated with diverse conditions that give rise to a range of ecosystems types: sandy beaches, rocky shores, estuaries and coastal wetlands, and islands. Post *et al*. (1996) also list a number of roles played by coasts as: having dynamic biological, chemical and geological attributes; having features such as coral reefs, mangrove forests, and beach and dune

systems. These features serve as critical natural defences against storms, flooding, and erosion. Post *et al*. (1996) also indicate that coasts have ecosystems that moderate the impacts of pollution; maintain an ecological balance, and provide for fishing and farming.

Despite its value, the coast is exposed to various pressures especially those anthropogenic. The Department of the Environment in Ireland **(**2006) notes that although the coast of Northern Ireland was highly valued for its scenic beauty, rich wildlife and economic importance to local communities, it was coming under increasing pressure. A similar view is shared by the Council for the Environment in South Africa (1991) that land use pressures are intensifying on the coast, but the coast and its resources are finite. It is thus assumed that planning and EIA considered these aspects of the coast prior to the Big Bay development. An evaluation is made to see how far these disciplines recognised the coastal value and took it into consideration in decisions to develop the site.

2.2.5. Conclusions on Planning, EA and the development of sensitive coastal environments

This section reviewed the topics that form the basis of this research. The first topic that has been reviewed is town planning. Originally planning was charged with the upkeep of environmental quality, particularly since the times of the Garden City Model of Ebenezer Howard. The discipline, however, lost focus when the need for development became a priority. Market forces influenced planning to promote development almost at all environmental cost. Change in development density was noticed from individual sites to congested cities, with re-development programs intensifying development. The intensification was done through consideration of land applications via site development planning (SDP). SDP is still a common part of planning where development applications are considered.

The second topic discussed in the section is Environmental Impact Assessment (EIA), which is a process that aims to improve and enhance the decision making process concerning environmental authorisation applications. The discipline is, however, seen as not successful on this role. It is said to be reactive as it is normally introduced long

after the inception of projects. Secondly, EIA fails because it results in fragmented ecosystems. Thirdly, it is undertaken to fulfil the requirements of process and in so doing, loses focus on considering the desirability and appropriateness of proposed development. Fourthly, EIA fails because it is often largely oblivious to cumulative impacts. The success of EIA in informing appropriate development is often questionable as compared to Strategic Environmental Assessment (SEA). SEA is a process of evaluating the environmental impacts of a policy, plan or programme and its alternatives. The proponents of SEA believe that it provides a higher level of protection of the environment than EIA does.

The section also discussed the coast as a sensitive environment and complex system because it includes both terrestrial and marine components. The coast is associated with high value yet it is exposed to anthropogenic pressures. This nature and treatment of the coast was reviewed to help identify the nature of the environment upon which the roles planning and EIA are assessed. The achievement of these roles of planning and EIA are often said to depend on the way the two disciplines relate. The following section, therefore, outlines the concepts of relationship of disciplines that may have been evident on the case study.

2.3. The Relationship between Planning and EIA Process

This section reviews some of the concepts that are presumed to be the basis within which disciplines interact. The purpose of the review is to assess the possible ways planning and EIA as disciplines can best interact to inform appropriate development in the context of the bio-physical environment. The concepts discussed are integration and mutual adjustment. Integration is defined as making into a whole by bringing parts together. Mutual adjustment is defined by Lindblom (1990) as the decision reached when varying interests bargain to come to an informed compromise.

2.3.1. The Need to Integrate Planning and EIA

Since the World Commission on Environment and Development (WCED) in 1987, there has been a rise in the need to adopt a holistic and participatory approach to development as well as to improve the interaction between environment and development. The nature of integration concerning development and environment is

thus central to the sustainable development debate (Sowman, 2002). Sustainability perceives the world as a complex web of interconnecting systems and therefore advocates for an integrated development approach (DEAT, nd). Integration as a concept is described by Myers (nd) as making into a whole by bringing all parts together into unity. It is defined in terms of the timing of interaction of parts and the extent of their interaction (Keyser, 2002).

Due to the call for integration by proponents of sustainable development, the world is experiencing a rise in debates on the need to integrate disciplines. Planning and EIA are some of the disciplines that have attracted the attention of scholars in terms of their need to integrate. Some of the scholarly perspectives are highlighted below on how and why planning and EIA should integrate. Brown and Hill (1995) say that the integration of information from Environmental Assessment (EA) into project design facilitates the incorporation of environmental concerns into the planning process right from the beginning. Also supportive of this view, Gasson (2007) holds that EIA and planning should integrate to draw a better understanding of nature's patterns, processes, significance, and limitations into the process of project formulation and refinement from the outset. Gasson (2007)'s view is that planning done in this way incorporates impact assessment and facilitates environments that perform well in both human and ecological terms. Judge and Douglas (1998) also share the above authors' views and note that the planning process succeeds when integrating an external issue such as the natural environment. In fact, Mc Donald and Brown (1995) contend that there is a need to move beyond EIA as a stand-alone tool. Their argument is that instead of being a stand-alone tool, the EIA process should become an integral part of the planning process. The above call from various authors proposes integration by incorporation of environmental issues into the planning process. This call perceives the planning and EIA processes as distinct yet relating, by exchanging information.

Todes (2003), however, proposes a variant of integration that requires the merging of planning and environmental legislation as well as their institutions. Todes' (2003) proposal on the integration of the two disciplines would result in them becoming a single entity. Another variant of how planning and EIA should relate is expressed by Barbour (2002), who contends that environmental assessment applied at the project level fails to enhance the value of land-use planning. Barbour (2002) advocates for

integration at a level higher than the project. The kwa-Zulu Natal Provincial Planning and Development Commission Project Reference Group Meeting (2004) also held that there could be a better way the planning and EIA processes could interact. The meeting identified New Zealand and some Australian states as examples where integration of planning and environmental management succeeded. It was concluded in the meeting that South Africa could probably emulate the way these states integrated their planning and EIA processes.

The above are the scholarly deliberations calling for integration of EA (EIA in particular) and planning processes. In the deliberations, there are notable elements that may facilitate an understanding of what integration of planning and EIA means and how it can be done. The first element concerning the integration of planning and EIA is that EA must be applied beyond the project level. The second element is that planning and EIA should integrate in a manner already implemented in other states. The third element is that the integration of planning and EIA requires the two disciplines to either remain independent while communicating or merge into one. Other than these elements, Robinson *et al*. (2003) further facilitate the understanding of what integration entails in discussing the concept of Integrated Development Planning (IDP). IDP, according to Barbour (2002), is a process that informs all planning, budgeting, management and decision making in a municipality. Integration of environmental issues into IDPs includes moving beyond fragmentation; well-linked and coordinated actions within and between spheres of government; understanding and incorporating crosscutting issues; developing networks and linkages between places; making linkages between planning and implementation; and achievement of consensus (Robinson *et al.* (2003).

From the above conceptualisation of what integration is, varying views have been deduced as to why and how EIA and planning should integrate. The first view on why there should be integration is that it facilitates the incorporation of environmental design changes into projects while they are still being planned (McDonald and Brown, 1995). While the view was expressed in terms of project planning, it may apply in land use planning. McDonald and Brown (1995) note that environmental practitioners and designers have found integration more expedient and logical rather than waiting until the EIA Report is completed. There are increasing partnerships between

environmental professionals and design professionals. In some fields, the output from environmental professionals and the type of information useful for planning and design are well-matched. The above explanation from McDonald and Brown (1995) of how environmental practitioners and designers undertake the two disciplines' processes introduces the first view on how integration of those processes should be done. They identify integration as where the two processes are administered in parallel while there is timely information flow. The same approach to integration is expressed by Brown and Hill (1995) who refer to it as a process of decision scoping within an EIA. Decision scoping starts with a schedule of all the planning and design activities, and decisions, which will have to be made during the whole project. The environmental information for each corresponding stage is then identified. During the entire design process, the identified environmental opportunities and constraints are linked to the decision milestones in time. Brown and Hill (1995) say this interaction of assessment and design is essential, firstly, because each responds to the changes over time. Projects are in a continuous state of evolution between their conception and their final implementation. Secondly, interaction allows proper timing of when environmental opportunities and constraints need to inform design.

The second view on how planning and EIA need to integrate is that there should be coordination between the environmental assessment process and the deliberations, planning and design activities of the planners, engineers and urban managers responsible for project development and implementation (Sowman, 2002). While introducing the second view of how planning and EIA should relate, Sowman (2002) argues that the coordination can be achieved by having environmental professionals, practitioners and consultants housed in the same departments as planners to encourage interactive and dynamic planning processes. The timelines of processes of these activities also require integration. Sowman (2002) expresses a concern that EIA currently remains a standalone activity, following a separate and administratively cumbersome passage, and often only providing environmental information when detailed plans and designs have been completed. Like Todes (2003), Sowman (2002) advocates for complete re-arrangement of the approach to how EIA works with planning. The author wishes to see the planning and EIA actors accommodated under the same roof and the processes of the two disciplines merged into one. This view is

normative since there is no empirical evidence given that this will produce better results.

The third view on why planning and EIA should integrate is that the introduction of EIA or environmental assessment as a whole was an improvement to the planning process. Dewar (2007) supports this notion and refutes the fact that planning can best inform the consideration of bio-physical aspects if not integrated with EIA. According to Dewar (2007), the central concern which underpinned the introduction of environmental assessment was that conventional spatial planning processes were not adequately considering either the bio-physical environment or heritage issues in new land development processes.

The third view on how integration can be done is that environmental issues should be considered above the project level. The government of South Africa has already set a platform for planning and environmental issues to be integrated above the project level. The IDP process and the White Paper on Spatial Planning and Land Use Management are identified as the platforms and there is a stated urgency to utilise these as opportunities for integration of these two disciplines. According to Barbour (2002), IDP provides an ideal vehicle for including environmental assessments at a strategic planning level. The author argues that SEA could be the tool to facilitate the identification and assessment of environmental issues during the analysis phase of the IDP process. The White paper spells out procedures for integrated planning for sustainable management of land resources. These include the establishment of a uniform set of procedures for land development approvals for the whole country (Barbour, 2002). From what Barbour (2002) is saying above, integration of environmental issues could be feasible if planning was to be undertaken alongside SEA and not EIA.

From the foregoing discussions, two schools of thought on how planning and EIA should integrate are discernible. The first school of thought calls for merging of the outcomes of EIA into the planning process. This school of thought sees planning and EIA as two independent disciplines. Those that subscribe to this school of thought are McDonald and Brown (1995), Brown and Hill (1995) and Dewar (2007). McDonald and Brown (1995) call for partnership between planning and EIA. Brown and Hill

(1995) talk of corresponding information identified between the processes. Dewar (2007) says EIA facilitates consideration of issues in the planning process. These statements from the authors suggest that the two disciplines are independent but do communicate. A similar thought is evident from the way IDP defines integration. It uses phrases like incorporating cross-cutting issues, networking, linking and coordination between the two disciplines.

The second school of thought limits the independence of planning and EIA. This is depicted from the arguments relating to the integration of the two disciplines as submitted by Sowman (2002) and Todes (2003). Sowman (2002) calls for placing of the actors in the two disciplines under the same roof. Todes (2003) advocates for merging of the laws. The review below considers the extent to which these two schools of thoughts facilitate mutual adjustment in the decision making process through the planning and EIA processes.

2.3.2. Mutual Adjustment in the EIA and Planning Processes

The above section describes one concept that relates to the way planning and EIA ought to interact to better inform appropriate development, which is integration. This section introduces another concept that could influence debate on the relationship between planning and EIA, namely, mutual adjustment. The discussion of mutual adjustment, however, makes reference to integration according to the two schools of thought described above.

"Husbands and wives typically achieve coordination; for both peace and cooperation, by working things out through mutual adjustments to each other", (Lindblom, 1980, p. 23-24). As men and women are different there should be some form of principle regulating their interaction for them to relate harmoniously. Lindblom (1980) believes that by mutually adjusting their characters to accommodate spouses' characters these two can live together harmoniously. Lindblom (1990) defines mutual adjustment as when participants get together to reach an explicit resolution of their differences. Lindblom (1990) says mutual adjustment is necessary because there is never one problem; there are always many intertwined problems. In the face of these many problems, mutual adjustment offers the possibility that both problems can be seen in

their interconnections, hence more broadly examined than in the absence of mutual adjustment. According to this description of mutual adjustment, planning and EIA processes can mutually adjust to each other in the decision making process. Planning and EIA processes are each faced with issues within themselves, between themselves and from other external factors. The issues include urbanisation processes, economic processes, political stability, and skilled person power availability. When a proposal comes onto the table, according to Lindblom (1990), the two disciplines must reach decisions that satisfy themselves, each other and their external environment.

Worth noting is that both integration and mutual adjustment call for the coming together of the subjects that are involved in the decision making processes. The two schools of thought in terms of integration call for merging of the outcomes of planning and EIA processes, as well as the processes themselves. In this merging, the IDP suggests many ways in which integration could be done, these include coordination, consensus and moving beyond fragmentation. Mutual adjustment only focuses on consensus and, hence, it is one way integration of disciplines could be done. In the first school of thought of integration discussed above, planning and EIA interact only through the outcomes while the processes are independent. In that integration, mutual adjustment sees the planning and EIA processes as partisans in decision making. The planning process and the EIA process do not agree on everything hence there ought to be reasoning for an informed compromise to be reached. The compromise is reached when both planning and EIA mutually adjust to each other. This first school of thought of integration is suitable to facilitate optimum mutual adjustment because planning and EIA processes are distinct partisans. In the second school of thought, which argues that planning and EIA should be merged into one in terms of geographical location and legislation, the two disciplines are centralised into one discipline. If under one department, there is a likely chance that priority between planning and EIA would be given to the discipline that best drives the departmental vision. If the vision of the department is, for example, to have many developments that would generate income to the city; planning may be seen as the best tool to drive the vision. The EIA process would thus be seen as a limiting factor to the attainment of the vision since it would find some of the areas not suitable for development. In this instance, mutual adjustment cannot occur since the partisans are not distinct from each other as Lindblom (1990) observes. Similarly, the incorporation

of the legislation for the two disciplines would do away with their independence and the possibility of mutual adjustment.

2.3.3. Conclusions on How Planning and EIA Should Relate

The section reviews two concepts underlying the relation of disciplines and these are integration and mutual adjustment. These concepts can exist at the same time according to their description as reviewed. It was evident from the review that there are several contentions that planning and EIA should integrate. The integration sought is firstly that the outcomes of planning and EIA should somehow be incorporated. Other submissions even suggest that this incorporation should occur between planning and SEA rather than planning and EIA. The literature that was reviewed on integration, indicated that those who support integration of planning and EIA believe that it is the best way appropriate development can be informed. Secondly, the integration of planning and EIA processes sought is that the two processes should be merged into one. This merging is proposed between the departments and the legislation involving the two disciplines. It was realised that while mutual adjustment occurs in integration, it is more evident when the two processes do not merge. Mutual adjustment requires independent partisans for informed compromise to take place.

Chapter 2 has reviewed literature relating to disciplines and concepts underlying this research. The disciplines that have been reviewed include town planning, Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA). The concepts that were reviewed include integration and mutual adjustment. The purpose of the review was to form the basis upon which the case study development would be studied. The next chapter therefore analyses the case study and how it was developed and assessed in the planning and EIA processes.

3. CONSIDERATION OF CASE STUDY - PLANNING AND EIA OF BIG BAY DEVELOPMENT

This chapter outlines the consideration of the Big Bay development through the spatial planning and EIA processes. This development is used as a case study to assess the roles of the two disciplines and the way their processes interact in informing environmentally appropriate development. The chapter begins by outlining the background of the Big Bay development, including the ownership, proposed development and situation of the site. The regulation of the development through the planning and EIA processes follows. The chapter ends by outlining the way in which the planning and EIA processes intersected in the Big Bay development, in essence a coordinated process with planning and EIA running in parallel and interactively.

3.1. The Big Bay Development Site

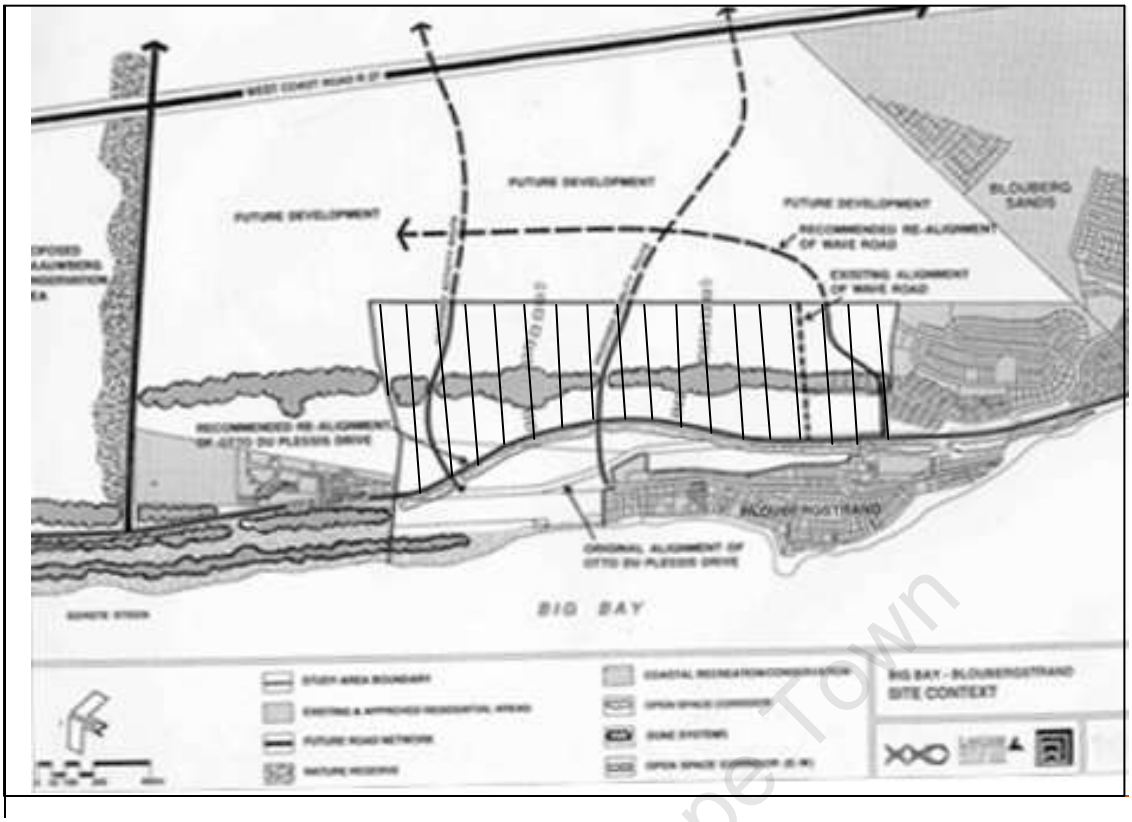
The Big Bay development site is owned by the Blaauwberg Municipality. In 1997, the Municipality commissioned Chittenden Nicks Partnership planning consultancy to prepare a Development Framework for Big Bay and its environs. The purpose of this commission was firstly to establish a policy framework for development opportunities of the Big Bay node as a national asset (CCTM, 1997). Secondly, it was in response to the growth in demand for coastal residential and recreational facilities along the Blaauwberg – Melkbos coastline. The report recommended among other things that the municipal site in Big Bay was suitable for development. It then endorsed the recommendation of the Big Bay Development Framework which was prepared in 1994, that the municipality should engage a development facilitator. The 1994 Development Framework was never implemented and became superseded by later planning interventions. The recommendation to engage the development facilitator implied a partnership in which the development would be undertaken by the facilitator while site ownership remained with the municipality. The municipality adopted these recommendations and Rabcav – a consortium of Rabie Development Company and Cavcor Engineering Consultancy – was selected through an open tender process as the development facilitator.

Rabcav, together with the municipality, initiated a process to develop the Big Bay area in the year 2000. They started by commissioning consultants to prepare a

development plan for the site. The development plan included the preparation of a Development Framework and an environmental assessment. These Development Framework and environmental assessment identified various proposals for the site including residential development in varying intensities, commercial and open spaces zones according to site suitability. Some parts of the site were not suitable for development because of their sensitivity. This sensitivity as well as the general background information relating to the site is described below. The description was sourced from the Big Bay Development Framework Planning Application (2001).

The Big Bay development site is located within the jurisdictional area of the City of Cape Town: Blaauwberg Administration and situated on the Atlantic Coast to the north of Bloubergstrand. It comprises approximately 120 ha of land located on either side of Otto du Plessis Drive. The Blaauwberg Conservation Area (BCA) lies further north of the site beyond the urban edge. The site is situated near the southern gateway of the Cape West Coast Biosphere Reserve. It is in close proximity to the beach and Big Bay, an internationally renowned windsurfing location. Map 1 illustrates the geographical setting of the development site in relation to its environs. The detailed boundaries of the site are illustrated in Map 2.

Map 1. Big Bay Development Site and its Environs (Source: CCTM, 2001)



Map 2. Big Bay Development Site Context (Source: CCTM, 2001)

The site (hatched in vertical lines on Map 2) consists of largely undulating sand dunes, ridges and valleys that are orientated in a north-south direction running parallel with the coast (the remainder of the map, which is of poor quality, is not pertinent to this discussion). It is also characterised by numerous sensitive sites. The sensitive sites include mobile coastal dunes, dwarf dune thicket on linear coastal dunes, and the high dune ridges and steep slopes in the central north-south dunes. There are 188 vegetation species on the site of which three are on the red data list of the threatened species (CCTM, 2001).

The outstanding natural form of the area accorded it special attention in terms of environmental significance. While the proposal to develop was acceptable, it was challenged by some as a loss of environmental value to economic interests. The Saturday Argus Newspaper of August 2001 published an article entitled 'Shadows beyond the Sunshine Strip for City'. The article proposed that it was time the market forces were harnessed. The author was worried that Big Bay, which was always the sunshine strip of the city, was facing the development shadows of the market forces. The manager of the Blaauwberg Wildflower Botanical Garden expressed discomfort

to the municipality that the proposed development was going to tamper with the botanical significance and lovely steep slopes of the area. The municipality, however, hastened to respond to both of these concerns that the development of the land carefully met the needs of surrounding communities and that impacts on the environment were also to be controlled.

3.2 Regulation of the Big Bay Development through Planning

In the Western Cape Province, applications for planning permission have been categorised into levels known as packages of plans (Figure 1) to facilitate the planning process. The categorisation seems to be just an administrative arrangement as the City Planner (Visagie, 2009, pers. comm.), confirmed that there is no legal document making provision for it. The packages of plans include the Contextual Framework, Development Framework, Precinct Plan, Site Development Plans and Building Development Plans. These packages of plans are normally applicable to large sites. The sites are taken through different approvals until they end up in smaller precincts or plots which are then developed separately as independent entities. Since much of the land in areas designated for development is already subdivided into smaller plots, consideration of site development plans and building plans by the municipalities is common. The Big Bay development site is relatively large and hence it was taken through all the packages of plans as highlighted above and below (CCTM, 2001).

As per Figure 1, the first package of plans is the Contextual Framework which involves strategic approval of spatial frameworks, long term planning goals, objectives and policies. A number of previous initiatives were undertaken at this level to facilitate the planning of Big Bay. These include the Atlantis and Environs Urban Structure Plan (1981); The Draft Metropolitan Spatial Development Framework (MSDF) (1996); Coastline of Metro Cape Town Sub-Regional Structure Plan (1988); The Draft Local Structure Plan for the Coastal Strip between Bloubergstrand and Melkbosstrand (1995); The Metropolitan Spatial Development Framework (MSDF, 1996); The Bloubergsvlei Sub-Regional Plan (1996); Development Framework: Big Bay and Environs (1997) and the Scenic Drive Network Report (1998); Atlantis Growth Corridor Management Plan (Draft 2, 2000) and The Draft Blaauwberg Spatial Development Framework (2000).

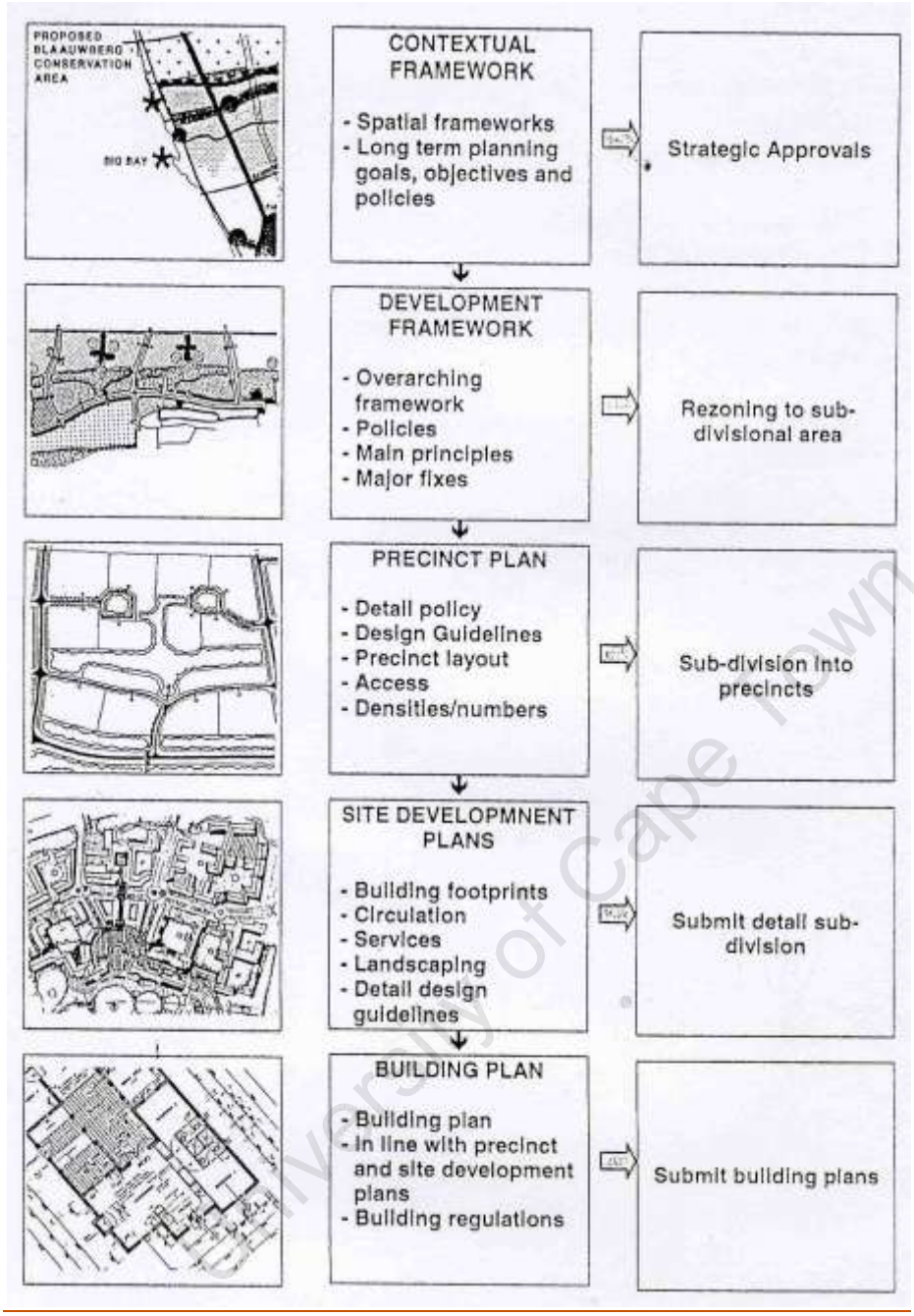


Figure 1. Packages of plans (Source: CCTM, 2001)

The Atlantis and Environs Plan (1981) recommended that urban sprawl should go eastwards of Cape Town city into the wine lands. According to the recommendation, developments would not go beyond Big Bay area northwards. The same recommendation was made by the draft MSDF later. The draft MSDF was responsible for identifying high intensity nodes and activity corridors; it proposed a Metropolitan Open Space System (MOSS); and specified the urban edge. In terms of the draft

MSDF, some parts of the Big Bay area were required to have intensified urban development to help contain urban sprawl since it was lying inside the urban edge. The entire coastal strip including the Big Bay coastal strip was incorporated into the MOSS thus emphasizing the environmental value of the area. The coastal strip of the Big Bay area was therefore excluded from the recommendation to have the area developed. Otto du Plessis road was identified as a scenic route. These development principles and environmental constraints were generally reiterated in all of the planning initiatives listed above. Some initiatives went further to detail the nature of the envisaged development on the site in terms of land uses. The details included identifying the areas for residential use, mixed use as well as open spaces. The intensity of development in each area and the development height profiles were also identified. It is important to note that all these studies covered areas beyond the Big Bay site. The attributes of neighbouring areas were also considered prior to any recommendation affecting the development status of the Big Bay site.

The Big Bay Development Framework Planning Application of 2001 constituted the second package of plans. The application solicited, firstly, the approval of rezoning to sub-divisional areas in terms of the Land Use Planning Ordinance (LUPO, 15 of 1985). Secondly, it solicited the removal of restrictive title deed condition C (iv) contained in Deed of Transfer No. T 7061 of 1976 pertaining to erf 452 in accordance with the Removal of Restrictions Act (84 of 1967). The application was based on the proposals included in the Big Bay Development Framework (BBDF, February 2001). The framework spelled out the overarching frameworks, policies and main principles. Its undertaking marked the initial step in preparing for the second package of plans.

The BBDF was compiled through extensive consultation of Interested and Affected Parties (I&APs) and five proposals were made. The proposals were generic with each refining the previous based on the findings of new impact information. The new information emerged at every consultation meeting with the I&APs as well as several environmental investigations that were undertaken. Throughout the generation of these proposals, some aspects of the site were considered ‘no-go’ areas. These included the large dune systems, good quality vegetation, milkwood trees, low lying portions for scenic values, regional road network, and Otto du Plessis as a scenic drive network.

The BBDF planning application was approved (Annexure 1) by the provincial Department of Planning, Local Government and Housing (DPLGH) in April 2002. Several conditions were attached to the approval and these included among others that: the development and site development plans had to generally be in accordance with the approved framework; and that the approval was subject to further conditions imposed in terms of any other applicable legislation including Environment Conservation Act (73 of 1989) and National Environmental Management Act (107 of 1998).

Nine super blocks were approved at the Development Framework level of packages of plans. Two of the blocks were allocated to internal roads while the other seven were to be used for other development. The seven sub-divisional areas were thus to be further subjected to the third package of plans; the precinct plan. The conservation areas like the dune system were not included in the blocks. This package of plans entails detailed policies, design guidelines, precinct layouts, access routes and densities. In February 2002 an application for subdivision of the initial residential phase was approved in one of the super blocks. All other super blocks were further sub-divided into smaller blocks which were later further sub-divided into smaller precincts. The subdivisions had regard of previous planning efforts and their development was to be in accordance with guidelines that were compiled in April 2002. The guidelines made an effort to bring together the findings of the EIA and principles and concepts approved in the BBDF, for ease of compliance.

The next package of plans is the Site Development Plan (SDP) where building footprints, circulation, services, landscaping, detailed design guidelines for every precinct are approved. Most of the residential plots and the Big Bay Coastal Node have already undergone this process. A rigorous evaluation was undertaken in the preparation of the Coastal Node site plan since the plot was to contain a single large development. The following site factors were noted during the evaluation.

- The site was characterised by undulating vegetated dunes running in a north-south direction.
- The site enjoyed a moderate Mediterranean type climate.
- The wind direction in summer was from the south east.
- The site experienced the south westerly breezes during the midday period.

- The partially vegetated, both dynamic and hummock dunes occurred along the coastline landward of the high water mark.

These considerations formed the basis for design of the site plan. SDP was followed by the final package of plans which was the approval of building plans. The building plans of some residential developments as well as the coastal node were approved and many of the buildings have, by now, been constructed according to the building foot prints which were approved during the SDP.

3.3 The Consideration of the Big Bay Development through Environmental Assessment

The environmental assessment process of the Big Bay development formally started in September 2000. Rabcav had on behalf of the Blaauwberg Municipality, commissioned De Villiers Brownlie Associates to undertake the process. The process was undertaken in terms of the Environment Conservation Act (73 of 1989). Schedule 1 of Government Notice No. R1182 of 1997, compiled in terms of part five of the ECA, listing certain activities the undertaking of which required authorisation from the Minister or a competent authority. The Big Bay project was subject to this law since some of its components constituted some of the listed activities. The activities included the following:

- "1(a) The construction or upgrading of facilities for commercial electricity generation and supply" (DEAT, 1997)
- "1(c) The construction or upgrading of transportation routes and structures, and manufacturing, storage, handling or processing facilities for any substance which is dangerous or hazardous and is controlled by national legislation" (DEAT, 1997).
- "2(c) The change of land use from agricultural or undetermined use to any other land use" (DEAT, 1997).
- "2(e) The change of land use from use for nature conservation or zoned open space to any other land use" (DEAT, 1997).

The environmental assessment process was initiated with a public meeting where I&APs were identified and a list of their names was compiled. The meeting agreed on the formation of a Consultative Community Committee (CCC). The CCC was to

represent the I&APs in all subsequent meetings. At the same meeting, I&APs were briefed on the process that was to be followed for the environmental assessment. The process was to begin with preliminary scoping and the preparation of project documentation. This was to be followed by scoping, public review and finalisation of the documents. It was then to end with the authority review, decisions and recommendations on the findings of the reports.

The preliminary scoping involved the general identification of environmental parameters that were applicable to the Big Bay area. The environmental parameters included set-back lines and sensitive dunes. The findings were documented and formed the basis for public participation. The scoping stage followed and was marked by frequent consultation meetings with the CCC as I&APs representatives. The first meeting was on the 11 September 2000. Other meetings then followed and the comments and concerns of the committee were incorporated into the design process.

The botanical specialist report was presented to the CCC on the 08 November 2000. The specialist study found out that

- There were sensitive coastal systems which represented themselves in three bands: a sensitive strip along the coast, a moderately sensitive strip further inland and a more stable system where only dune ridges were sensitive.
- There were different plant species and some red data species on parts of the site.
- The dune strip along the coast was replicated to the north outside the boundary of the site.
- The area between Moolman and Otto du Plessis was an isolated and diminished system and would eventually not be able to maintain wildlife.
- The area around the milkwood trees on the dune ridge needed to be enlarged as a trade-off against some other area that was to be developed on the site.
- There was a need to retain the north/south corridors and to identify east/west corridors as well.

Following a series of meetings between the consultant, I&APs and the municipality during the scoping stage, a plan of study and an application for authorisation were

compiled. These were submitted to the Director of Environmental Affairs, Dept. of Environment and Cultural Affairs and Sport. The Director noted that the preliminary scoping report failed to consider the sensitivity of Big Bay at a regional scale and did not indicate the extent to which I&APs were identified and consulted. For these reasons, the plan of study and the application were turned down. The applicant thus had to rectify the noted shortcomings and re-submitted the documents to the Director. The re-submission met all the requirements and the Director gave the go-ahead on the request made in January 2001. The permission allowed the applicants to continue undertaking the scoping process for the proposed development. It is worth noting that only scoping was to be undertaken for the project as EIA Regulations (1997) were not very clear on when a full EIA was and was not required. A full EIA report would have been required if the project was done under the 2006 EIA regulations. Notwithstanding this fact, this study refers to the Big Bay development scoping process as an EIA process because it was referred to as such on all the documents that were assessed. The reason for this could not be found from either the documents or the officials.

The scoping report was compiled and it acknowledged the geographical context of the site as on the urban edge and already earmarked for urban development. It did not, however, spell out the anticipated impacts, issues and mitigation measures as most EIAs would. The report placed emphasis only on two elements. These elements included, firstly, the description of the property and the affected environment. The environment was described in terms of its sensitivity and indicated that this was considered in the Development Framework. The second element emphasised in the report was the outlining of the planning initiatives that were undertaken for the site. The report indicated that the EIA informed the alternative proposals that were generated in the Development Framework. It generally explained how the findings of the specialist report and I&AP comments from the scoping process informed the Development Framework. The report was more of a narrative of how the Development Framework was generated. It was not so much about impact assessment per se but rather on how environmental issues were considered in the preparation of the Development Framework.

The Environmental & Heritage Management Division of the municipality made comments on the report. The comments included the following:

- Regarding the storm water management:
  - Required the limitation of hardened surfaces and the enhancement of infiltration.
  - Supported the use of an area south of the site for a detention pond.
- Informed the urban planning manager that the construction or upgrading of public resorts and associated infrastructure were a listed activity hence requiring EIA.
- Over and above creating a scenic drive by retaining sand dunes, there was also a need to retain views out to the sea, of Big Bay, Table Bay, Robben Island and Table Mountain.
- Over and above preserving the central dune ridge for visual and conservation elements, there was also a need to be very considerate when shaping other parts of the site for retaining its overall uniqueness to provide a variety of landforms.

The above comments were attached to the scoping report and it was submitted to the Director of Department of Environmental, Cultural Affairs and Sport (DECAS) for consideration and decision. The Record of Decision (ROD) (Annexure 1) was issued to the municipality in November 2001. Several conditions were attached to the ROD and some of them sought to preserve and promote the bio-physical aspects of the site. Five of those conditions are outlined below. The first required the re-assessment of the impact of coastal erosion on the beach and its management implications before the design of the recreational facilities was finalised. The second stated that developments needed to be kept further away from the conservation and dune areas. The third was the requirement to establish an ecological corridor along the western side of Otto du Plessis Drive. The fourth condition was that the worthy indigenous species of plants and animals on the site needed to be trans-located to an area that was to be designated. The fifth required was that an environmental assessment should any storm water outlet discharge into the sea.

In December 2001, the City of Cape Town: Blaauwberg Municipality made an appeal to the Minister of Environmental Affairs and Development Planning. The appeal concerned a greater part of the wording of the ROD and some of the conditions contained therein. The following is part of what the municipality submitted in challenging the ROD conditions. The municipality requested that:

- No further EIA should be undertaken for the petrol station as the scoping that was done was adequate to facilitate decision making.
- No further EIA should be undertaken for off-site roads and services since their application did not involve the land beyond the site.
- No further EIA should be undertaken for coastal erosion on the beach as the botanical specialist report recommended that the location of the buffer should be reviewed once there is a sound understanding of coastal processes. To the municipality, all that was necessary pertaining to this matter was to confirm the sitting of the development setback line during building.
- The details of cutting the central dune should be approved by themselves and not DECAS.
- The condition requiring an EIA in the future in case of any storm water outlet into the sea outside of the development area should be deleted as that would be a separate project.

Common Ground Consulting (CGC) were approached by the DECAS to conduct an independent review of an appeal submitted in terms of the EIA regulations against the ROD issued by DECAS. CGC reviewed the appeal and established numerous issues indicating that an adequate environmental assessment was not done for the said development (DECAS, 2002). The first issue CGC established was that the objective of the Development Framework provided an opportunity to structure future development of the area so as to optimise environmentally sensitive development. It was, however, noted that there was insufficient evidence in the supporting information to demonstrate that this objective would be achieved. Instead, the available information revealed that there was inadequate public involvement. For this reason there was a possible lack of confidence amongst users and residents in the area in the current framework. The documents also revealed that the methods of identifying and assessing issues and alternatives were not outlined. The second issue that CGC

established was that there was lack of clarity on issues such as those referred to in the conditions of approval. The third was that significant political pressure was exerted on the responsible officials to have the ROD attempt to address the shortcomings in the Scoping report by stipulating detailed and onerous conditions of approval. CGC further expressed a worry that a full EIA was not requested with the requisite specialist inputs like coastal dynamics, social impacts and tourism despite the nature and significant scale of the development. Reference was made to the Paradyskloof court case where it was ruled that major developments like major roads should be subjected to a full EIA process. CGC thus advised DECAS to consider the appeal in the light of the outcomes of the case. The review ended with a recommendation that additional information be provided regarding the issues, impacts and alternatives prior to the authorisation or refusal of such activities. CGC further advised that the request submitted by the municipality regarding the ROD conditions should be dismissed. According to CGC, the conditions were appropriate and had to be fulfilled by the municipality. Having noted all the above, CGC was convinced that the nature of the gaps in the information provided in the Scoping study should have been sufficient cause for DECAS to have turned down the application.

The City's appeal was upheld by the Minister (Annexure 1) but this ruling did not result in many changes to the ROD in terms of modifying the design or the need to preserve and improve the site's bio-physical character. The upholding of the appeal, firstly, modified the description of the activity in the ROD. In the ROD the description was generalised and did not include all activities. For example, while the ROD referred to the activity as residential, it was revised to read "high density residential, medium density residential and single residential". The filling station was not mentioned in the ROD but was included in the upholding of the appeal. Thirdly, the wording of the second paragraph on how the proposal was taken through the packages of plans was revised but still, according to the researcher's understanding, carried the same meaning. The list of the proposed activities was revised to accommodate the 1997 EIA regulations. Condition 2.1 which provided for the implementation of the EMS was deleted. At least seven other conditions were revised by substituting words with other words such as the substitution of the word "resort" by the word "area". It suffices to conclude that the recommendations of CGC, especially relating to further assessment as well as more information relating to

alternatives, impacts and issues did not prevail as per the reading of the attached revised ROD. The upholding of the appeal seems to have been clouded by political influence. On 19 November 2002 there was an e-mail communication between the officers from the municipality highlighting this concern. According to the communication, the Minister had reversed the recommendation from CGC unnecessarily. It was indicated in the communication that before this reversal of the recommendation by the Minister, there was a meeting between two municipal officers and the Mayor one night. The author of the communication said that the officers were not happy about what happened in that night's meeting. The communication does not spell out what exactly happened but there is a clear indication that something undesirable occurred and subsequently the Minister reversed the recommendation. It is not understood why the Mayor and municipal officials were involved since environmental authorisations are made in a provincial department. The communication, however, makes it clear that their meeting that night was related to the Minister's reversal of the recommendation from CGC.

3.4 The Big Bay Development Coordinated Planning and EIA Approach

As has been mentioned in earlier chapters, the planning of the Big Bay development was taken through the packages of plans approach. The second package of plans, the Development Framework, was commenced after Rabcav was appointed as the development facilitator. Rabcav, on behalf of the municipality, commissioned the planning and environmental consultants to prepare the development plan of the Big Bay development site at the same time. The Development Plan in this instance referred to all measures undertaken as a prerequisite to the development of the site. These included assessments, production of proposals, consultations and permissions required prior to the development of the site. Thus, the undertaking of the Development Framework and the environmental assessment commenced at the same time.

De Villiers and Brownlie Associates and the Planning Partners were the environmental assessment consultants and planning consultants respectively. These, hereafter referred to as the consultants, commissioned their respective processes

concurrently. In a meeting on 7 September 2000, the consultants presented to the municipality the proposed coordinated process that was to be followed throughout. The coordinated process (Figure 2) indicates the relationship and communication that was proposed between the planning and environmental assessment processes.

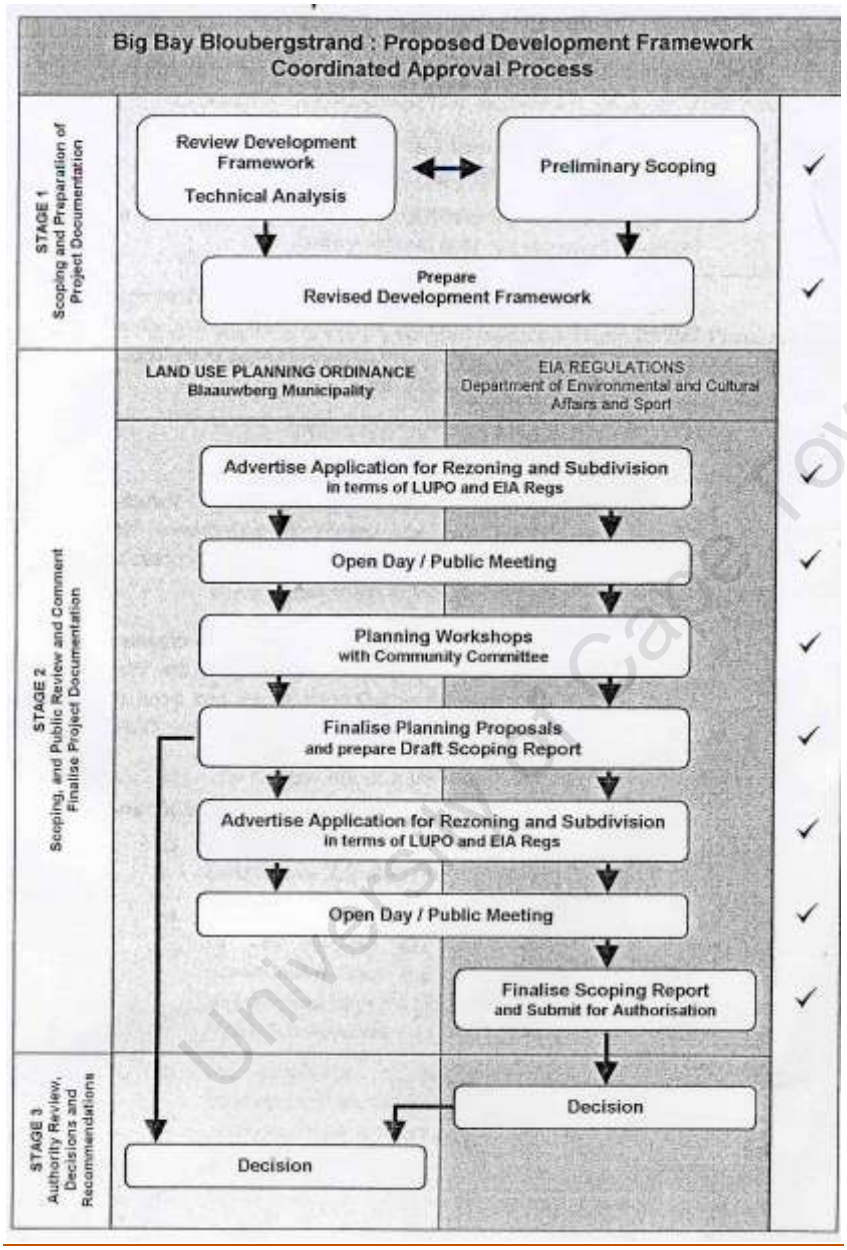


Figure 2. The Coordinated Process Source: (CCTM, 2001)

Figure 2 above illustrates the planning and the EIA processes running in parallel. The left column contains three stages in which the process was undertaken. The second and the third column contain what was undertaken in planning and EIA, respectively. The horizontal text boxes are the activities that took place under the two processes. The figure indicates that all activities were undertaken concurrently for planning and

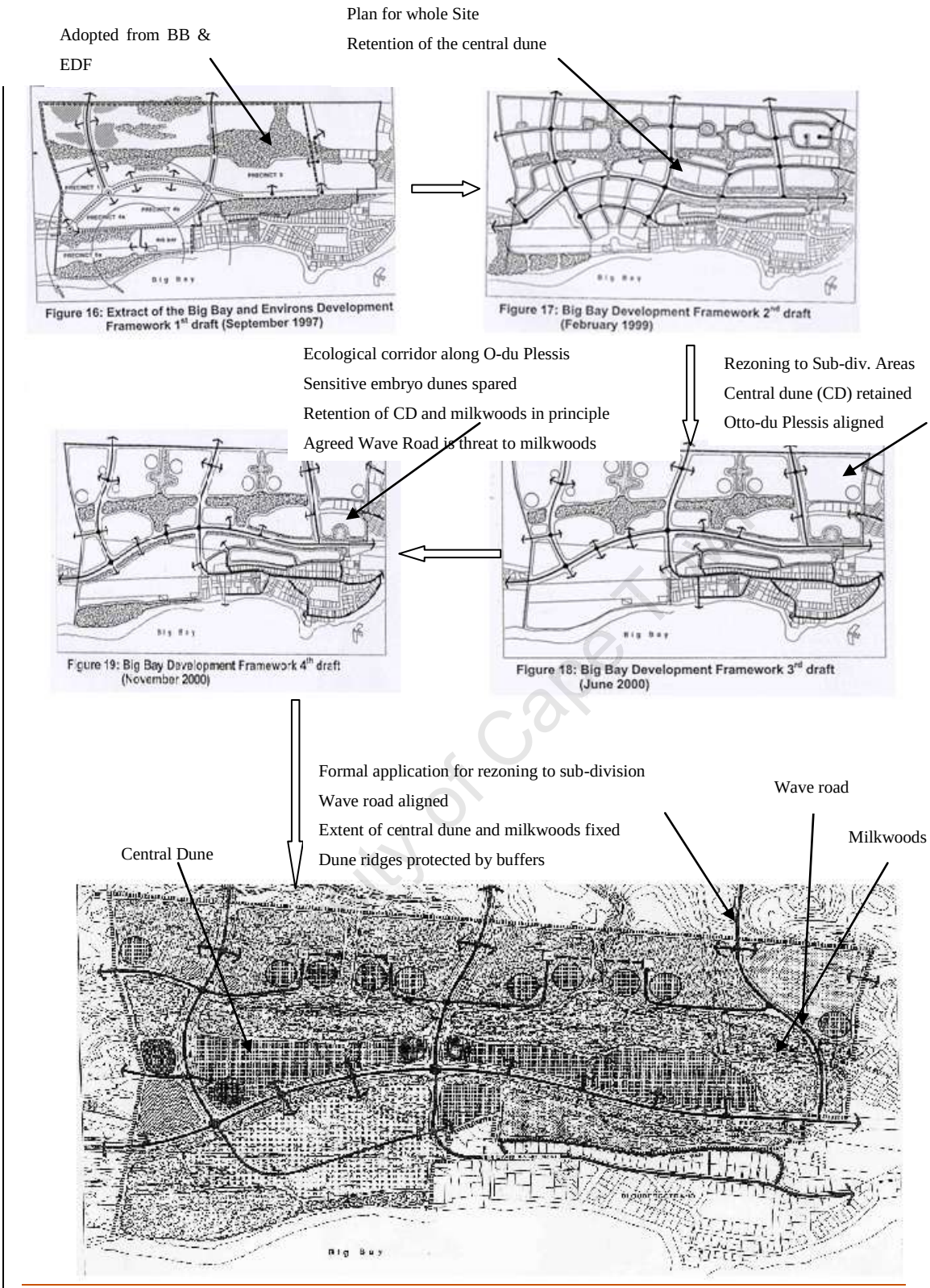
EIA except for decision taking. According to the arrows, the EIA decision was required as an informant of the planning decision; hence the EIA decision was to be taken first.

According to the documents that were analysed, advertising and consultations were undertaken jointly for the planning and EIA coordinated processes. The consultations with the Consultative Community Committee (CCC) were undertaken on the 11 September 2000, 12 October 2000, 30 October 2000, 8 November 2000 and 5 March 2001. During the consultations, the CCC made comments generally and the consultants addressed them accordingly in terms of planning and EIA. In all the five meetings, not many comments were made by CCC though. The comments are summarised below. The first comment was that the development of the site should not devalue other properties in the area. Secondly the committee raised a concern that the development may increase traffic loads on the local roads. The third comment made by CCC solicited the preservation of the natural form of the site. The committee requested that the site not be bulldozed flat. They also requested that Otto-du Plessis Drive should be re-aligned according to previous planning initiatives. The fifth comment related to how the development would affect water pressure in the area and the sixth was a suggestion that guidelines be prepared for future development on the site.

The comments from the aforementioned meetings significantly informed the fourth Big Bay Development Framework of November 2000. The fourth Big Bay Development Framework is one among a series of proposals that have resulted from the coordinated process. The modification of each design proposal was influenced mainly by inputs from specialist consultants and comments from I&APs. The first proposal was adopted from the Big Bay and Environs Development Draft Framework of September 1997. The draft framework was produced in the first package of plans. The proposal only considered the portion of the site in front of the central dune for development purposes. The future development to the east of the dune was indicated only on a conceptual level. The dunes on the site were identified for retention as character forming elements of the landscape. The second proposal considered the development potential of the entire site. It also proposed the retaining of the central dune as a sensitive landscape. The third proposal depicted few amendments from the

previous one. It illustrated the proposals for rezoning from undetermined use to sub-divisional areas. Otto du Plessis Drive was re-aligned while the central dune was retained. The specialist archaeological and botanical/environmental sensitivity studies were initiated at this stage. The fourth proposal is the outcome of the specialist studies and I&AP consultation. It provided for an ecological corridor along the entire length of Otto du Plessis Drive. The sensitive coastal dunes were also identified as unsuitable for development and were thus indicated as dune restoration areas. The retention of the central dune and the milkwoods found in the dune valley in the south of the site was accepted in principle. The extent to be retained was still to be determined. Wave Road was also identified as a threat to the milkwood communities and an alternative alignment needed to be found. The fifth proposal then formed the basis for a formal application for rezoning to sub-divisional areas. The proposal had realigned Wave Road and fixed the extent of the central dune and the milkwoods. The dune ridges were protected by means of buffers zones. A high dune to the west of Otto du Plessis Drive was retained due to its steep slopes and good quality vegetation, and formed a partial buffer between the development and the road. The generation of these proposals is illustrated in Figure 3 below.

At the end of the coordinated process decisions were made on the planning and environmental assessment applications. According to the schedule, the decision to grant environmental authorisation had to precede the decision to grant planning permission. A Record of Decision (ROD) for the environmental authorisation was issued on 29 November 2001. An appeal was lodged against the ROD on several grounds, as discussed previously. Planning permission was then granted later by means of a letter dated 11th April 2002, which substituted the one written on 26 March 2002. According to the officials, the first letter was withdrawn because the wording was incorrect in some respects.



Big Bay Development Framework 5th Draft

(March 2001)

Figure 3: Generation of Big Bay Development Framework Proposals Source: CCTM (2001)

The reading of the ROD, on the one hand, indicates that the Development Framework and other planning initiatives were among the factors that were considered in the decision making process. The environmental authority considered the regional context of the site as provided for by the first package of plans. It was noted that among other things, the site was on the urban edge, partially developable as well as environmentally sensitive. The ROD highlighted some vital environmental aspects of the Development Framework and listed them as conditions that needed to be complied with. The first was that the area west of Otto du Plessis Drive had to be predominantly residential to keep higher densities on the landward side. The second was that the development was not allowed on the dune conservation and management area. The ROD also spelt out the need to create an ecological corridor along the western side of Otto du Plessis Drive to reduce noise levels and enhance the visual integrity of the area. The ROD also appreciated that the issue of alternatives had been addressed by incorporating environmental aspects and mitigating actions into planning in an iterative process.

The reading of the planning approval, on the other hand, is not explicit in making mention of how the environmental assessment process or the ROD was incorporated into decision making. However, some environmental concerns were highlighted. It firstly re-echoed that the landward side of Otto du Plessis Drive had to be predominantly residential. The second was that the demarcation and development of management plans for all open spaces and environmental areas were to be submitted to the satisfaction of the City of Cape Town. The third was that the dynamic dune system in the north was to form part of the dune conservation and rehabilitation programme. It is worth noting that all these criteria were already captured in the Development Framework. Finally the permission mentioned that the approval is subject to further conditions in terms of any other applicable legislation including the ECA (73 of 1989) and the NEMA (107 of 1998).

The coordinated process was characterised by communication between the stakeholders that indicated that there was an exchange of information between the planning and environmental assessment processes. Most of the information indicated positive comments between the processes. There were, however, a few documents which indicated negativity among members towards the coordinated process. On the

31 August 2000, the municipal Director of Engineering and Planning wrote a memorandum to the Director of Planning and Economic Development, the Manager of Urban Planning and Economic Development, and the 'Urban Planning and Environmental' Officer. The memorandum highlighted that it had to be noted that the council was the owner and developer of the site. This therefore meant that standards were to be kept to a minimum to avoid excessive costs. The tone of the letter depicted displeasure on some of the requirements that were imposed by the actors on the Development Framework. In another instance, the municipality Project Review Coordinator sent a memorandum to the Manager of Urban Planning and Economics on the 1st December 2000. The memorandum was a follow up to a meeting that had been previously held. The objective of the memorandum was to inform all concerned that because the project concerned was massive, the site extensive, and the local authority was the owner of a valuable and significant asset, it had to be developed in an exemplary manner. The memorandum expressed concern that the value and opportunity offered and afforded by the topography was not being used to inform the Development Framework.

3.5. Conclusions on How the Big Bay Development was taken through Planning and EIA.

Chapter 3 has outlined in detail how the case study development was taken through the planning and EIA processes. The site is owned by the City of Cape Town municipality who engaged various consultancies to assess the development opportunities and constraints of the site. The consultancies recommended that the site be developed for residential and commercial facilities. The municipality adopted these recommendations and went into a joint venture with Rabcav as the development facilitator. Rabcav initiated the planning and EIA processes. These processes undertook some assessments of the site which in turn informed the development of the site. The assessment of the site revealed that it was characterised by several sensitive areas like dune system and rare plant species.

Planning, assessment and applications relating to the site were done according to the package of plans. These packages of plans include Contextual Framework, Development Framework, Precinct Plan, Site Development Plans and Building

Development Plans. The site was sub-divided into smaller precincts at every level of planning until individual buildings were sited in the precincts. The sub-division of the precincts respected the environmental sensitivity of the site as informed by the EIA. The planning process culminated in the presentation of a Development Framework and this was approved by the provincial Department of Environmental, Cultural Affairs and Sport (DECAS).

As for the EIA, assessments and applications relating to the site were undertaken according to the ECA (73 of 1989). The Act required some of the activities that were involved in the development to have an environmental authorisation. For instance, in planning, the EIA facilitated comments from the City of Cape Town municipality (CCTM) and advertisement of the application for public scrutiny. The general public did not raise any comments or objections. The comments were only received from the CCC during the consultative meetings. These comments were useful in ensuring an appropriate development on the site. Other than the comments from the CCC, the EIA specialist studies identified a number of issues that were incorporated in the Development Framework. The EIA process ended with a scoping report that, surprisingly, did not discuss environmental issues, impacts or mitigation measures. Rather it mentioned how the issues were identified and incorporated into the Development Framework. The report was approved with some conditions, and the municipality launched an appeal against the conditions. During the appeal, Common Ground Consulting (CGC) reviewed the appeal on behalf of, and commissioned by, DECAS. CGC indicated that the scoping report was not adequate such that it should not have been approved in the first place. CGC further noted that the development should have been subject to a full EIA instead of just a scoping report.

The successful outcomes of planning and EIA seem to have been enhanced by the way the two disciplines interacted in a coordinated manner, with a timely flow of information between the two. The coordination of the processes included joint consultation meetings and advertising for public scrutiny. The issues were gathered and addressed at the same time, and documents compiled simultaneously. Coordination of the two processes resulted in generic planning proposals that were informed by the EIA process. The processes ended with decisions taken on both, with approval of the EIA preceding planning permission. The reason for the staggered

times of decision are not known, although this is the usual practice. Ironically, the planning decision neither makes reference to, nor does it incorporate conditions from, the environmental ROD. The environmental issues that were raised in the planning approval were those that had already been incorporated in the Development Framework. The coordinated process was negatively affected by some actors who appeared to have been reluctant to incorporate environmental issues in the Development Framework. This reluctance was noticed in the memoranda that were served between municipal officials. One of the memoranda contained a plea to disregard environmental issues in order to minimise the project costs, while the other raised concern that environmental issues were being ignored.

4. FINDINGS FROM RESEARCH

This chapter outlines the findings of research from both the case study documents that were analysed and the interviews that were undertaken. Eight actors that played a role in the Big Bay development were interviewed. Four persons from the City of Cape Town, the local authority or municipality, were interviewed. These were the Blauuwberg area Councillor, the Director of Engineering and Planning, the Manager of Planning and Environment, and the Environmental Officer. Most of them no longer hold the positions they held during the time of the development. Also interviewed were the Development Facilitator, the Planning Consultant, the EIA Consultant and the Botanical Specialist. The representative of the province was never available for an interview. The people interviewed were required to give information relating to planning and EIA in the Big Bay development. They also had to provide any general information that would facilitate understanding of the case study development. The findings are arranged in sections that correspond to the objectives of the study. The first objective is not discussed because it required the documentation of information from the case study documents, which has already been done. Thus, the findings are outlined from the second objective onwards.

4.1. The Timing and Extent of Interaction between the Planning and EIA Processes for the Big Bay Development

The second objective of the study was to identify the timing and extent of interaction between the planning and EIA processes. The interviews and document analysis revealed that in the Big Bay development, planning and EIA interacted closely. The timing of interaction was well coordinated such that each process provided the information required in the other process, at the time it was required. The development facilitator designed a flow chart demonstrating this flow of information in terms of timing. The flow chart is reproduced below to illustrate the interaction in the processes. The information in the flow chart corresponds to the information obtained from the analyses of documents.

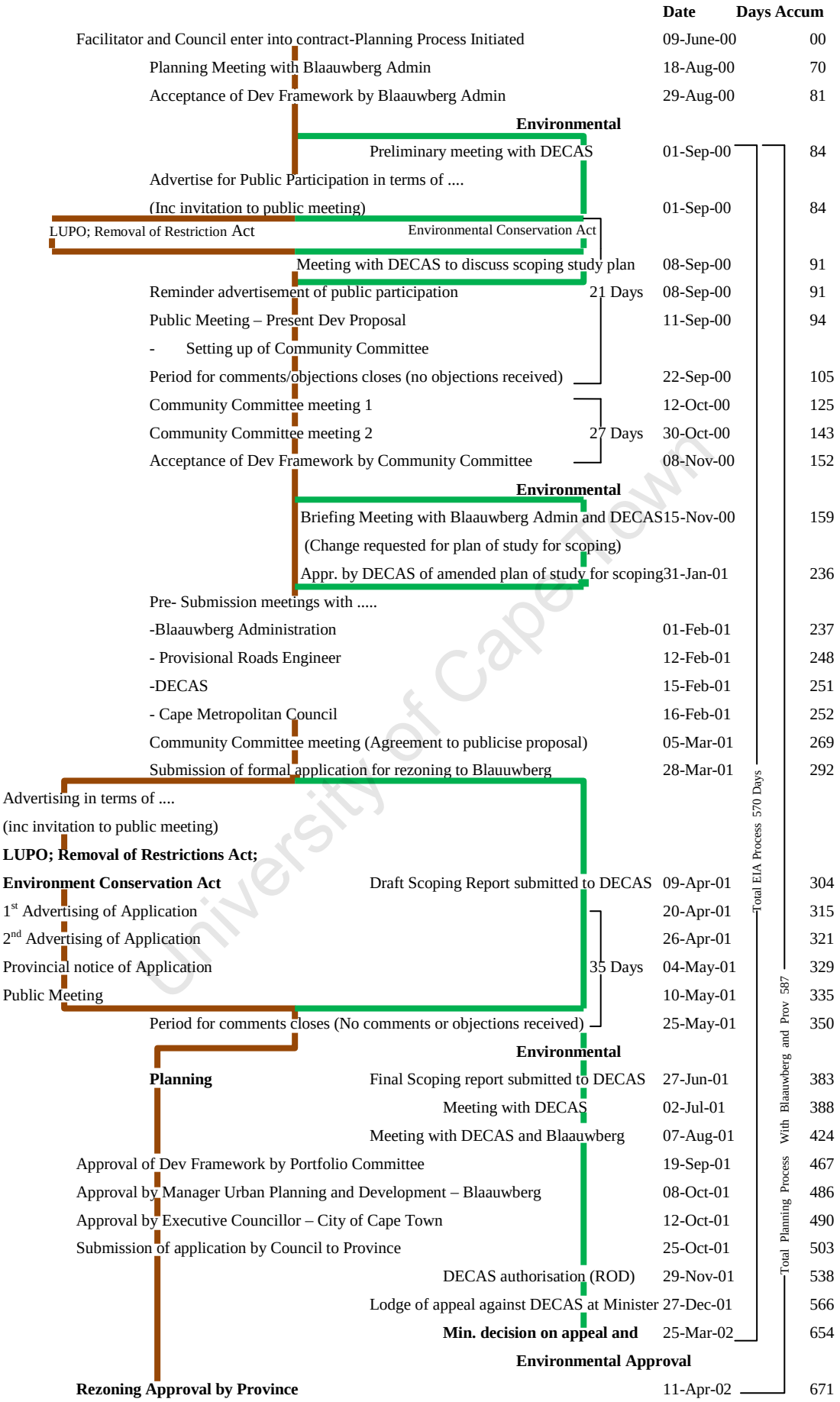


Figure 4. Big Bay Development Planning and EIA Activity and Time Line Source: Rabie

Figure 4 illustrates that the planning process for the Big Bay development took 587 days, or one year and seven months, and the EIA process took 570 days, which periods ran concurrently. The brown line represents planning and the green line represents EIA, with the two processes running in a coordinated manner. The points where the two lines meet, illustrate an exchange of information between the two processes. The flow chart also indicates times within which activities were undertaken and it was believed by the interviewees the times are shorter between the activities. This flow chart indicates that neither of the two processes was delayed in proceeding to the next activity. It is again indicated in the flow chart that neither of the processes proceeded to the next stage without all the necessary information. As also found from the documents that were analysed, the meeting of the Community Committee on 12 October 2000 concerned the presentation of development opportunities and constraints. The following two meetings of 30 October 2000 and 8 November 2000 were for presentation of the archaeological and botanical findings, respectively. In the latter meeting, the consultant planner also made a presentation on how the planning proposals that were presented in October had been changed to incorporate the botanical findings. This indicates that within one month from the previous presentation of proposals, the planners had incorporated the botanical findings. This not only demonstrates that the two disciplines interacted well, over time, but also influenced the outcomes of each other.

Figure 3 in Chapter 3 illustrates the iterative development proposals in the preparation of the Development Framework. From the second proposal to the third 16 months lapsed. Between the third and the fourth proposals five months lapsed while four months lapsed between the fourth and the fifth. The proposals do not only indicate how time was saved by the coordinated processes but the extent of interaction as well. The extent of interaction is evident again in the representation of the two disciplines in all the consultation meetings. By implication, all the concerns raised were interchanged between the processes there and then. For example, the CCC was informed that the dunes were to be flattened to provide space for developments in the meeting of the 12 October 2000. The CCC objected and informed the EIA Consultant to make sure that the natural form of the site was not going to be tampered with. Since planning was also represented in the meeting, the comment was noted immediately and the next proposal incorporated this request. The above findings appear as if in the

interaction of the two it is only the EIA that provides information. This is not the case. The development proposals were fed into the EIA and EIA used them to further assess the implications.

The interviewees really appreciated the way the two processes were undertaken in the case study development. They said in most cases they do not interact in that way because it is not a legal requirement. Their concern was that lack of coordination between planning and EIA results in extensive time frames. These time frames cost the environment as well in that at the end there is not enough money available for environmental management and conservation.

4.2. Characterising the Nature of Interactions/Relationships between Actors Involved in Planning and EIA Processes

The objective discussed in this section sought to characterise the relationships of actors from these two disciplines in the case study. Interviews and document analysis were undertaken to investigate these relationships. The findings are therefore outlined in this section. The characteristics that were found dominant are cooperation, conflict and power abuse. They are described below.

4.2.1. Cooperation

There was clear cooperation between most of the actors, demonstrated in the way they related to each other. There were good relationships between the project team and the members of the public. This was demonstrated by the way members of the public were accorded an opportunity to air their views in all the meetings that were undertaken. The project team ensured that the public's comments were incorporated into the development proposals. Members of the public also demonstrated loyalty by attending all of the scheduled meetings. Cooperation was also noted between the planning and EIA facilitators in the way the processes were run in a coordinated manner. In most of the meetings there were indications that comments were adequately addressed.

4.2.2. Conflict and Abuse of Power

Some of the documents indicated that there were, in some instances, conflicts between the actors. The first conflict was evident between the roles of planning and EIA. There was a memorandum that was served by the municipal Project Review Coordinator to the Manager of Urban Planning and Economics. The memorandum was a follow up to a meeting that had been previously held. The objective of the memorandum was to inform the economist that the project concerned was massive, the site extensive, and the local authority was the owner of a valuable and significant asset, and the site had to be developed in an exemplary manner. The memorandum expressed concern that the value and opportunity offered and afforded by the topography was not being used to inform the Development Framework. This memorandum suggests that, at that point, planning had not considered the outcomes of the environmental assessment.

The second conflict was between the municipality, in its capacity as the project owner and the developer, against the EIA and planning processes. On one occasion, the Director of Engineering and Planning wrote a memorandum to the Director of Planning and Economic Development, the Manager of Urban Planning and Economic Development, and the Urban Planning & Environmental Officer. The memorandum highlighted that it had to be noted that the Council was the owner and developer of the site. This therefore meant that certain standards (which were not mentioned) were to be kept to a minimum to avoid excessive costs.

The third conflict was between the politicians and the officials that were involved in the project. The EIA was reviewed by a private reviewer commissioned by the province. The reviewer was strongly critical of many aspects of the EIA and recommended that the development be refused by the provincial environmental authority. An e-mail communication between the municipal officers was picked indicating that the recommendation for refusal from the reviewer was subsequently not adopted by the Minister and the EIA was approved. Following up the matter, the author of the e-mail communiqué contacted the municipal officers who were closely involved in the project and asked them if they were aware of what had happened. The officers confirmed they were aware since they were called in by the Mayor one night in that regard. The officers spoke of the “conniving process” and are said to have been

unhappy about what happened. The notes from the reviewer's report on the appeal of the ROD are outlined in Chapter 3 and indicate that indeed they were not satisfied with the EIA. They noted that the environmental authorisation was surrounded by political pressure on the provincial officials to write an ROD that did not depict exactly what was contained in the EIA report. The report did not indicate from where the political pressure was coming. In this last instance emerges another characteristic whereby those that have power misuse it to make questionable decisions. It is indicative that the Mayor and the Minister pushed for the approval of the EIA notwithstanding the fact that the reviewer found it incompetent to inform appropriate development.

The conflicting nature of relationships was also highlighted in the interviews. The development facilitators were characterised generally by all interviewees as people who seek to optimise financial returns. In the Big Bay development it was said that the development facilitator was always engaged in debates with the botanical specialist and the environmental officer. The environmental officer was described as somebody who was dedicated towards the environment. Due to her nature, she was most of the time in debate with the development facilitator and planners. According to the municipal Environmental Officer, the municipal Finance Officer put pressure on the development team because they wanted to optimise financial returns. She therefore had to stand her ground to ensure that the environment was given due consideration.

4.3. The Contributions/Outcomes of Planning and EIA Processes in Big Bay Development.

This section considers the outcomes of planning and EIA in informing an appropriate development. The contributions considered are those that relate to the bio-physical aspects of the site. The investigations on these contributions were done through the undertaking of interviews and the analysis of documents. The findings are firstly outlined for the contributions of planning then secondly for the contributions of EIA.

4.3.1. The Contributions/Outcomes of Planning to Bio-Physically Appropriate Development

The interviews and the documents that were analysed revealed that planning had a role in facilitating an appropriate development in terms of dealing with the bio-physical environment. In every package of plans there were noticeable contributions to bio-physical aspects of the site. The first was the contextual package of plans which a number of initiatives were undertaken to facilitate the planning of Big Bay. The draft Metropolitan Spatial Development Framework (draft MSDF, 1996) was the first to make notable bio-physical contributions concerning the Big Bay site. The draft MSDF incorporated the entire Big Bay coastal strip into the Metropolitan Open Space System thus emphasizing the environmental value of the area. Otto du Plessis road was identified as a scenic route. There was a proposal to move the Otto du Plessis Road further away from the sea to create a larger coastal recreational node. The idea was to increase the space between the sea and the road to have more area for recreation. In the succeeding planning stages, the space was, however, developed for houses and shops. Other principles from the MSDF were reiterated in all the succeeding initiatives under the Contextual Framework. The initiatives also specified the nature of the envisaged development in terms of land uses. The details included identifying the areas for residential use, mixed use as well as open spaces. The intensity of development in each area and the development height profiles were also identified. The purpose of these specifications was to keep higher densities further from the sea and the mobile dunes.

The second package of plans was the approval of the Development Framework. This package of plans spelt out the overarching frameworks, policies and main principles. As mentioned in Chapter 3, it was at this level of package of plans where development opportunities and constraints were identified. The constraints were mainly the bio-physical aspects of the site including the dune system, the coast, special plant species and some notable landforms. The participants were informed during a consultation meeting that the dunes were to be flattened to facilitate the development of the site. It is a fortunate aspect of planning to have consultation of I&APs. In the meeting, the I&APs hastened to advise the planners that the dunes as well as the general natural form of the site must be preserved. Through this intervention, the bio-physical form of the site was preserved to some degree. The

planning approval also highlighted the environmental issues that were raised in the Development Framework by way of emphasising their consideration. Thus, the outcomes of planning at this stage had an implication on the outcomes of the final decision as well.

The third package of plans was the Precinct Plan. This package of plans entailed detailed policies, design guidelines; precinct layouts, access and densities. The package of plans facilitated the delineation of plots and infrastructure servitudes. In doing this, the open spaces were clearly defined; routes aligned in such a way that selected bio-physical aspects of the site were conserved as per the approval document. The outcome of this package of plans was approval of a document that, among other things, defined in detail the extent of the bio-physical elements that were to be conserved.

Site Development Plans were the fourth package of plans. The building footprints, circulation, services, landscaping, detailed design guidelines for every precinct were approved at this level. This package of plans is much similar to the precinct plans package of plans except that SDP is at a lower level. They both include delineation of the site into smaller parcels. The parcels produced from the precinct package of plans are known as plots while those produced from the SDP are termed development footprints. SDP sub-divides the precincts that resulted from precinct plans. In the case of Big Bay, a number of precincts, including residential and smaller commercial plots, had their site plans designed without major bio-physical implications. This was due to the fact that small as they were, plots were recommended for a particular use from higher efforts of planning. Thus, a small piece of land in a plot was already suitable for what it was designated for. According to the Consultant Planner, SDP would have played a major role on Big Bay if the site was developed as a single entity. Now that the site was subdivided into finite precincts, SDP was done at a level where it had little effect on addressing the environmental aspect of the site. Only a few larger plots like the commercial node had a rigorous SDP undertaken. Bigger plots normally would span across a number of bio-physical elements. This was the case with the coastal node plot. Some of the bio-physical restrictions that affected the plot were established at higher planning efforts like the conservation of the dune system. Some other factors were established during the SDP site reconnaissance. These included the

wind direction and the air breezes. The consideration of these elements facilitated the planning for the building orientations and height profiles. After SDP, the next stage was the approval of buildings and this had not many outcomes in terms of informing appropriate bio-physical development.

4.3.2. The Contributions/Outcomes of EIA to Bio-Physically Appropriate Development

All the interviewees generally believed that an EIA is necessary to inform appropriate development in terms of the bio-physical environment. The Director of Engineering and Planning gave an example of the Dolphin Beach Hotel. The hotel was originally planned for a site further north but the EIA made an assessment and revealed that the site was more prone to erosion. The municipality then swapped a public open space and the hotel site with the developer. A number of outcomes were noted from the interviews and documents concerning contributions of EIA to the Big Bay development. The EIA process started with the preliminary scoping identifying environmental informants that were applicable to the Big Bay area. These included identification of set-back lines and sensitive areas. The scoping stage followed and was marked by frequent consultation meetings with the CCC. The consultations were essential in helping to preserve the bio-physical aspects of the site. The CCC members made sure at every meeting that proposals did not incorporate developments that would cause the site to lose its natural form or devalue their properties. The scoping stage concluded with a report that incorporated the findings of the botanical specialist. The findings included a number of bio-physical elements of the site and advised on how they could be treated, such as:-

- Some indigenous plant species that were to be removed during construction were retained and re-planted in the road reserves at the end of the realigned road construction.
- The site was infested with alien species and it was recommended that these be replaced with indigenous species. The alien species included Acacia Cyclops (Rooikrantz) and Acacia Saligna (Port Jackson) originating from Australia.
- The primary dune ridges required a twenty five meter buffer zone. The buffer zone was to add greenery to the development and avoid the dune from crumbling into the houses.

- There is a part of the site to the north that planning proposed for development but the EIA identified as unsuitable because there were sensitive mobile dunes on the area. This area was not developed.
- The area of the mobile dune was to be protected and rehabilitated.
- Set-backs from the sea and the dune ridges were to be maintained.
- Wave Road was to be re-aligned to reduce the impact on the milkwood communities.

There are some parts of the site, however, where the development was not appropriately informed in terms of conserving the bio-physical environment. These parts included the developments that are very close to the high water mark on other portions of the site. Due to these developments the interviewees believe that coastal erosion has become more prominent now than it was nine years earlier. The green space is not as successful as should have been. There were a number of complaints from the interviewees about the development densities on the site. Most interviewees believed that the site development is too dense.

The company that reviewed the EIA for DECAS, CGC, noted that the EIA was not satisfactory. This was due to the fact that the EIA did not cover all the necessary issues. The issues that were not covered included firstly, active involvement of members of the public. Secondly, the scoping report did not discuss the assessment of individual impacts as well as mitigation measures for each impact. The EIA consultant acknowledged that the report did not discuss some of the issues. The reason he gave was that there was no need because the issues were already identified and incorporated in the plan. The report was merely a formality to explain what had happened.

4.4. To Evaluate the Outcomes of the Big Bay Development EIA against the Theoretical Underpinnings of SEA

The interviewees believed that Strategic Environmental Assessment (SEA) is necessary and should be undertaken for most of the areas in South Africa. They said that SEA assesses the broader area and can identify areas that are suitable for development and those that are not. If SEAs are done, EIAs can then be done only for

areas where some critical issues have been identified. The interviewees thus held that SEA and EIA are different and equally relevant hence the two were necessary to inform the Big Bay development. The Big Bay development EIA was subjected to the theoretical underpinnings of SEA outlined in Chapter 2. It was found out that indeed an SEA was required as the EIA did not fulfil some of the tasks said to be undertaken by SEA. The findings on how the Big Bay development EIA compared to the theoretical underpinnings of SEA are outlined below.

The first theoretical underpinning is embedded in the definition that SEA is a process of evaluating the environmental impacts of a policy, plan or programme. It was found that the Big Bay EIA was undertaken because of the listed activities identified in Schedule 1 of GN No. R1182 of 5 September 1997. The activities are development projects including upgrading of electrical facilities, construction of routes and change of land use. These are not a policy, plan nor programme, but are projects that would be implemented as part of a plan for a residential and commercial development

According to the Department of Environmental Affairs and Tourism (DEAT, 2000), SEA focuses on the maintenance and enhancement of a chosen level of environmental quality, rather than on minimising individual impacts. It identifies the opportunities and constraints which the environment places on development. This characteristic forms the second theoretical underpinning of SEA against which the findings are compared. The Big Bay development EIA report did not discuss the assessment of the impacts of the development on the environment. It only identified all the bio-physical aspects of the site. It then recommended that developments should be kept away from the sensitive areas including the dunes and milkwood thickets. In this instance the EIA identified the constraints just as SEA is said to be doing.

Unlike EIA, SEA integrates across areas, regions or sectors (DEAT, 2000). This forms the third theoretical underpinning of SEA. The understanding is that the environmental assessment done through an SEA would have looked at Big Bay in its regional context. In that instance, an assessment would evaluate environmental findings in relation to various land uses and policies that relate to the area from Blaauwberg to Melkbos or even beyond. The Big Bay development EIA considered only the bio-physical environment within the boundaries of the development site.

The fourth theoretical underpinning mentioned by DEAT (2000) is that SEA improves the way in which cumulative effects are dealt with in environmental assessments. The Big Bay development EIA did not address the cumulative effects of the development and other similar developments, both implemented and planned.

The fifth theoretical underpinning of SEA is that it is proactive to development proposals while EIA is reactive. The Big Bay development started after the area was already earmarked for development. The EIA focused only on trying to avoid and reduce impacts and not on identifying whether the area was necessary for urban development, and was thus reactive.

The sixth theoretical underpinning of SEA is the one that sees EIA as excessively rigid and that it has a typically compressed time scale. These factors affect the quality of public participation and limit the techniques and procedures for monitoring impacts. It is hard to evaluate this theoretical underpinning of SEA against the outcomes of the Big Bay EIA. This is due to the fact that there was no measure that could be used to observe whether the public participation and the techniques that were used were adequate or not. Common Ground Consulting, however, reviewed the EIA and said that the fact that there were no objections from the public indicated that they were not actively involved in the process

Of the six theoretical underpinnings of SEA, the case study development met only one. The EIA identified the opportunities and constraints which the environment placed on development as SEA is said to be doing. Otherwise, the EIA did not inform the policies and plans that were undertaken at the contextual framework package of plans. EIA just came in after the policies and plans had identified the area for development. This is the reason EIAs are said to be reactive. The case study EIA did not address the impacts; individually and cumulatively, of the development beyond the site. The reviewer of the EIA raised this as well as inadequate public participation as some of the shortcomings of the case study EIA. In other words, according to the reviewer, the fact that impacts were not addressed and adequate public participation not done indicates the failure of the EIA and not that an SEA was required.

4.5. Conclusions on the Findings of the Study

This chapter outlined the findings of the study. It began with the findings that emanated from the second objective of the study. This objective was to identify the timing and extent of interaction between the planning and EIA processes. Under this objective, it was found that the planning and EIA processes exchanged information which resulted in changes to the outcomes of both processes. The flow of information was facilitated by the way the two processes were structured and timed. The processes were coordinated such that the members of the project team were always working together exchanging information from time to time. The interviewees said their wish is to see this kind of relation between the processes more often.

The third objective of the study was to assess the nature of relationships between the actors in the case study development as relationships can define interaction and ultimately outcomes. The study found out that there was cooperation, conflict and power abuse. Cooperation was demonstrated between the project team and the members of the public as well as between planning and EIA facilitators. Conflict was noticed between the roles of planning and EIA. Some actors in the planning process did not want to incorporate the environmental issues into the proposals. Conflict was also noticed between the municipality as a developer and the EIA and planning processes. Some organs of the municipality highlighted the need to minimise costs by keeping standards low. There was a concern that the whole project was becoming expensive, while the environmental department insisted on imposing many restrictions on the Development Framework. The other conflict was noted between the politicians and officials. A communication between municipal officials as well as the EIA review report indicated that the EIA was approved through political pressure. There developed a friction between the Mayor as well as the Minister and the officials. One more conflict was noted between the development facilitator and the EIA process. It was said that the development facilitator was always engaged in debates with the botanical specialist and the environmental officer. The former solicited more development and the latter solicited more vegetation on the site.

The fourth objective was to assess the contributions of planning and EIA in informing bio-physically appropriate development in the case study. The contributions of

planning were outlined first according to the packages of plans. The contextual package of plans facilitated the incorporation of the entire Big Bay coastal strip into the Metropolitan Open Space System. It also facilitated the proper distribution and heights of development on the site. This was not, however, completely achieved since the interviewees complained about high densities and lack of adequate conservation areas. The second package of plans facilitated incorporation of environmental issues into the Development Framework. The issues were mainly the bio-physical aspects of the site including the dune system, the coast, special plant species and some notable landforms. The Precinct package of plans facilitated the delineation of plots and infrastructure servitudes. In so doing, the extent of the bio-physical elements that required conservation was defined in detail. Site Development Plans facilitated further environmental assessment of larger plots like the commercial node. The package of plans determined a number of environmental issues that were considered in the development of the coastal node. The last package of plans was the approval of buildings and this had few aspects that related to informing appropriate bio-physical development.

The contributions of EIA were noted from preliminary scoping when the environmental informants were identified. These included identification of set-back lines and sensitive areas. The scoping stage followed and it incorporated a number of environmental issues that emanated from the botanical specialist report. The issues included conservation of the dunes and 25m buffer zones on both sides, conservation of indigenous species and observance of the set-back lines. While this much has been attributed to the EIA, the reviewer of the report questioned whether the EIA had done enough in terms of discussing the environmental issues, impacts and mitigation measures.

Finally, the section outlined the findings from the comparison of the case study EIA and the theoretical underpinnings of SEA. It was found that the EIA did not match five out of the six theoretical underpinnings of SEA, and that the Big Bay development EIA was undertaken for activities including upgrading of electrical facilities, construction of routes and change of land use. Again, SEA is said to integrate across areas, regions or sectors (DEAT, 2000). The understanding is that the environmental assessment done through an SEA would have looked at Big Bay in its

regional context and the EIA did not do this. EIA did not address the cumulative impacts as SEA is said to be doing. The EIA was found to be reactive in that it came only after the area was already earmarked for development. SEA sees EIA as failing the quality of public participation and limiting the techniques and procedures for monitoring impacts. Common Ground Consulting (CGC) found that the EIA did not facilitate adequate public participation, on the grounds that there were no objections to the development. CGC felt that, if the project had been given greater publicity, more objections would have been registered. This may be so, because objections to the development were made at the outset in an article in the Saturday Argus Newspaper (2001) and by the management of the Blaauwberg Wildlife Botanical Garden. However, relying on the presence or absence of objections as a measure of the adequacy of public involvement may be faulty reasoning. Lack of objections may mean that the development was not opposed by members of the public.

Having described the findings of the case study investigation of the respective roles of planning and EIA in the Big Bay development, the following chapter discusses and interprets these findings with reference to the literature outlined in Chapter 2.

5. DISCUSSION OF THE CONCEPTUAL AND EMPIRICAL FINDINGS

This chapter discusses how the findings of the research informed the goals of the study. The study had two goals which were, firstly, to determine the respective contributions of planning and EIA in the decision making processes pertaining to the bio-physical environment. The part of the research further assessed the role of EIA in the absence of an overarching SEA. The second goal was to evaluate the extent to which EIA and planning processes complement each other, or otherwise. These goals related specifically to the Big Bay development. The chapter is divided into two sections according to these two goals and interprets both the conceptual and empirical findings of the research.

5.1. Respective Contributions of Planning and EIA towards Bio-Physically Appropriate Development

In the conceptual part of this research, the study reviewed literature relating to the roles of planning and EIA in informing appropriate development. The literature was also reviewed concerning the varying roles of SEA and EIA. This latter part was meant to address the last part of the goal of assessing the role of EIA without an overarching SEA. The review further defined the characteristics of the coast as a sensitive environment because the case study is set in a coastal environment. In the empirical part of the research, the documents of the case study were analysed and interviews undertaken to ascertain the roles played by planning and EIA. Their roles were evaluated on how they informed an appropriate development for the Big Bay coastal environment. Chapter 3 described in detail this coastal environment and the development proposal. The findings of both the conceptual and empirical research are discussed below. The nature of the site as a sensitive environment is discussed first followed by the roles of planning and EIA respectively. The chapter concludes with a discussion on what could have been achieved were an overarching SEA prepared.

5.1.1. The Big Bay Site in the Coastal Environment.

According to Beer and Higgins (2000), people are complex in the way they use land, with culture changing over time in a way resulting in a different relationship between people and the land. This study observed that there is an emergent culture where people want to have developments as close to the sea as possible. This culture is

becoming dominant along the West Coast of South Africa and it results in pressure on ecosystems. It is unfortunate that those that undertake developments are ignorant of the impacts their developments pose to nature, which is also humanity's life support system. Moreover, the coast is one of the most sensitive environments that require maximum care and preservation.

Gillespie *et al.* (2000) describe the coast as a complex environment which includes both terrestrial and marine components. This study noted that the Big Bay development is not an exception, and the botanist confirmed that there are complex processes at work in the Big Bay coastal zone. The site was found to consist of largely undulating sand dunes, ridges and valleys. It is also characterised by numerous sensitive sites including mobile coastal dunes, dwarf dune thicket on coastal dunes, and the high dune ridges and steep slopes in the central north-south dunes. There are 188 vegetation species existing on the site of which three are on the red data list of threatened species (CCTM, 2001). Sensitive as it is, the development was allowed to go ahead on the premises that planning and EIA would take care of the sensitivity of the environment. The sections below discuss the manner in which these disciplines recognised and preserved this sensitive environment.

5.1.2. The Role of Planning in Informing the Case Study Development

Hall (1980, p. 1) defines town planning as "a process whereby decision makers engage in logical foresight before committing themselves". This definition implies that planning is responsible for determining the nature of developments proposed for certain areas. Strategic planning was undertaken for the Big Bay development and that was the earliest stage where decisions were taken concerning the development in relation to the bio-physical environment. The decisions made included preservation and maintenance of the central dune. The Big Bay coastal strip was incorporated into the Metropolitan Open Space System. Planning went a step further to facilitate designs that incorporated the site opportunities and constraints that were identified by the EIA. The constraints were mainly the bio-physical aspects of the site including the dune system, the coast, special plant species and some notable landforms. These constraints were properly outlined in the planning process and set aside from development. The addressing of these bio-physical aspects of the site satisfies the role

of planning as described by Parfect and Power (1997), which is to preserve environmental quality. This role of planning was further made possible by its requirement for public participation. In the process of strategic planning, members of the public were consulted and they repeatedly recommended the preservation of the environmental values of the site.

Planning was proactive at the strategic level in identifying some of the bio-physical aspects of the site that required preservation. Thereafter, much of what it did was to incorporate environmental issues into design as identified by the EIA. The interviewees and the analysis of documents indicated that there was, however, some resistance at times to incorporating environmental issues into the Development Framework. The interviewees said planning sought after high densities and these are said to have been achieved. It is evident from the completed development that planning was willing to address environmental issues but that was not seen as a priority over development. The character of planning described by Parfect and Power (1997) of maximising development at the expense of environment was thus evident in the planning of Big Bay development.

The objective of planning to maximise development was, in fact, initiated at the strategic level. All the initiatives that were undertaken at the strategic planning reiterated that the site was on the urban edge and hence required development densification to contain urban sprawl. The objective of planning was good, to contain urban sprawl. Ecosystems beyond the current urban edge are under constant threat from further sprawl of urban development. The unfortunate part is that, in this good intention, planning did not do much to assess if the site was at all suitable for such dense development.

It is necessary at this point to emphasise that the planning of Big Bay development was done through packages of plans. The Western Cape Planning Authorities found it necessary to introduce a system to facilitate efficient consideration of development applications. Without this arrangement, the planning of Big Bay would probably have started with site development planning (SDP). In fact, most of the smaller plots in the Western Cape just begin from SDP. Lynch and Hack (1993) define SDP as an art of arranging structures on the land (site) and shaping the spaces between. Through this

definition, SDP aims for enhanced moral values and aesthetics: to make places which enhance everyday life. The findings of this study identified that, while SDP featured at a later stage, it made an attempt to address some of the environmental issues that were not addressed earlier on. Some of these issues include the directions of winds and sun movement. These issues were identified in the planning of the coastal node because it was the biggest plot. The role of SDP was evident on this larger plot as compared to smaller plots. In fact, as for smaller residential and commercial plots, the SDP layouts were not subject to environmental assessments. The assumption was that the entire piece of land in such small parcels portrays a uniform character which was found suitable for development. It can therefore be concluded that the role of SDP adds more value to the bio-physical environment the larger the size of the area dealt with.

Generally, planning played a major role in addressing the bio-physical aspects of the site. In the absence of any form of environmental assessment, strategic planning made an effort to identify some environmental constraints. Again, in the preparation of the Development Framework, with EIA having identified environmental issues, planning incorporated them into design proposals.

5.1.3. The Role of EIA in Informing the Case Study Development

There are a number of noticeable outcomes of the EIA for the Big Bay development. In the early stages of the preparation of the Development Framework the EIA facilitated the identification of environmental informants. The proposals were designed around the environmental informants. In the middle of the undertaking of the Development Framework, the EIA commissioned some specialist studies and the botanical study. The findings of the botanical study informed how the sensitive areas like dunes, the coast, and rare plant species should be handled. These findings were incorporated into the development and some buffer zones where development was excluded were provided around the sensitive areas. Finally, the EIA compiled information in a report that was submitted to the province for the purpose of obtaining an environmental authorisation. A record of decision (ROD) was issued by the authority which spelt out some of the environmental issues that needed due consideration during the development. Just like planning, the EIA process included

public participation. The participants helped in identifying some of the environmental issues.

The South African EIA regulations of 1997 defined EIA as a process of collecting, organising, analysing, interpreting and communicating environmental information that is relevant to the consideration of development applications. The extent to which the EIA satisfied the above definition is questionable. The company that reviewed the EIA after the appeal against the ROD identified a number of issues that were not adequately addressed. One of these issues was that not all of the necessary specialist studies were commissioned. The reviewer highlighted that due to the nature of the site, coastal dynamics, social impacts and tourism studies were required. The reviewer also identified that for the members of the public to have raised no objections it was clear evidence that consultation had been inadequate. The Big Bay site was an internationally renowned tourism facility and it would have been unlikely that members of the public would be silent on its re-development. The other inadequacy of the EIA was that the nature of development required an extensive assessment of impacts, issues and identification of appropriate mitigation measures. A full EIA report was also required for the development, rather than a scoping study alone. Surely, without some of the above being done, especially the specialist studies, there may be some issues that were not picked up in the scoping process. Should there be any that were not picked; problems may emerge at a later stage.

De Villiers and Hill (2007) highlight some of the ways in which EIAs fail. Firstly, the EIA is reactive as it is normally introduced long after the inception of projects. It therefore places emphasis on impact mitigation rather than proposal modification. This is true in the context of the Big Bay development EIA since it was introduced after the decision to develop the site had been taken. The EIA just accepted that the site was to be developed for residential and commercial facilities and did not attempt to find alternative developments. Secondly, EIAs undertaken on small parcels of land results in fragmentation of ecosystems. As a result vast landscapes end up being fragmented because the development assessments are done piecemeal. The earlier planning efforts realised that an environmental assessment was required along the entire Blauuwberg to Melkbos coastline. The EIA, however, concentrated only on the Big Bay development site. The environmental issues that were raised in the

development process were limited to site specific concerns. Issues relating to what happens elsewhere that could affect, or be affected by, the development site were not investigated and are not known. Thirdly, the failure of EIA De Villiers and Hill (2007) highlighted is that EIA is often largely oblivious to cumulative impacts. The scope of study is often limited to activity and site, and does not adequately consider the surrounds and long term aggregated effects of repeated impacts on ecosystems. The Big Bay development did not consider cumulative impacts of the development and other similar proposals on the regional coastal environment, let alone the individual impacts which were not assessed as per the requirements of the EIA regulations, which the reviewer raised as one of the shortcomings of the EIA. According to European Union (2001), the problems of cumulative impacts are not as severe when an SEA has been undertaken.

It may be true that some of the shortcomings identified in the EIA for the Big Bay development occurred because of the lack of an overarching SEA. If well undertaken, however, the EIA could have addressed some of the shortcomings even without an overarching SEA. This is the reason the reviewer of the EIA demanded that impacts be assessed and that further public participation be undertaken. The reviewer did not call for an SEA to be undertaken to address these shortcomings. It appears the EIA failed to achieve some of these roles because it was surrounded by a number of external factors. Some of the external factors identified are that, firstly, the political pressure that surrounded the approval of the EIA. The reviewer indicated that the officials that were responsible for the EIA were subjected to political pressure. In such a situation, it was possible that the officers could lose focus in seeking to satisfy their political leaders. Political pressure surrounding the EIA was pervasive enough to influence the approval process. Secondly, the EIA may have failed in some of its roles because some of the actors saw it as unnecessary or delaying the project. The memoranda that were served between municipality officials indicated that some actors were reluctant to incorporate the environmental issues in the Development Framework. While reluctant in this way, it may be assumed that these actors desired to avoid an EIA that raised numerous issues. In terms of this assumption, it is possible that these actors may have one way or the other, succeeded in constraining the EIA. Thus, when evaluating the success of the EIA, the fact that it was undertaken in an un-

welcoming environment cannot be ignored, although this may be quite common in EIA practice.

During the interviews, the EIA consultant confirmed that the EIA report did not outline the impacts and issues. According to him, that did not mean that the issues were not addressed. He said the issues were incorporated into planning and the report really served no purpose.

5.1.4. The Role of EIA without an Overarching SEA for the Big Bay Development

Chapter 2 outlined the theoretical notions of how SEA is said to be better than EIA. Chapter 4 compared the Big Bay development EIA with the theoretical underpinnings of Strategic Environmental Assessment, and it was found that the EIA accomplished only one of the roles SEA is said to undertake. This role is that SEA identifies the opportunities and constraints which the environment places on development (DEAT, 2000). The Big Bay EIA report did not discuss the assessment of the impacts of the development on the environment. It only identified all the bio-physical aspects of the site and recommended that developments should be kept away from the sensitive aspects like dunes and milkwoods, as an SEA would do. For this role, an SEA would not have served the purpose better. The other roles were not, however, satisfied and probably that is where SEA could have made an improvement. The theoretical underpinnings that were not satisfied are discussed below.

Firstly, were an SEA prepared, it would have evaluated the environmental impacts of the first Big Bay development plan (as from policy, plan and programme) in the strategic planning phase. In so doing SEA is believed to identify environmental issues earlier in the process of development. SEA would assess whether the Big Bay area required any development or not. In contrast, the EIA just focused on avoiding the environmentally sensitive areas on the site. This avoidance was, however, relative as the botanical specialist said that, while a 25 meter buffer was provided, more would have been desirable. This is an instance where probably avoiding the development altogether was necessary. Secondly, an SEA could have been integrated across areas, regions or sectors (DEAT, 2000) had it been prepared. An SEA could have assessed

the bigger area within which Big Bay is situated and identified the environmental value of the site within the regional context. This not having been done, the environmental identity of Big Bay was not assessed from a broader perspective. The decision to develop it was thus not fully informed and may have incurred impacts from, or cause impacts on, the broader environs. According to DEAT (2000), SEA also improves the way in which cumulative effects are dealt with in environmental assessment. The third aspect of the site that could have thus been assessed would have been the cumulative impact of the development. The interviewees raised a concern that coastal erosion has increased since the development. Before, coastal erosion was caused by the development of the Cape Town harbour. The Big Bay development has resulted in this negative impact which was not addressed in the environmental process. The fourth role of SEA is that it is proactive to development proposals and could have preceded any development proposal for the site. In that instance, quality of the environment could have suggested the nature of the development. What happened with the EIA is that the development forced the environment to accommodate it. The fifth theoretical underpinning of SEA that could have better informed the development is that SEA is not as rigid as EIA. The rigidity affects the quality of public participation and limits the techniques and procedures for monitoring impacts. The company that reviewed the EIA was critical of the EIA that it did not adequately undertake public participation. It could be that it is the rigidity of the current practice of EIA that the reviewer was objecting to. According to Bina (2007), for an EIA to have not undertaken some of these roles it is not because it was not meant to do them. Bina (2007) argues that it was always the intention of EIA to play these roles but it is kept away from exercising them. This study is not best suited to qualify Bina (2007)'s argument. What this study observes is that this argument is based on the naming of the concepts. If an EIA could undertake these roles, then it would be called SEA or could still be referred to as an EIA. What matters for this study is that there must be an environmental assessment of any name that should undertake these roles to better inform environmentally appropriate development.

5.2. The Extent to which Planning and EIA Processes Complement Each Other

The above section discusses the contributions of planning and EIA in informing appropriate development. This section discusses the second goal of the study which was to determine the extent to which planning and EIA processes complemented each other in the case study. The complementary nature is described in terms of integration and mutual adjustment. The first objective that addressed this goal was to identify the timing and extent of interaction of the two disciplines. The second objective was to characterise the nature of relationships between actors involved in planning and EIA. The findings pertaining to the objectives as outlined in Chapter 4 indicated that planning and EIA processes interacted in a coordinated manner in the Big Bay development. This section evaluates how the two concepts of relationship, namely integration and mutual adjustment, facilitated decision making in the coordinated processes.

5.2.1. The Integration of Planning and EIA

According to Myers (nd), integration means to make into a whole by bringing all parts together in unity. While planning and EIA are different disciplines, they interacted in a way that unified the development process as a whole. The flow chart in Figure 4 demonstrates the two disciplines performing in a unified coordinated way. Other than unity, Myers' (nd) definition further elaborates that integration results in visible changes as time goes by. The results born in the relationship of planning and EIA in the case study may not have been the best, but certain changes were noticed in the development proposals as the processes interacted. The institutional arrangement was described as an iterative approach where proposals changed due to the exchange of information between planning and EIA.

The manner in which the two disciplines interacted in terms of both timing and extent also suits the description of integration by Brown and Hill (1995). Brown and Hill (1995) posited that integration of planning and EIA can best be achieved through the decision scoping process. In the decision scoping process the two disciplines integrate such that environmental concerns are incorporated into the planning process right from the beginning. The decision scoping starts with a schedule of all the planning

and design activities, and decisions, which will have to be made during the whole project planning design, and approval continuum. The environmental information for each corresponding stage is then identified. During the design process, the identified environmental opportunities and constraints are linked to the decision milestones in time. A similar process was evident on the Big Bay development where a schedule of the planning and EIA processes was introduced to the municipality and the Interested and Affected Parties (I&APs). The schedule indicated how environmental information would be feeding into the planning process, including decisions that were to be taken. The relationship of the two disciplines followed the schedule closely and decisions and other milestones were reached as planned. The environmental information for each corresponding stage was identified and linked to the planning process. Brown and Hill (1995) say this interaction of the assessment and design (planning in terms of this study) is firstly essential because each responds to the changes at a time when such changes can still be made given the progress of the planning process. In the Big Bay development changes were made on time, and the outcomes of each process were influenced by the changes in the other process.

Chapter 2 highlights several reasons why planning and EIA should integrate. The first reason by Gasson (2007) holds that their integration would draw a better understanding of nature's patterns, processes, significance, and limitations into the process of project formulation and refinement from the outset. This reason is echoed by McDonald and Brown (1995) that integration facilitates the incorporation of environmental design changes into projects while they are still being planned. In the case study development the two disciplines integrated in that the EIA identified the environmental opportunities and constraints in the preparation of the Development Framework. These were incorporated into the design proposals and thus the Big Bay development process lends weight to Gasson (2007)'s assertions.

The second reason for the need to integrate is that the introduction of EIA or environmental assessment as a whole was an improvement to the planning process (Dewar, 2007). This reason cannot be overemphasised since the discussion above illustrated that planning desires to make green environments. This was demonstrated by the introductions of the models like the Garden City. Despite this good planning intention, planning was seen as failing the biophysical environment due to a number

of factors. EIA emerged as one of environmental assessment tools that sought to deal specifically with how developments relate to the bio-physical environment, which could assist planning to enhance its performance in this regard. In the Big Bay development EIA was seen to be identifying environmental issues to inform development proposals. Planning had tried during the strategic level, to identify some but could only identify the obvious ones like the dunes. EIA improved the identification of environmental issues by going to finer details like identifying plant species that required preservation. It is thus safe to conclude from the case study that the EIA process added value to the planning process.

Chapter 2 also highlights ways in which planning and EIA should be integrated. The first way suggested for integration of planning and environmental assessment is that the two must interact above the project level (Barbour, 2002). This may be true in the sense that the comparison of the case study EIA with the theoretical underpinnings of SEA showed that the EIA proved less than inadequate in a number of ways. It would have been appropriate for some form of assessment to have been undertaken with planning at the strategic level.

The second way, highlighted by Sowman (2002), is that environmental practitioners ought to be housed in the same departments as planners to encourage interactive and dynamic planning processes. Todes (2003) further suggests that the planning and environment sets of legislation should be merged. In the case of Big Bay development, the actors were dispersed but still there was coordination. It was noted that despite being distant from each other, the actors interacted in a manner that led to frequent debates that sometimes ended in conflict. Integration as suggested by Sowman (2002) could even cause the two disciplines to lose sight of their primary focus. In the context of the Big Bay case study, the Environmental Officer asked a question during the interviews that if planning and EIA were merged as one, who would be on top in the hierarchy? While planning and EIA interacted in the Big Bay development, each discipline retained its independent integrity, with the need being assessed through planning while desirability was assessed through the EIA.

5.2.2. Mutual Adjustment between Planning and EIA

Mutual adjustment according to Lindblom (1990) is when participants get together to reach an explicit resolution of their differences. Mutual adjustment can be at the level of individuals, groups of individuals, organisations, processes and any other kind of phenomenon. According to Lindblom (1990), mutual adjustment allows a problem to be interrogated more broadly because problems intersect with other problems, thus allowing a more holistic understanding and resolution of the intersecting problems because of the multiple perspectives of the different – even antagonistic – stakeholders. According to the description of mutual adjustment given by Lindblom (1990), this concept was the dominant form of decision making in the Big Bay development. Mutual adjustment has less to do with the timing of interaction as to the extent of interaction. The findings in Chapter 4 indicated a number of relationships including conflicts, cooperation and coordination. These kinds of relationships occur where there is representation of varying interests. The environmental practitioners sought after the conservation of the environment while planners and developers sought to optimise development on the site. These actors were always in a debate that often ended in adjustment from both parties. According to the Manager of Planning and Environment, the development of Big Bay is a result of informed compromises between planning and EIA. Lindblom (1990) does not like the word 'compromise' with its notion of both parties not getting fully what they want, and argues that mutual adjustment of positions can allow superior alternatives to be found through the creative process of interaction between partisans and joint problem solving.

A number of the outcomes of planning and EIA were a result of mutual adjustment. The 25m buffer zone was determined in this way. Planning and the developer wanted more land for development but the EIA, especially through the botanical specialist, wanted more land for dune wildlife. The height, setting and entire outlook of buildings were an accommodation between planning's intent to optimise density against EIA's intent to optimise green areas and attractive views. The development along the set-back line from the sea was an accommodation of two different interests. Planning sought to optimise on the best sea view by moving developments closer to the sea while EIA sought to keep development away from the sensitive coastal environment. Nevertheless, there are some issues that were raised in the interviews

which indicated that informed decisions were not always made. The interviewees complained about high densities and developments within the set-back lines from the sea. According to the interviewees, the developments that have encroached into the set-back area have resulted in erosion. This indicates that matters relating to development very close to the sea should not have been subject to any accommodation of interests. In this context, the EIA ought to have stood aloof from planning and made an uncompromised decision that would not allow any development within the set-back line. This may be an indication that while there was mutual adjustment, informed compromises were not always achieved.

Chapter 2 outlines two schools of thought on how planning and EIA should integrate. The first school of thought holds that the outcomes of planning and EIA should be incorporated into the two processes while the processes remain independent. This school of thought was a dominant way the two disciplines interacted in the case study. The nature of interaction facilitated optimum mutual adjustment between planning and EIA. The other school of thought, that planning and EIA should be merged into one process, was not really evident in the case study.

5.2.5. Conclusions on the Roles of Planning and EIA

The roles of planning and EIA were first assessed according to the contributions they made to the Big Bay coastal development. The coastal environment where the development took place was found to be sensitive in that it is complex and has special roles. Despite its nature, development was allowed on it as planning and EIA were undertaken in an effort to inform an appropriate level and form of development. Both planning and EIA made some notable contributions to the development of the site in terms of its bio-physical aspect. The contributions of EIA were the assessments that revealed the most sensitive environments that required preservation. Planning contributed into the development by ensuring the incorporation of the EIA findings in the development framework. Other than the incorporation of assessments, planning also identified some major environmental constraints like the dune systems and set-back line during strategic planning. Some of the issues were further identified during site development planning (SDP). It was realised, however, that the role of SDP in preserving the bio-physical environment depends on the size of parcels of land dealt

with. The development of small plots in Cape Town, South Africa is done through SDP and obviously in these small residential, commercial and industrial plots not much is done in terms of preserving the natural environment. SDP of small plots, therefore, must be preceded by proper planning at an earlier and higher stage as was done in the Big Bay development.

Concerning the EIA, while much was done in terms of assessing the bio-physical environment, a commissioned review of the EIA report revealed its inadequacy. Some specialist studies were not done, a full EIA was required but only scoping was done, and the report was approved inappropriately. It appears that this failure of the EIA was associated with a lack of environmental stewardship on the part of some of the actors who favoured development at the expense of undertaking a proper EIA. Inadequate capacity of officials in dealing with the EIA process, including the formulations of RODs, as well as political pressure were found to be some of the issues that impeded the success of the EIA. Some of the failures of the EIA are associated with the manner and level at which it was applied. In terms of its theoretical underpinnings, SEA ought to have been undertaken, which would have addressed some of the shortcomings of the EIA. The shortcomings of EIA included being reactive as it was introduced after the decision to develop the site had been taken. The EIA might have resulted in the fragmentation of the ecosystem because it was not applied at a broader scope and was also oblivious to cumulative impacts. EIA also failed, according to the reviewer of the EIA report, to adequately undertake public participation. The reviewer was concerned that not even a single objection was received concerning such an internationally renowned site. This last shortcoming, however, is not justified as a lack of objections does not necessarily imply that inadequate consultation was done.

In assessing the roles of the planning and EIA processes, this study went further to consider the manner in which they should interact to better satisfy their mandates. Their interaction in the case study was thus evaluated in terms of integration and mutual adjustment. In the case study, planning and EIA were different disciplines but they interacted in a way that the development process was unified as a whole. The disciplines interacted such that EIA facilitated the incorporation of environmental issues into planning. The chapter highlighted various ways EIA and planning could

integrate as well as reasons why they should integrate. The first way suggested for the integration of planning and environmental assessment was that the two must interact above the project level. This did not happen in the case study as planning and EIA interacted at the project level. The second way suggested by some authors is that environmental practitioners and consultants ought to be housed in the same departments as planners to encourage interactive and dynamic planning processes. This also did not happen in the case study since the actors were dispersed, although there was still coordination. This study realises that this latter suggestion of integration may result in unproductive conflicts. Lindblom (1990) considers conflict as an integral part of the creativity of mutual adjustment. A beneficial conflict though, is one that allows deep attestation of perceptions other than one that is built on the struggle of power and control. The reasons highlighted for integration included that integration would result in a better understanding of nature's patterns, processes, significance, and limitations which could be incorporated usefully into the process of project formulation and refinement from the outset. The manner in which the two disciplines integrated in the case study development met this requirement. The other reason for the need to integrate the two disciplines was that EIA or environmental assessment in general improves the planning process. This reason was upheld in the Big Bay development since EIA improved the planning process by identifying the detailed environmental issues for incorporation into the planning process

Chapter 5 further observed that integration in the form of mutual adjustment was the way decisions were taken in the Big Bay development. Planning and EIA were two independent disciplines that often engaged in mutual adjustment prior to decision making. The unfortunate part is that the compromises were not always informed by the environmental information provided as erosion is already evident on site. Further erosion on site has apparently been caused because the development is too close to the sea, which has added to the coastal erosion that has taken place due to the extension of the Cape Town harbour.

6. CONCLUSIONS AND RECOMMENDATIONS

This last chapter concludes some observations on the findings of the study and makes appropriate recommendations. It is worth noting, as acknowledged earlier, that this research is based on the case study method and generalisations are therefore limited in nature.

The study first observed that the Big Bay coastal site is a sensitive environment. The site was characterised by sensitive environmental factors and these required careful attention during the development. While planning and EIA were undertaken to inform the development of the site, it cannot be concluded that the site was accorded the full attention it deserved. To begin with, the decision to have the site developed for residential and commercial purposes was not adequately informed. This inadequacy was established by comparing the case study EIA to the theoretical underpinnings of SEA. While the two disciplines of planning and EIA sought to incorporate the sensitivity of the site into the development, this could have been done better, as the reviewer observed. Some specialist studies were not done and a full EIA was not undertaken; only a scoping study. Adverse effects of the development are already showing on site as there is evidence of coastal erosion and dense development that overshadows the pristine environmental quality of the site. It is recommended that when undertaking development on sensitive environments including the coast, a precautionary approach should be adopted. If necessary, developments must be restricted from areas classified as sensitive like coasts, wetlands and sand dunes.

The study secondly observed that planning and EIA, if well done, have major roles to play in informing environmentally appropriate development. This much has been shown in the case study where the disciplines have proven themselves capable of meeting these roles. Strategic planning must be utilised as the first approach to deal effectively with the development of the bio-physical environment. It should be at this stage that environmental assessment is initiated to facilitate early identification of environmental issues. It was observed that a number of environmental issues were inadequately addressed in the case study, when evaluated from the theoretical perspective of SEA. Nevertheless, it is safe to conclude that planning and EIA are capable and can be relied upon to inform environmentally appropriate development. It is recommended, however, that the manner in which they function, to enhance their

respective roles should be coordinated while maintaining their independence as further explained in the observations below.

The third observation is that planning and EIA are similar in terms of purpose. They both deal with development and the environment and thus cannot be viewed in isolation from each other. It would be reprehensible for the two not to communicate while both are trying to inform development of the same piece of land. In the case study it was found that the two coordinated well, with a timely flow of information that was successfully incorporated into the development proposal. The interviewees even expressed satisfaction on the way the two disciplines interacted. It appears that coordination efforts facilitated good relationships between the actors, except for a few instances in which conflicts were noted. This study therefore recommends that planning and EIA should be coordinated as far as possible in the undertaking of any development that requires both processes.

In the coordination recommended above, there are ways these disciplines should interact to better inform appropriate development. This study noted integration and mutual adjustment as two concepts that have been proposed to facilitate better co-ordination and a more productive interaction between the two disciplines. The key conclusion of this research is that the two disciplines should integrate through coordinated approaches while each maintains its own independence. Having their own approaches and perspectives, the two disciplines ought to engage in mutual adjustment to reach informed accommodation of their respective interests in each instance where they are both engaged. The recommendation, therefore, is to ensure that these disciplines maintain their independence while they integrate by engaging in mutual adjustment.

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ANNEXURE 1

THE BIG BAY DEVELOPMENT PLANNING AND EIA APPROVAL DOCUMENTS

- PLANNING APPROVAL
- RECORD OF DECISION
- REVIEW OF THE APPEAL

ANNEXURE 2

THE INTERVIEW SCHEDULE