NEGOTIATING BOUNDARIES: (CO)-MANAGING NATURAL AND URBAN AREAS ON THE CAPE PENINSULA

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ABSTRACT

The opportunities and constraints experienced in managing abutting urban and natural areas represent a microcosm of the issues facing future conservation practices. The focal areas for this study are Kommetjie and Ocean View -- two adjacent but insulated communities, that reflect basic socio-economic characteristics of South African cities, and situated amidst the natural areas of the Cape Peninsula. Current theoretical perspectives on natural and urban areas fail to offer a practical approach to inform integrated and equitable management of these ostensibly disparate realms of the environment. Although largely based in rural research, political ecology, which embraces a multidisciplinary perspective, promotes an integrated framework for managing adjacent urban and natural boundaries of the kind associated with the Cape Peninsula. Using conventional botanical methods, evidence in the case studies suggests that a relationship exists between environmental degradation in natural areas and the proximity of urban settlements. Moreover, the nature of environmental degradation seems contingent on the level of economic development of local communities. A social analysis of the communities reveals that co-operative management between landowners and key-players on either side of the boundary is similarly hindered by socio-economic factors. Using an adaptation of Blaikie's (1995b) "Chain of Explanation", the interactions between Kommetjie and Ocean View, and surrounding natural areas are integrated in an analysis which crosses disciplinary divides, and exposes the relationship between local environmental conditions and broader social issues. The boundary of a national park is not sufficient to manage the interactions between protected areas and neighbouring communities, but must be supported by partnerships between city and conservation authorities, NGOs, private landowners and residents in ways that address the needs of neighbouring communities. To facilitate local involvement in the management of the environment, residents, both rich and poor, must understand how the state of the environment directly affects their lives.

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ANOVA	Analysis of Variance
CMA	Cape Metropolitan Area
CBO	Community-Based Organisation
CPNP	Cape Peninsula National Park
CPPNE	Cape Peninsula Protected Natural Environment
ICDP	Integrated Conservation Development Project
IUCN	International Union for the Conservation of Nature
JNGD	*Justice, Nature and the Geography of Difference*
KE	Kommetjie Estates Ltd
KEAG	Kommetjie Environmental Awareness Group
KRA	Kommetjie Residents Association
MAB	Man and Biosphere
OVDT	Ocean View Development Trust
OVRDP	Ocean View Reconstruction and Development Program (Forum)
NGO	Non-Governmental Organisation
SANP	South African National Parks
SPM	South Peninsula Municipality
UNCED	United Nations Conference on Environment and Development
UNESCO	United Nations Educational, Scientific and Cultural Organisation

- CHAPTER ONE -

INTRODUCTION

> Protected areas, like other bounded ecosystems or fragments of habitat, do not exist in a vacuum. Their ecology is not only influenced by processes going on within them, but by larger scale processes outside.
> (Adams, 1996:118)

The boundaries of protected areas are not sufficient to protect what exists inside the reserve from forces and pressures acting outside those boundaries (Dearden and Berg, 1993). Despite the construction of fences, interactions occur in both directions across the perimeter of protected areas (Adams, 1996). Ecological processes do not observe political boundaries and similarly, pollution and other forms of land degradation are not impeded by the reserve fence. Conservation is in constant competition with the urgent needs of adjacent low income communities whose daily economic battle for survival leaves little room for the environmental awareness afforded by affluent groups (Ghimire, 1994; Khan, 1991, 1994; Kothari *et al.*, 1995; Neumann, 1995; Ramphele, 1991). Furthermore, conservation efforts are increasingly hindered by the scarcity of suitable land, private-ownership and insufficient funds (Adams, 1996). Conservation can therefore no longer be seen as an exclusive land-use, isolated from the surrounding landscape and the activities of neighbouring rural and urban communities (Adams, 1996; Dearden and Berg, 1993).

It is therefore crucial that conservation initiatives are socially responsible, placing the needs of jobless and homeless individuals alongside the environment (Cock, 1991; Khan, 1994; CPNP, 1998). However, while economic empowerment programs are being integrated into environmental projects, thus addressing the needs of impoverished communities, the attitudes and practises of more affluent groups requires consideration. Compared to the localised environmental impact of the litter-strewn streets and polluted rivers associated with poor (and often high density) neighbourhoods, the environmental degradation caused by spacious wealthy communities is equally severe, only more widespread. Pollution from remote coal-fired power stations and private vehicles disperses into the atmosphere, while garbage trucks dispose tons of refuse in distant dumps where poverty-stricken families eke an existence off the "throw-away" lifestyles of the rich. Tended gardens release

fertilisers and pesticides into the groundwater, the seeds of exotic garden plants disperse across fences into natural areas and domestic animals harass indigenous fauna. Similarly, bushfires and wild animals are seldom constrained by fences bordering the natural areas in which they "belong".

Conservation can no longer take place in isolation from neighbouring communities and other land-uses, while resisting broader socio-political forces that affect processes and policies beyond the boundaries of protected areas. The needs and attitudes of all income groups, as well as those of adjacent urban and conservation authorities, must be heeded while developing a socially aware conservation for the future. However, to facilitate local involvement in the management of the environment, residents must understand how the state of this environment directly affects their lives. It is important that there are tangible benefits, in one form or another, to the local communities if they are to take responsibility for the environment. For example, creating jobs, reducing crime and collecting litter are positive steps that benefit both the local community and the natural areas. Such efforts contribute towards a sense of responsibility for the environment amongst in the local communities, simultaneously improving the quality of the built and non-built environment.

Located at the south-western tip of the African continent within the biologically diverse Cape Floristic Region, is the Cape Peninsula, surrounded by a rapidly growing urban area: the Cape Metropolitan Area (CMA) (Plate 1.1). But like all South African cities, the CMA is characterised by the imbalances of forty years of apartheid administration. Impoverished and environmentally degraded (black[1]) townships are set in stark contrast to the neat leafy suburbs of affluent communities which skirt the mountainous Cape Peninsula. An equally abrupt relationship exists between the city and the natural, rugged beauty of the Cape Peninsula, creating a unique sense of place for all communities in the region. From virtually any position in the metropolitan area the view is dominated by the Cape Peninsula mountains, rising above the cityscape. Encapsulating these contrasts and constituting the focal areas for this study are Kommetjie and Ocean View: two adjacent but insulated communities, which

[1] The 1950 Group Areas Act legislated segregated residential areas in South Africa, based broadly on black, coloured, Asian and white racial groups. Although such classifications are a social construct, due to the legacies of apartheid, racial classifications and terminology remains an integral component of social analysis, and are consequently used in this thesis, although I do not accept the classifications.

Plate 1.1 Cape Town, set against the Table Mountain, with the mountainous Cape Peninsula in the background.
(Source: Gerald Hoberman © 1996)

Figure 1.1 The Cape Peninsula National Park on the Cape Peninsula

Plate 1.2 Kommetjie (on the left) and Ocean View (on the right)

display the socio-economic imbalances of South African cities, and are situated amidst a diversity of natural elements and protected areas on the Cape Peninsula (see Figure 1.1 and Plate 1.2).

Establishing a national park in the heart of a metropolitan area is a phenomenal undertaking and a concept that could have world-wide significance. The Cape Peninsula is finally receiving a conservation status worthy of its unparalleled scenic beauty and rich biophysical diversity. Although conferring "national park" status on the Cape Peninsula is a considerable step towards conserving its natural assets, threats to the Peninsula's natural areas will continue to encroach into the national park from beyond the park's boundaries. Threats include windblown litter, polluted stormwater, bushfires, the spread of alien species and damage to indigenous fauna and flora. At the same time, fires, animals and other factors in the park affect the lives of local residents. Alone, the boundary of a national park is not significant to manage these interactions between the two areas. It must be supported by partnerships between urban and conservation authorities, non-governmental organisations, private landowners and residents, that address the needs of neighbouring communities. This research aims to explore the opportunities and constraints experienced in managing adjacent urban and natural areas, which, it is argued, represent a microcosm of the challenges facing future conservation practices.

Main Argument

Co-operative management of natural resources that integrates the living environments of neighbouring communities into conservation practices, is beginning to influence the planning and design of protected areas. These notions are widely used where rural communities are involved in conservation practices in the reserve, but remain largely untested where urban communities abut a protected area. As we enter the new millennium, the task for environmentalists is thus to explore the relationship and interactions between conservation and urban areas.

In addressing this challenge, the hypothesis of this research is that successful management of adjacent natural and urban areas depends on changing the way we perceive the relationship between urban and natural areas, between society and nature. Our perceptions must be informed by strong theoretical discourses that integrate issues in the urban environment with issues in the natural environment. In

this way, we are able to dismantle the theoretical underpinnings of a fragmented environment, split firstly along the nature/society interface and then along a multitude of disciplinary boundaries. An integrative and holistic theoretical approach is needed to define a practical strategy that addresses all aspects of an environmental issue across the nature/society interface, and links global discourses and forces with local environmental conditions.

With respect to urban and adjacent natural areas, an integrative theoretical understanding lays the foundations of an analytical approach that incorporates role-players on both sides of the boundary in equitable and participatory relationships. The potential exists for external parties to either enhance or threaten conservation efforts, and similarly, for conservation practises to have a positive or negative influence on neighbouring local communities. It is important therefore that the differences between role-players are understood, and that management strategies take cognisance of and incorporate the needs and interests of different local communities into conservation practises.

The research aims firstly, to define an integrative theoretical approach to inform environmental policy regarding the management of urban and adjacent natural areas and secondly, to explore practical, community-based ways of managing the environment that are simple yet effective to implement and that integrate societal needs with biophysical issues. Not only will this offer proposals to reinforce the conservation of the Cape Peninsula, but will also offer suggestions to enhance the living environments of communities bordering the national park.

Layout of Thesis

This research, which attempts to cross the divide between "society" and the "environment", is situated at the interface of natural and social sciences. The thesis is thus structured to allow these ostensibly disparate elements in the research to be drawn together in an integrative analysis. The thesis consists of four parts, each forming a coherent component of the research within which the major themes of the problem (the conservation agenda, the urban agenda and an integrated agenda) are consistently juxtaposed and analysed.

Part I, which provides an introduction to and contextual overview of the research, includes a description of the case study (chapter two). An attempt is made to provide an appreciation of the powerful sense of place of the Cape Peninsula, as well as the pressures and processes acting in the region, thus presenting the biophysical and socio-political background for the research. The reader is then introduced to the case study areas through a construction of Kommetjie and Ocean View based on a description of biophysical and socio-political elements in the area.

Having situated the research problem within its biophysical and social context, part II (chapters three, four and five) traces the development of theoretical perspectives on nature and the urban environment. Theoretical approaches to nature and conservation are presented alongside those of urban environmental issues and finally are contrasted with an integrative theoretical understanding of the environment.

Chapter three explores the development and inherent shortcomings of the "green agenda" -- the mainstream environmental movement largely rooted in conservation issues. The role of Western perceptions of nature is examined, revealing the detachment of humans from nature and the resultant separation of conservation from other (human-oriented) land uses, thus denying local communities' access to natural resources. Recent developments in conservation policies, which allow for indigenous communities to live and carry out traditional practises in protected areas, merely perpetuate colonial mindsets. This Eurocentric construction of nature as a concept in which everything non-human (and subsequently non-Western) belongs, is discussed with reference to the management of natural and urban areas. Unless conservation becomes a land use that is compatible and integrated with others, its role in a rapidly urbanising world is threatened.

A similar argument is presented with reference to urban environmental issues in chapter four. Perceptions of environmental problems occurring in cities are restricted to an urban context and interactions with surrounding natural elements are largely ignored. Mainstream theoretical approaches to urban problems are examined, indicating a failure to address the environment as a dynamic, integrated system. At a practical level, urban problems (e.g., pollution, urban sprawl) are generally considered in isolation and are managed on a specific, re-active basis. The complex relationship between urban problems, the biophysical environment and the

vulnerability of the poor is neglected, thus compounding the position of the poor who are often at the receiving end of (both urban and natural) environmental "solutions" imposed by those who are not affected by the problem.

In light of the largely segregated approaches to urban and natural environmental issues, the focus in chapter five is to review perspectives which embrace the environment as an interacting whole, constituted by urban, natural and other realms. Although the position of marginalised groups was central to many theories, a review of this literature failed to reveal a practical methodology able to integrate urban and natural issues. While largely used in rural studies, political ecology, which embraces a multidisciplinary approach, was used in bridging the impasse between social and physical sciences. The "Chain of Explanation", used as an analytical framework in political ecology (Blaikie, 1995b), was regarded as a suitable tool for an integrated analysis of urban and natural issues.

From the broader theoretical issues discussed in part II, the focus in part III shifts to the micro-level. Set against the theory introduced in chapters three to five, the data collected in the studies in Kommetjie and Ocean View are examined in chapters six to eight. The relationship between natural and urban areas is approached firstly from a biophysical perspective in chapter six. Looking for evidence of interactions between urban and adjacent natural areas, transects were sampled around the edge of Kommetjie and Ocean View. A relationship between environmental degradation in natural areas and proximity to urban areas suggests the need for co-operative management between role-players on either side of the protected area boundary. Exploring this possibility, the priorities and environmental perceptions of key-players and local residents in both study areas were examined and presented in chapter seven. Socio-economic constraints emerged as the primary factors which were likely to impede co-operative management between urban and natural areas.

Having presented the findings of parallel biophysical and social assessments of the interactions between urban and natural areas in the case studies, the key components of the results are incorporated into an integrative analysis, using the "Chain of Explanation" as an analytical tool in chapter eight. By embracing natural and social issues, and linking global forces to national and local conditions, the analysis shed light on the nature of the interactions between the urban and biophysical

environments and exposed the complex role of political, economic and social factors in environmental management.

In concluding (part IV), it is noted that the relationship between urban and natural areas must be explicit, and that the living conditions of people involved in these environmental interactions is a central focus of attempts to manage this relationship. In this manner, incentives may be seen that inspire an environmental awareness and involvement in environmental issues amongst local residents, simultaneously addressing their social needs and priorities. Unless conservation is integrated into the landscape, forming part of other land-uses and management policies, the future of conservation will be trapped within a web of socio-political constraints.

While low income communities are asked to understand the importance of conservation, the desperate need for affordable housing and economic growth in the Cape Metropolitan Area are factors that conservationists in the Cape Peninsula National Park need to consider alongside preserving the biodiversity and scenic beauty of the Peninsula. In many respects, the CPNP epitomises the future of conservation. The park is enveloped by constraining factors: low income communities battle to find land for housing they can afford, while exclusive urban developments, profiting from the natural splendour, encroach into the landscape; widespread socio-economic constraints require that the conservation becomes financially self-sufficient, while the growth of tourism, although offering hope in the light of budgetary cutbacks, threatens to overwhelm the unspoiled beauty of the landscape. It is to this landscape that we now turn.

- CHAPTER TWO -

A LANDSCAPE: THE CAPE PENINSULA, KOMMETJIE AND OCEAN VIEW

> This is the most stately thing and the fairest cape we saw in the whole circumference of the earth.
> Sir Francis Drake, 1580[2]

INTRODUCTION

The Cape Peninsula, and in particular Table Mountain, are internationally recognised and culturally laden symbols of South Africa.

> Table Mountain is much more than only a mountain. It is a world renowned landmark, a tourist attraction, a source of legends, recreation, unique biodiversity and outstanding natural beauty. It has been recorded by travellers and artists since the early days of the great discoverers.
> (van Niekerk, 1996:16)

These well-known natural features not only portray the wealth of biological diversity that is found on the Cape Peninsula, but also, nestled between the coastline and the foothills of the mountainous Peninsula, the city of Cape Town, South Africa's Mother City, which encapsulates the rich and differentiated historical, cultural and political heritage of the country (see Plate 1.1). This impressive biophysical and social diversity, together with the stark juxtaposition of the urban and natural environment, create the sense of place of the Cape Peninsula and the CMA (see Figure 2.1).

While there are a multitude of plans, policies and organisations to manage either the urban or the natural area, none look at the Cape Peninsula as a whole, embracing the interactions and synergy between the urban and natural components of the CMA. As a result, crucial aspects of these interactions are overlooked and decisions and developments that are detrimental to either the natural or the urban area (or both) are commonplace on the Peninsula. What is lacking, therefore, is the ability to understand the interactions *between* urban and natural processes and the ability to unify these processes in an integrated understanding of the area. One of the reasons for this inadequacy is the failure to understand and respond to the sense of place of the Peninsula.

[2] cited in Wilkinson and MacDonald (1998)

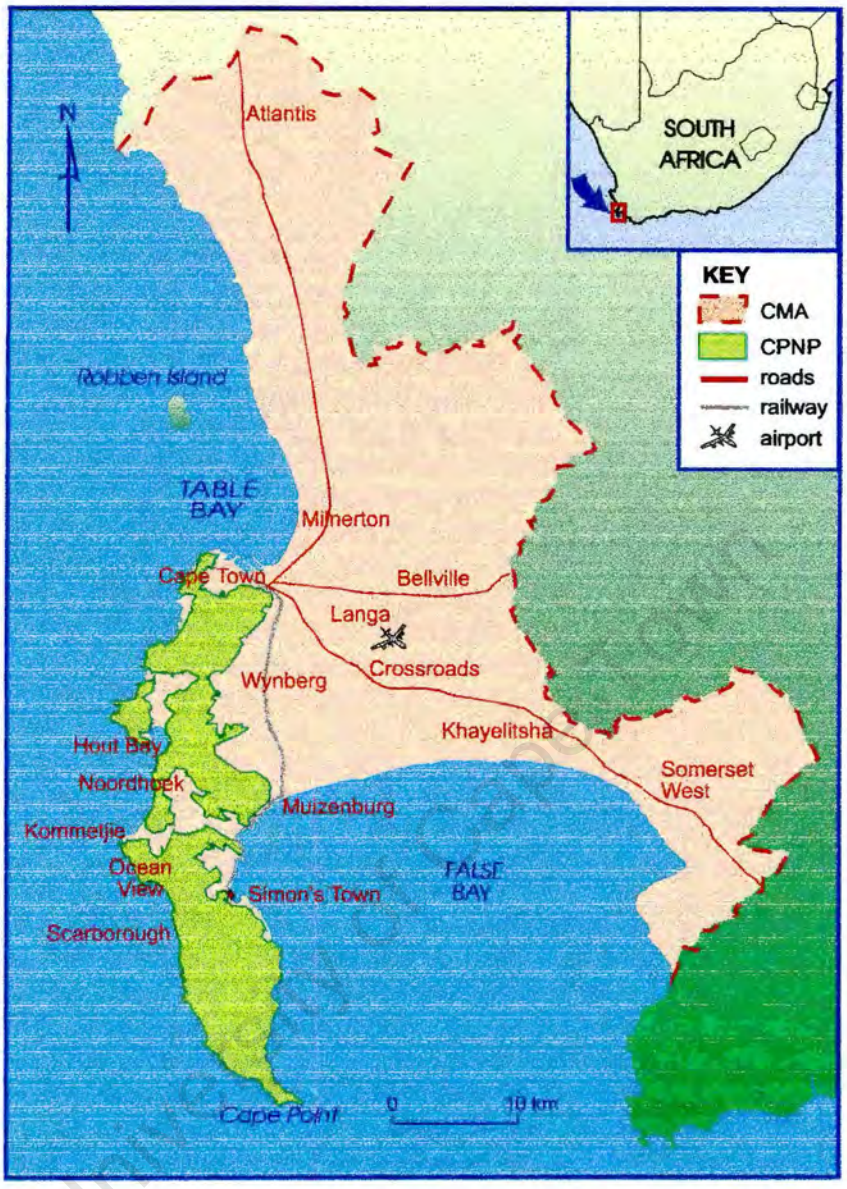


Figure 2.1 The Cape Metropolitan Area

A "site description", commonly used by physical scientists for introducing their research site to a broader audience, is a useful preliminary tool for framing the problem addressed in this research. Through a descriptive introduction to the Cape Peninsula, and the settlements of Kommetjie and Ocean View, the broader environment is disaggregated, allowing us to contextualise the research problem in terms of biophysical features, social issues and political processes. It is thus the intention of this chapter to invoke a *sense of place* of the area, thus locating the research within the broader environment, and finally identifying the contested terrain behind this special place.

THE CAPE PENINSULA: LANDSCAPE AND PEOPLE

Located at the south-western extremity of the African continent, the Cape Peninsula is an area of outstanding scenic beauty and exceptional biodiversity (Blignaut, 1996; Cowling, 1995; Cowling *et al.*, 1996; van Wilgen, 1996:671). At the northern end of the Peninsula is Table Mountain, a 1000 metre sandstone plateau (see Plate 1.1), which inspired and sustained early travellers and inhabitants of the Cape for centuries, from the Khoi who called the huge mountain *Hoeri 'kwaggo* (Sea Mountain) to the Portuguese, who named it *Taboa do Cabo* (Table of the Cape) (Yeld, 1993:23). Following the 1503 Portuguese visit, the unique physical appearance of Table Mountain, frequently decked with its swirling white table cloth of cloud, became an internationally recognised natural wonder of the world (Yeld, 1993:23). The awe and fascination of this natural legend has not diminished over the years, as it continues to inspire myths and draw homage from thousands of local and international visitors.

While only first hand experience of the Peninsula can truly convey the beauty and immensity of the landscape, the phenomenal biological diversity is well illustrated with facts and comparative figures. With its exceptionally high diversity and endemism, the Cape Peninsula forms part of the Cape Floristic Region, one of the world's six floral kingdoms (Cowling *et al.*, 1996:527; EEU, 1994:34). The ecological processes responsible for such high diversity are driven by the following factors: dry summers, strong winds, a regular fire regime and nutrient poor soils (Cowling *et al.* 1996:536). In an area of only 470 km^2, where topography and climatic conditions vary considerably, the Cape Peninsula supports 2285 different plant species, unparalleled species density in the Cape Floristic Region, as well as in other temperate

and tropical biodiversity hot-spots (Blignaut, 1996; Cowling *et al.*, 1996:528; EEU, 1994:35; EEU, 1997, Trinder-Smith *et al.*, 1996). In other words, the number of plant species on the Peninsula exceeds the total number of species found in Great Britain and the much larger state of South Australia with its wider variety of climate conditions (EEU, 1994:35; Yeld, 1993:23). Furthermore, with 90 endemic species, the level of endemism for any similar sized area, is unbeaten (Cowling *et al.*, 1996:528; Blignaut, 1996:101). In this regard, and in light of the escalating threats to biodiversity (including urban growth, alien infestation and a history of inadequate management of the area), the Cape Peninsula is described as a biodiversity hot-spot of global significance (Cowling *et al.*, 1996:532).

The management of the Cape Peninsula is complicated by several factors: the most obvious being that the Peninsula is surrounded by a large urban area -- the Cape Metropolitan Area (van Wilgen, 1996:671). The intense (and increasing) pressures of development and tourism around the Peninsula present complex management issues, such as the problems of an urban/natural interface in a fire-prone environment, as well as the need to protect the endemic and threatened plant species from urban development and alien plant invasions (van Wilgen, 1996:672).

Prior to 1996, the protected land on the Peninsula, then the Cape Peninsula Protected Natural Environment, consisted of approximately 80 percent public land, managed by 14 different national, provincial and local departments. The remaining 20 percent of privately-owned land was divided amongst more than 150 different private landowners (van Wilgen, 1996:673). Managing the CPPNE was thus chaotic, fragmented and ineffective as efforts to control alien plants, fires and other management issues were frustrated by this uncoordinated approach to conservation. Calls for a single experienced management body to manage the Cape Peninsula had been made since the early 1900s and were reiterated in the recommendations of numerous reports and commissions set up to review the management of the Peninsula (Yeld, 1993:24).

In 1996, after a history of reluctance and debate, the proclamation of the Cape Peninsula National Park (CPNP) fulfilled these requests and finally placed the Peninsula in the hands of an experienced organisation (South African National Parks) with the resources and expertise to effectively manage this unique natural resource.

Establishing a national park on the Cape Peninsula has been a task fraught with obstacles and contention fuelled by political agendas. While several plans and policies[3] have guided the establishment of the CPNP within the broader CMA, the most significant and complex step has been the negotiation of agreements with the multiplicity of public and interested private landowners to acquire conservation-worthy land into the CPNP.

Embracing the Cape Peninsula is the CMA, a large urbanised area displaying the characteristics of segregation and lack of access common in many South African cities. Low income areas are located in the periphery where employment, commercial and recreational opportunities and facilities are inadequate, while the wealthier (white) areas are close to the inner city and centres of recreation and opportunity. The lack of access to natural and recreational resources for lower income groups is intensified in the CMA, where upper income areas have developed around the Peninsula mountain chain, thus creating an access barrier (in terms of cost, location and transport) to poorer groups wanting to use the mountains. This affluent suburban sprawl along the mountain chain is mirrored with coastal ribbon development along the coastline around from Simon's Town to Muizenburg, Kommetjie, the Atlantic seaboard and up the West Coast. Increasing pressure is thus being exerted on the natural resources as more people want a piece of the Cape landscape.

Although the CMA has a diverse economic base, the contribution to the economy of the growing tourism industry, dependent on the natural resources and rich cultural heritage of the region, is expected to increase (CMC, 1996:13). The pressure for rapid economic growth is intense due to the high levels of poverty and unemployment (36 percent of the economically active population is unemployed) (CMC, 1996:15). Other challenges facing the region include (CMC, 1996):

- ◊ rapid and sustained population growth -- growth rate between 1.8 and 5 percent per year
- ◊ inadequate social facilities as well as low levels of education and training
- ◊ poor management and guidance of economic growth
- ◊ lack of adequate and affordable housing particularly near job opportunities and other facilities
- ◊ lack of basic infrastructural services (water, electricity and sanitation)
- ◊ poor health status and lack of adequate and accessible health care
- ◊ inadequate public transport system

[3] see Appendix A

Any plans for the CMA must take these needs and the interests of diverse communities into consideration, while maintaining an awareness of the value of the natural heritage in terms of sustained economic growth and biodiversity. While the importance of the natural features of the Cape for tourism and economic growth have already been mentioned, the contribution of these areas to the quality of life of local communities is fundamental. The issue of access to natural areas (in terms of affordability, transport and locality) is thus essential to address.

The socio-economic characteristics of the CMA are etched on the people and places within its boundaries. Smaller and insular settlements, such as Kommetjie and Ocean View, represent a microcosm of the broader metropole, capturing the social contrasts and biophysical beauty of the Cape Peninsula. These areas thus offer an opportunity to study the problems and issues affecting the CMA, as well as the nature/society interface at the local scale.

KOMMETJIE AND OCEAN VIEW

Located between the mountains of the South Peninsula, and on the western coast of the Noordhoek valley, are Kommetjie and Ocean View (see Figure 2.2 and Plate 2.1). Situated within a variety of natural features, these communities represent in many respects, the social and political characteristics inherent in South African towns. While physically separated and marked by different histories, social issues and urban landscapes, these communities are integrated within the broader metropolitan political climate, as well as the natural environment around them, thus revealing complex and dynamic interactions between the two communities and their biophysical context.

The History of Kommetjie[4] and Ocean View

During a visit to Simon's Bay, now Simon's Town, (see Figure 2.2) in 1743, Commissioner Gustaf Willem von Imhoff, the Governor-General of the Netherlands and India, made two grants of land at Kommetjie to Christina Diemer[5]. Following several changes of ownership (and a change of name from Slangkop to Imhoff's Gift)

[4] the history of Kommetjie has been recorded in detail by J.F. Midgely in *Kommetjie, C.P., -- its story.* This section on the history of Kommetjie, unless otherwise stated is drawn from Midgely (1984).

[5] the names of key players in the history of Kommetjie are remembered in the street names of the older section of the village.

Plate 2.1 The Fish Hoek / Noordhoek valley (Fish Hoek on the left, Noordhoek in the foreground on the right and further back, Kommetjie on the coast and Ocean View situated inland)

the farm and homestead were finally acquired by J.G. van der Horst, whose family still have landholdings in the area, before World War One. In fact, the local area of Kommetjie (including Imhoff's Gift and other farms) was owned by Kommetjie Estates Ltd., the controlling interests of which were passed from Anton Benning after his death, to J.G. van der Horst.

Attracted by the safe swimming, shady milkwood trees and abundant seafood, families from Fish Hoek frequented Kommetjie as a picnicking and holiday resort. The gravel road from Sunnydale to Kommetjie was completed at the turn of the century and the flowering gumtrees seen today, were planted. With improving roads and services, the recreational attraction of Kommetjie grew, drawing families from further afield. Kommetjie Estates intended that Kommetjie should become the "overflow" resort for Kalk Bay and Fish Hoek, other holiday villages in the area (see Figure 2.2), and a railway line, although never built, was planned to extend from Fish Hoek to Slangkop Head, near Slangkop lighthouse.

The first dwellings in Kommetjie were scattered few and far between, although generally away from the sea front due to the dense cover of Milkwood trees behind the dunes and the waterlogged land around Skilpadsvlei (now drained), which was used as a cricket field in summer. In 1908 the Slangkop Primary School (now Kommetjie Primary School) was opened to cater for the growing residential population. While development in Kommetjie continued slowly between the wars, three distinct phases of growth took place after world war two. The first followed the supply of electricity and the interest in land on the Peninsula after the second world war, while the second growth spurt followed the supply of municipal water 20 years later, bringing the total number of dwellings in Kommetjie to about 100. The third phase followed the opening of Die Ou Kaapse Weg highway over Steenberg (Silvermine) in 1968 when the total dwellings in Kommetjie reached 200. With the construction of the highway, Kommetjie became more accessible and gradually more integrated into greater Cape Town. An increasing number of residents slowly changed the face of this once quiet and recreational village, simultaneously mounting pressure on surrounding natural systems to make way for urban growth.

Adding a further dimension to the dynamics and contrasts between society and the environment, socio-political differences between local communities, which have

remained prominent in the environmental debate began to emerge. Improved transport facilities led to an increase in the number of coloured people in the area, with camping at Soetwater near the lighthouse, fishing and other activities in Kommetjie, as well as a proposed coloured housing scheme at Noordhoek (see Figure 2.2). This led to growing uneasiness amongst the local white residents in Kommetjie and in 1965 it was decided to declare Kommetjie a "white group area" under the Group Areas Act, although Soetwater remained a coloured resort. The Noordhoek housing scheme was subsequently abandoned for one at Imhoff's Gift, near Kommetjie.

In contrast to Kommetjie, Ocean View has a significantly shorter and less "natural" history. Part of the original Imhoff's Gift farm was purchased by the state from the van der Horst family in the late 1960s for the purpose of creating a coloured township (1km away from Kommetjie) for the people removed under group areas legislation from Simon's Town, Noordhoek, Fish Hoek, Kommetjie and surrounding areas (Maralack and Kriel, 1984, van Staden, 1994). On 1 August 1968, the first people were moved to Slangkop, as the area was then known, arriving in a barren and bare place on a moderately sloping hillside. All the original bush vegetation had been cleared and the area consisted of a sandy pitch, littered with bricks and rubble (Maralack and Kriel, 1984). The name of the township was subsequently changed from Slangkop to Ocean View by the residents who were mostly from the English speaking Simon's Town area (Innes, 1975; Maralack and Kriel, 1984; Schreuders, 1987). The forced removal created a tremendous upheaval and social crisis as communities and families were broken up, social systems were destroyed, cultural practises were ignored and physical hardships were experienced in many ways. Social vices such as alcohol abuse, gang violence and crime escalated and divided Ocean View, as different communities were thrown together in a situation scarred by low incomes, unemployment, overcrowding, a lack of recreational facilities and poor educational facilities.

In contrast to the suburban stock of Kommetjie, the "soulless and characterless" sub-economic houses and flats, built in the apartheid trademark matchbox style, were inadequate for many families, being too small and lacking basic facilities such as bathrooms, running water and decent flooring (Innes, 1975). The quality of housing was poor and leaks, cracks, gaps and other faults soon emerged. The unnamed and

unlit streets, although tarred, were narrow and pavements consisted of a sandy mound, blown up by the strong winds (Maralack and Kriel, 1984).

As most of the Ocean View residents worked in Fish Hoek or Simon's Town, the imposed move resulted in a dramatic increase in the cost of living, partly due to increased transport costs. The prices of goods in the few shops in Ocean View were also substantially higher than in surrounding areas (Innes, 1975; Maralack and Kriel, 1984). Rent tariffs meant that those in the lowest income bracket who frequently had negligible rents to pay in their previous residences, were hardest hit. With the severe overcrowding, poor facilities and amenities as well as increased costs, the removal meant a decline in living standards, particularly in the low income groups[6] (Innes, 1975). A further effect of the removal was that many shopkeepers and entrepreneurs in the Simon's Town area were forced out of business as they had to sell their businesses to whites and move elsewhere where it was usually impossible to re-establish the business.

While the histories of Ocean View and Kommetjie still permeate lifestyles, attitudes and living conditions in varying degrees, a different picture of life in the two villages is etched on the landscape today. Both Kommetjie and Ocean View have grown and established themselves in the area, slowly growing more interdependent and intensifying interactions between the surrounding natural environment and the urban settlements.

The Urban Landscape

Beyond the white crescent of Noordhoek beach is the promontory of Slangkop: a flat-topped mountain that drops steeply on the western side to a level terrace, lined with white beaches and rocky outcrops before disappearing into the blue Atlantic sea (see Plate 2.2). A closer view of Slangkop shows signs of development, the most prominent feature being Slangkop lighthouse, built to warn passing ships of the hidden reefs and shallow waters that characterise the seas of this section of the Cape. The lighthouse draws attention to other development, partially hidden in the landscape. Nestled between the foothills of Slangkop and the ocean is Kommetjie, a small, low density coastal residential area mostly obscured by the cover of large trees. Further eastwards

[6] the average income in Ocean View was particularly low, even in comparison to other poor areas of Cape Town (Maralack and Kriel, 1984).

Plate 2.2 Kommetjie and Ocean View

is Ocean View, a separate and isolated suburb of higher density residential development, partially elevated on slopes of Kleinberg and visually more obtrusive than Kommetjie, lacking the trees that would otherwise conceal the village and help it merge with the landscape. From this distance Ocean View and Kommetjie appear to be small, self-contained urban areas. However the main road through Ocean View and Kommetjie reveals a complex and dynamic area that displays many of the tensions typical in South African urban areas.

One of two access roads to Kommetjie, the gumtree-lined road from Fish Hoek is a corridor of activity that connects these apparently disparate communities to the greater Cape Metropolitan area (see Plate 2.3). The road carries a flow of workers walking to work or transport points, the unemployed in search of a days' pay, joggers, cyclists, stray animals and hawkers selling fruit, wood, curios and other objects. Advertising boards along the road invite passers by to visit local farmstalls, shops in the industrial area, residential developments or houses on show. The continual flow of taxis, trucks, cars and buses along the road portrays the interaction of Kommetjie and Ocean View with the neighbouring towns.

The main road gives the passer-by a glimpse of the many facets of life in Kommetjie and Ocean View. A few smallholdings on the outskirts of Kommetjie create a rural atmosphere and provide evidence of what was once a small farming area (see Plate 2.4). Green fields separated by wire fences, white farm buildings and grazing cows and horses create a mental barrier between Kommetjie and the adjacent sprawling suburbs of Sun Valley, Capri and Fish Hoek. The decline of farming activity in the area is evident in neglect of some of the fields which are overgrown with alien plants. These vestiges of a disappearing way of life on the Peninsula accentuate the differences between Kommetjie and the monotonous suburbia passed in neighbouring towns.

Adjoining the rural land, one of many dichotomies in the area appears: an emerging industrial sector (see Plate 2.5). Grey buildings and warehouses contrast with the green agricultural area but also strangely complement each other, enhancing the self-reliant picture of Kommetjie. The light industrial area is under pressure to provide

Plate 2.3 Kommetjie Road

Plate 2.4 Rural land use near Kommetjie and Ocean View

Plate 2.5 Heron Park, one of two light industrial areas near Kommetjie and Ocean View

employment for the growing populations in Ocean View and Masiphumelele[7], a low income (black) settlement in the area. The industrial block adjoins the wetlands and together with the sewage treatment works, poses a threat to the natural systems.

Further down the main road is Imhoff's Nature Farm, the remainder of the original farm in the area (see Plate 2.6). Large signs invite people to see ostriches and emus, while camels carrying children are led along the road (see Plate 2.7). The nature farm, together with the craft shops in the complex of white farm buildings helps put Kommetjie on the tourist map, attracting people to this peri-urban, seaside village on the Cape Peninsula.

The natural resources and beauty of the area, well-utilised by residents for recreational activities, have attracted a growing tourism market to the area. Scenic drives along Chapman's Peak from Hout Bay to Noordhoek and the road from Kommetjie to Scarborough draw a continual flow of tourists into the area. Activities at the nature farm, walking on the mountains, whale-watching, surfing, swimming, fishing (particularly crayfish), horse-riding and recently filming on the beaches, are some of the tourist attractions in and around Kommetjie and Ocean View. This local tourist market presents an unutilised opportunity for facilitating the economic development of Ocean View in a variety of ways. In the same respect, the area is no longer a quiet coastal retreat and a growth in tourism will increase the pressure on the environment and continue to change the character of the villages.

Across the road from the shops and nature farm is Ocean View, the "other" section of every South African town (see Plate 2.8). No different from any other typical South African township, Ocean View was built without imagination or adequate facilities for people removed from areas declared white under group areas legislation. Driving through Ocean View, one sees and hears a variety of lifestyles and people. Beggars and hitchhikers take their chances with passers-by at the intersection, children can be heard in the streets and playground, and older men sit on the low walls and railings talking (see Plate 2.9 and 2.10). Taxis and older cars share the roads with wandering

[7] Residents of a number of informal ("squatter") settlements in the Fish Hoek/Noordhoek valley were moved to Masiphumelele (otherwise known as Site 5) in 1993. Similar to other informal settlements, Masiphumelele is a poor, underdeveloped community which relies on surrounding areas for work. Originally intended for 1600 people, Masiphumelele is growing rapidly (with a current population of around 16 000 people), and already encroaching into the sensitive Noordhoek wetland systems (Gainsborough-Waring, 1998).

Plate 2.6 Imhoff's Farm

Plate 2.7 Camel rides: an attraction at Imhoff's Farm

Plate 2.8 Ocean View

Plate 2.9 Children in Ocean View

Plate 2.10

Plate 2.10 and 2.11
Street scenes in Ocean View

dogs (see Plate 2.11). Sub-economic flats, decorated with graffiti and murals, a playground and small, rundown houses without gardens, constitute the first built image of this community (see Plate 2.12). From the main road, small lower-income houses are visible, most without tended gardens and some with shacks in-between or adjoining the houses. Further up the hillside is the more affluent area of Ocean View where, from neat, newly painted houses, each surrounded by a tidy garden, one can see across Kommetjie to Long beach and the rugged mountains across the valley. Off a side road between Ocean View and the surrounding vacant land is Mountain View, an extension of Ocean View (see Plate 2.13). Around a block of small, semi-detached houses (with a separate block of communal toilets), are several residents, hanging up washing or chatting to neighbours over the fences.

This combination of housing type characterises different political periods (in Ocean View). The matchbox houses and sub-economic flats are examples of the apartheid housing built for the first residents, removed from Simon's Town. The squatter shacks between or attached to other houses represent the recent rapid urbanisation and the severe housing shortage in Ocean View; and the larger houses with neat gardens that might almost be found in Kommetjie tell of an emerging middle income group.

Continuing down the main road, past the vacant land that separates the two communities, is Kommetjie. Gumtree-lined roads and larger houses with tended gardens and high perimeter walls create a comfortable, but not lavish atmosphere in this middle income, largely white suburb (see Plate 2.14). Once a holiday resort and fishing village, Kommetjie is now a sought-after dormitory town for people working in the city, also attracting older people wanting a quiet retirement. Older holiday houses and fishing cottages can still be found amongst the newer houses but evidence of a recent upsurge in the property market and new residential developments adorns every street (see Plate 2.15). Local shops, a post office and a small petrol station, very different from Ocean View, create a safe and cosy village atmosphere. However the pressure for coastal property and homes away from busy urban areas threatens the village atmosphere and the surrounding natural landscape that instils the sense of place in Kommetjie.

In the past, the built and natural landscapes of Kommetjie might have harmonised and complemented each other. The fishing, farming and seasonal holiday communities

Plate 2.12 Sub-economic flats in Ocean View

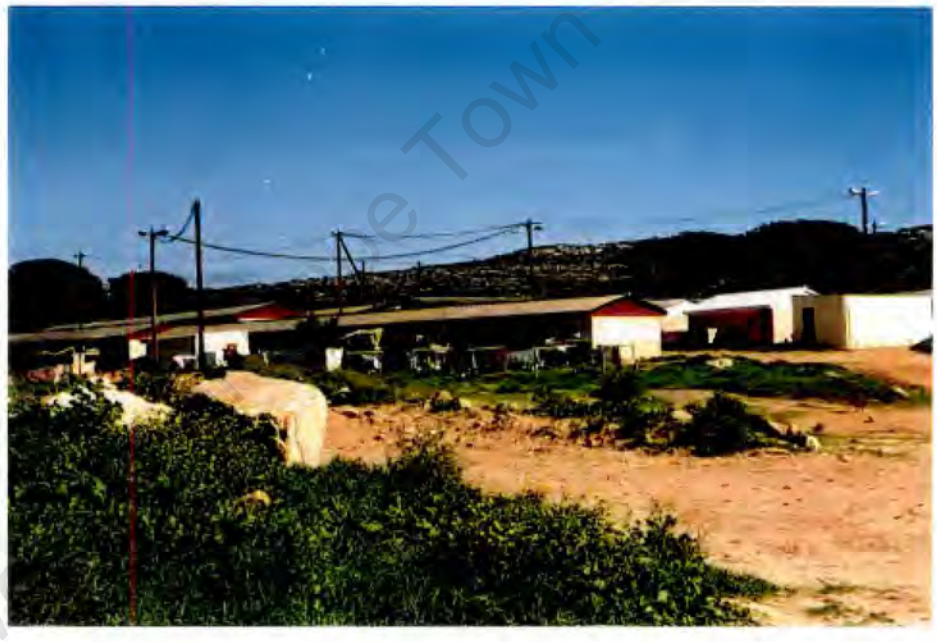


Plate 2.13 Mountain View

Plate 2.14 Kommetjie

would have been small, their few buildings scattered in prime positions around the natural features. Larger affluent and conspicuous buildings make a statement about the lifestyles of their residents and today the artificiality of urban life overwhelms the natural elements (see Plate 2.16). The traditional appeal of Kommetjie is becoming lost in an urban area as one of Cape Town's many suburbs, where the newer architecture is uniform and unimaginative. The elements of nature that have attracted people to the area: the sea and the flat, white beaches, the rivers and wetlands, and the rugged sandstone mountains covered in a diversity of flora, are being commodified. A wetland is now a "luxury residential development", and a coastal headland, a "million dollar view". The natural systems that support such investments are in a constant battle for survival with property developers and landowners who fail to realise the long term unsustainability of their ventures in the light of diminished natural resources.

The urban edge, where urban development ends and the natural landscape takes over, is peculiar and intrinsic to each location. The edges of Kommetjie and Ocean View, as expected, differ considerably. One of the most notable differences is that the edge around Ocean View is constantly permeated. There is a clear end to the formal development of Ocean View, but informal dwellings occur far into the dense alien vegetation. The edge looks rough, verges are unkempt and a number of pathways lead into the surrounding area. The smell of woodsmoke is borne out by curling plumes rising out of the vegetation, indicating signs of habitation. A hawker's stall up the side road between Ocean View and the surrounding land provides a point of interaction with the Rastafarian community, deep in the mountains, and the people of Ocean View.

While the beaches and coastal waters around Kommetjie constantly draw people for recreation and fishing, there is very little activity in the land and mountains beyond Kommetjie. This edge of Kommetjie is neatly defined by the high perimeter walls of properties and a firebreak, cleared to protect the houses from bush fires. The silence is occasionally broken by barking dogs and the odd passing car. A number of paths lead across the hillside to Slangkop peak where the Catholic church has placed a large white crucifix. There is minimal litter or dumping on the slopes of Slangkop and stumps of dead alien plants indicate some management of the land. Walking beyond the firebreak up Slangkop provides spectacular views of Kommetjie and the wetlands,

Plate 2.15 Evidence of the Kommetjie property market

Plate 2.16 Larger houses dominate the surrounding natural landscape around Kommetjie

Plate 2.17 The view from Kommetjie, across Chapman's Bay to Hout Bay

while the vast white beaches narrowing across the valley draw one's focus to the imposing Chapman's Peak and Hout Bay mountains, rising out of the ocean on the other side of the bay (see Plate 2.17).

The Biophysical Landscape

Few areas around the Cape Peninsula are as rich in natural resources as Kommetjie, which has attracted people to the area for recreational and residential purposes. Kommetjie was initially established around elements of the natural landscape: the mountains, the sea, the Bokram and the Wildevoël rivers and their associated wetlands on the flat land (see Figure 2.2). The intrinsic benefits of nature offer a higher quality of life, adding character and a unique sense of place, absent in other urbanised areas.

The flat-topped sandstone mountains in this section of the peninsula are covered in fynbos, one of the most diverse flora in the world. However, behind Ocean View, Kleinberg is heavily infested with dense growth of Port Jackson (*Acacia saligna*) while Slangkop retains its original low indigenous vegetation. Hidden under the alien vegetation Behind Ocean View are numerous piles of rubble and litter, and concealed lean-to shacks, the surrounding mountains depicting the differences between the two communities (see Plate 2.18). Available funds and political interest means resources exist to manage Slangkop, controlling aliens and litter, while the community utilises the area for recreational activities. Historically, the lack of funds and political interest in the area surrounding Ocean View restricted management efforts and today the problems of habitation, alien infestation and litter are severe.

The Noordhoek valley and the local mountains provide the catchment basins for the water in the area although many of the original wetlands have been drained. The Bokram river flows though Ocean View and Kommetjie and then into the sea at Long Beach (see Plate 2.19), while the bulk of the water in the valley collects in the seasonal and permanent wetlands (Papkuilsvlei and Wildevoëlvlei) and then flows into tidal lagoons on Noordhoek beach (see Figure 2.2). While acting as natural filtering systems for the valley, these wetlands support a diversity of fauna, including a rich birdlife and a variety of mammals (Wilkinson and MacDonald, 1998). Threats to the wetland ecosystem and their function as a natural filter are severe and increasing with the surge of urban development in the valley (Dennis, 1998c). The main sources of

Plate 2.18 Litter and rubble concealed under alien vegetation around Ocean View

Plate 2.19 The Bokramspruit flowing through Ocean View

Plate 2.20 Developing houses on beachfront dunes in Kommetjie

pollution in the wetlands[8] include untreated stormwater runoff and effluent from the sewage treatment works which have affected the seasonality of the wetlands (Dennis, 1998c). The crisis reached a climax towards the end of 1997 with the toxic blue-green algal bloom in Wildevoëlvlei, which not only threatened human life but poisoned the wetland system and the marine habitats near the vlei outlet[9] (Harding *et al.*, 1998).

As with other natural features in the area, Wildevoëlvlei has not been able to escape the talons of developers. Overlooking the vlei is Imhoff's Gift, a recent residential development, selling itself on the view of the vlei, the birdlife and natural setting. The view from the vlei is of bush vegetation onto the ocean -- a scenic vista of an apparently undefiled landscape. However the vegetation is dense alien growth and pollution from the light industrial area and the sewage treatment works pumps into the vlei. Further developments are proposed for the vacant land around the vleis[10], increasing the threat to the wetland systems and habitats in the area, which represent one of the rarest ecological systems in the world (Dennis, 1998b). Affected by sprawling urban developments on low-lying coastal land is sandplain proteoid fynbos, one of the most endangered fynbos vegetation types. With 40 endemic and 55 threatened species, sandplain proteoid fynbos has been almost completely eradicated from around the Peninsula (the Noordhoek case representing the last viable stand) as these flat coastal areas are usually the first to be developed (Wilkinson and MacDonald, 1998:6). Increased development around Kommetjie and Ocean View will also affect the CPNP and the hope of a natural corridor linking the northern and southern sections of the park (separated by development in the Noordhoek/Fish Hoek valley) for continuity and the movement of species.

The two beaches, although well utilised by both locals and travellers from the surrounding areas and beyond, are still places where one can go to for solitude and privacy. The beaches are vast and it seems almost possible to vanish in the glaring white sands. Low dunes separate and partly obscure the first row of houses from the beach although further on the dunes are consumed by luxury developments which

[8] The uncertain future of the wetlands is compounded by the fact that only half the land covered by wetlands is in the CPPNE, the rest owned by different landowners (Yeld, J., 1998b: Mountain to climb ... then the dream, *Cape Argus*, 29 April.)
[9] Yeld, J., 1998c: Vlei to drop salt bomb on toxic algae, in *Cape Argus*, 30 March.
[10] Planning meeting, 18 June 1998

dominate the coastal landscape (see Plate 2.20). While scrub vegetation battles to survive in the harsh coastal environment signs have been erected, helping people to understand and respect the dunes and the sensitive vegetation. However, from each house across the dunes is a multitude of paths and trampled plantlife. Even in this tough and mutable environment the insidious effects of environmentally insensitive behaviour are taking their toll.

CONCLUDING REMARKS

The continual pull between the urban and biophysical landscapes creates a set of tensions that are compounded by the needs and interests of two communities, who, while located side-by-side, are overshadowed by immensely different social and economic conditions. A number of contested issues simultaneously unite and divide Kommetjie and Ocean View, as well as the communities and the natural landscape.

Contested issues between the Kommetjie and Ocean View communities centre largely on the perceived conflicts between conservation and development. An example taken from the housing crisis in Ocean View illustrates this issue. Towards the end of the 1980s, the historical "buffer" between Kommetjie and Ocean View was earmarked for housing for the severely overcrowded Ocean View community. However no houses were built and the issue has re-emerged as the contested land could form a "green corridor" between the northern and southern sections of the CPNP. Opposing stances have been adopted by each community as the housing vs. conservation issue has become politically and emotionally charged.

One of the most penetrating examples of conflict between urban and natural areas is the "baboon problem" -- the regular, "threatening" appearance of baboons in the Kommetjie village. This issue has aroused strong and conflicting emotions, from those defending the rights and existence of these creatures on the Peninsula, to those who now brutalise and slaughter the dwindling populations of baboons in an attempt to keep them out of the villages. A further example where urban-natural interactions have reached boiling point is the toxic and life-threatening contamination of the wetlands, particularly from untreated stormwater and effluent from the sewage works. These issues are examined in greater detail in chapters seven and eight.

This descriptive introduction has invoked a sense of what exists in terms of the urban and biophysical landscapes of Kommetjie, Ocean View and the Cape Peninsula. Although natural features appear to dominate the landscape, creating something special and unique in this place, perceived conflicts between society and nature, as well as internal politics and hidden agendas threaten to topple the unsteady balance between the urban and natural landscapes. In order to improve the management of this unique, but also remarkably indicative landscape, we need new ways of understanding environmental issues that define the relations between nature and society.

- PART II -

THEORETICAL UNDERPINNINGS: UNDERSTANDING "SOCIETY" AND "NATURE"

> "The separation of the *built* and *natural* environment is problematic ... insofar as it ignores the fact that for many people their living and working spaces are the only environments they ever experience, and to restrict environmental discourse to concepts of nature is to ignore the daily realities of people who cannot escape their immediate boundaries."
> (MacDonald, 1996:25)

The need for an integrated understanding of the relationship between the "built" and the "natural" environment, while an emerging field in environmental research, is seldom undertaken such that the complex nature of contemporary environmental issues is embraced and disassembled. Largely a legacy of historical attitudes towards nature and society, this abstract theoretical division of ours permeates management approaches and "solutions", which consequently fail to address the broader implications and effects of a problem.

This part of the thesis provides the theoretical underpinnings and methodological framework of the research problem, which examines the interactions between urban and natural areas in reference to a case study undertaken in Kommetjie and Ocean View on the Cape Peninsula. To clearly explain and understand the fragmented approach to environmental issues, and thus the disjointed management of a national park within a city, this theory is divided into three chapters.

The first chapter (chapter three) reviews changing approaches to nature and conservation, tracing the degree to which many of historical perceptions permeate contemporary discourse on nature and conservation. There is a strong emphasis on the way in which protected areas, or national parks, have been influenced by these dated perceptions, and further, the degree to which politics and power relations are instilled through the establishment of protected areas. The chapter concludes with an examination of the role of conservation in the relationship between urban areas and nature particularly in the context of social justice.

Chapter four undertakes a parallel review of urban environmental problems, which have traditionally been located in almost total isolation from broader ecological issues. An examination of mainstream theoretical and policy approaches to urban problems reveals the specific focus on intra-urban issues and the neglect of the complex effects of urban areas in the broader environment. The implications of this omission are then related to the failure of policy approaches to effectively address the underlying structures which determine the marginalised position of the urban poor in both society and the environment, and who thus have no control over their living conditions.

An analysis of an integrated approach to understanding and approaching environmental issues, which explores the internal relations between society and nature, is developed in chapter five. The factors reinforcing our divided understanding of the environment are examined and related to the social construction of environmental issues. The role of this perspective in enhancing our understanding of the way we perceive the environment is then debated. The failure of efforts to merge our approaches to the environment is related to the failure of existing integrative theory to suggest a practical agenda for change that embraces nature and society within the broader political economic context. In this regard, the potential of political ecology is debated as a framework to structure such an agenda.

The application of political ecology, while largely based on rural experience, is then tested in chapter eight, in relation to the research done in Kommetjie and Ocean View which is presented in chapters six and seven. As a multidisciplinary, politically and environmentally aware methodological framework, I believe that political ecology presents the ability to provide an insightful and penetrating analysis of the complex relations between urban and surrounding natural environments. While disentangling the manifestation of power relations and land uses that the dominant political economy has imposed on the landscape, political ecology addresses the needs of those, who have thus far been silent in the environmental debate.

- CHAPTER THREE -

THE GREEN AGENDA: CHANGING ATTITUDES TO NATURE AND CONSERVATION

> "...if nature is nothing but a bewildering panorama of changes, many of them induced by human beings going back to ancient hunters setting fire to the bush, and if our attitudes towards nature are themselves demonstrably in a state of constant flux, so that yesterday we hated wolves and today we love them, then what should conservation mean?"
> (Worster, 1994:3 in Adams, 1996:96)

INTRODUCTION

Over the last century the ideas and practise of conservation and the perceptions of nature have undergone significant changes (Silvertown and Sarre, 1992). The conservation movement has evolved from a small group of people concerned about the survival of threatened species to an integral and important part of our lives (Hanks and Glavovic, 1992:690). The movement is no longer seen as being anti-society, but aims to enhance the living conditions and quality of people's lives, and to create a sustainable basis for society as well as to conserve biodiversity, natural features and processes.

However, the history of conservation has been controversial and often cited as the cause of the slow acceptance of (and even the resistance to) the environmental movement in society (Stocking *et al.*, 1995:156). Historically, conservation entailed (and in many cases still does) the protection of species and their habitats to the exclusion of people (with the exception of scientists and selected affluent tourists), often identifying local resource users as the primary causal agents in the loss of biodiversity. Such conservation practises are embedded in Western[11] historical understandings and interpretations of nature. Mainstream European perceptions of nature have varied from the pre-Victorian period when nature was perceived as "evil wilderness", to the later romantic notion of nature and more recently to a utilitarian interpretation (Bayliss-Smith and Owens, 1994; Beinhart and Coates, 1995; Evans, 1992).

While structuring the evolution of the conservation movement, these historical attitudes, have framed, and in many cases continue to frame, modern attitudes towards

[11] unless otherwise specified, mainstream conservation will generally refer to Western concepts which, due to the domination of Western politics and practises in the world, have largely shaped conservation efforts throughout the world.

nature, particularly the separation of humans from their environment (Benton, 1994; Hannigan, 1995; Harvey, 1996:132-5). An understanding of the historical discourses surrounding the concepts of "nature" and "environment" provides insight into the success or failure of current conservation initiatives, as well the prevailing hiatus between "green" and "brown" environmental issues. In this regard, historical attitudes towards nature and the development of nature conservation will be explained in more detail, followed by a review of current attitudes towards nature and their role in shaping contemporary conservation initiatives. In conclusion, the importance of allowing the concepts of nature and the environment to evolve will be explained, particularly in the light of increasing urbanisation and social inequities.

ATTITUDES TO NATURE AND THEIR INFLUENCES ON CONSERVATION

Two notions that underpin much of Western environmental thought (and perceptions of nature developed in this chapter) include the belief that time is linear and non-repeatable which promoted the idea of continual progress towards a "perfect world", and secondly, the notion of dualism which emerged during the classical period (Simmons, 1993:11). Dualism[12] separates humans from other species and accords humans powers and rights over everything else. These notions underpin the ideas of environmental determinism, a second world (a human world and a natural world), the conquest of nature and the idea of a Golden Age of harmony between people and nature which have appeared at stages during the development of environmental thinking (Simmons, 1993:13).

Prior to the dominance of Western thought, societies in the "non-Western" world expressed different ideas about the "natural" world. Before industrialisation in Japan, the concept of a natural environment did not exist and the closest idea, expressed as *fudo*, presented society and nature as inseparable (Simmons, 1993:13). Similar ideas were held by cultures in India, America and Africa prior to colonisation or industrialisation (Ghimire, 1994; Khan, 1994; Notzke, 1995).

Within mainstream environmental thought, Silvertown and Sarre (1992:239-46) distinguish broad categories in the historical perspectives on nature, namely: stewardship of nature, imperialism, romanticism, and utilitarianism or hedonism. Although this is a simple breakdown of perspectives, the authors acknowledge that

[12] related to the existence of an "other"

combinations or variations of the categories might occur and that these categories have been modified since their historical inception.

The stewardship of nature is an attitude that evokes the privileged position of humans in relation to the rest of nature. According to Silvertown and Sarre (1992:239) this concept is often advocated in religion (e.g. Judaism and Christianity). Humans are ultimately responsible for the treatment of these "lesser" elements of the natural world. Imperialism over nature, closely associated with colonialism, is also reinforced by the Christian faith[13]. Associated with colonialism, imperialism advocates the ascendancy of human rights over nature, including the right to dominate nature (Silvertown and Sarre, 1992:242). Romanticism regards nature as having an intrinsic value and promotes a return to "wild", untamed nature. Utilitarianism or hedonism advocates that the only beings that matter are those that are capable of feeling happiness and pleasure. It is therefore wrong to cause harm to any creature capable of these feelings but those not capable of such states are disregarded (Silvertown and Sarre, 1992:245).

Further dimensions to these perspectives on nature include those described by O'Riordan (1981) and Bayliss-Smith and Owens (1994). These are ecocentrism (associated with Gaianism and communalism) and technocentrism (associated with accommodation and technological intervention). Technocentric philosophies (inherent in scientific approaches to nature) believe the natural world is "neutral matter" to provide for human needs and that environmental constraints presented by this "other" world can be overcome using technological innovation. Ecocentric philosophies however, acknowledge the intrinsic value of nature and believe the natural world (including society) exists in a delicate state of balance determined by natural law (O'Riordan, 1981). There are many varieties and modifications of these attitudes particularly in contemporary discourses, but the underlying ideas are consistent and continue to permeate environmental thinking.

Understanding the variety of perspectives through which nature is interpreted provides the philosophical underpinnings for the ways in which the conservation of nature is approached. Traditional Western conservation efforts have been largely influenced by the (Western) scientific approach to conservation and are thus predominantly based on

[13] "replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air and over every living thing that moveth upon the earth" (Genesis I:28 in Silvertown and Sarre, 1992:241).

technocentric principles which manipulate nature and ecosystems according to our system of values to produce a desired outcome (Adams, 1996:90). Consistent with technocentric tendencies of "othering" nature, science is believed to exist and operate outside natural systems, thus providing the tools to study nature. Furthermore, because conservation has relied on science it has enjoyed the privileged status accorded to scientific endeavours and as a result, science is often used to justify conservation actions (Adams, 1996). The establishment of national parks, often banishing local groups from ancestral land on which they have lived for generations, is an example of actions carried out in the "greater good" of conservation.

The Western concept of a national park originated in the United States following the establishment of Yellowstone National Park in 1872 (Dearden and Berg, 1993:195; Kothari *et al.*, 1995:189; Lucas, 1992:3). Yellowstone was initially established to preserve scenic beauty and to meet the leisure and educational needs of the population (Ghimire, 1994:198). However the underlying view was one which presented human society as antagonistic to and incompatible with the wilderness concept (Kothari *et al.*, 1995:189).

This United States model of conservation was then exported to other countries, particularly developing countries, on which further national parks were based (Beinhart and Coates, 1995). The function of a national park has evolved from preserving scenic beauty and providing recreation and education, to the conservation of mammals and further, to the preservation of biological diversity and the maintenance of ecological processes, at the same time generating local economic growth through tourism activities (Ghimire, 1994:198). However, local people are often viewed as the major threat to conservation and the aim of the park is thus to prevent human interference. National parks are therefore established without considering the needs and lifestyles of local people and as a result, impose high costs on poor communities who are denied use of natural resources within the park (Cock, 1991; Ramphele, 1991; Stocking *et al.*, 1995). Conflict and hostility towards the national park results, as local communities try to protect their livelihood in the face of conservation. Local groups develop an aversion towards the notion of conservation and any benefits that might accrue from conservation activities are undermined, as locals team up with poachers and refuse to recognise new spatial boundaries (Beinhart and Coates, 1995; Ghimire, 1994:199; Neumann, 1992). In South Africa, apartheid government policies have

alienated a large proportion of the population from ecological concerns, as conservation was often at the expense of human rights (Beinhart and Coates, 1995; Cock, 1991, Gosling, 1998b; Khan, 1994; MacDonald, 1996; Ramphele, 1991). It is these underlying technocentric assumptions that have caused conflict and contestation around the conservation of natural resources, and has thrown the success of the traditional model of conservation into dispute (Stocking *et al.*, 1995).

In recent years, there have been calls for the development of new ideas to underpin conservation efforts. Governments and aid agencies have come to realise that protected areas cannot be successful without accounting for the needs of the local population (Ghimire, 1994:199). For example, cross border poaching from Mozambique to the parks in South Africa has drawn attention to the need for integrating conservation within broader political economic issues (Beinhart and Coates, 1995). Ideas such as biosphere reserves[14], and more recently, integrated conservation-development projects[15] (ICDPs), which promote the integration of local people into graded conservation areas, have lead the changes in conservation thinking. The goals of ICDPs are seen to complement the traditional practises of indigenous groups and their system of land use, thus enabling local groups to live in harmony with nature (Neumann, 1997:563).

Neumann (1997:560) argues that while some changes have occurred, politically, many of the new forms of conservation practises represent a continuity rather than a break from past (colonial) practises. New practises have not escaped the power relations between Western and non-Western groups. Buffer zones[16] are often seen to represent an expansion of state power from protected areas into neighbouring communities, and have been used to sanction activities associated with conservation, such as the forced removal[17] of local groups and the restriction of land use practises (Ghimire, 1994:212; Neumann, 1997:561). Conservationists assume that all indigenous groups live in harmony with nature, according to one "traditional" system and as a result, they fail to account for differences in land use and systems of tenure between indigenous groups. Communities are also assumed to live in isolation from the "outside" world as linkages

[14] proposed by the Man and Biosphere (MAB) reserve project in the 1970s.
[15] which proposes that all conservation and development are mutually interdependent and must be linked in conservation planning (Neumann, 1997:562).
[16] a component of biosphere reserves and widely used as a conservation management strategy.
[17] a key buffer zone management strategy, typically referred to as "the removal of incompatible land uses" (Neumann, 1997:575).

with the broader political economy are ignored by conservationists (Neumann, 1997:562). The potential for conflict between and within groups is thus created by imposing conservation policies, based on inaccurate assumptions about traditional systems, onto existing indigenous systems.

Many of the historical power relations between first world conservationists and rural groups are therefore imported into the "new" approach to conservation (Neumann, 1997:563). Groups that traditionally live in harmony with nature are permitted in protected areas, but certain practises of these groups, determined by first world conservationists and the State to be incompatible with conservation, are prohibited in the protected area. Thus, although ICDPs are promoted as participatory and empowering, the power to choose, design and enforce conservation practises lies far from the communities they affect, severely limiting the participatory nature of "new" conservation practises (Neumann, 1997:566). Furthermore, these new (Western) approaches to conservation are stained with historically entrenched stereotypes of the non-Western "Other" -- the primitive indigenous person who has evolved living in harmony with nature (Neumann, 1997:566). These assumptions blur the politics behind new developments in conservation thinking.

Western conservation practises have thus not managed to escape their technocentric pasts or to overcome the inherent dualism behind their practises. Throughout the third world, but particularly in Africa, the images and construction of a dark, primitive culture available to advanced (Western) cultures for conquest continue to influence conservation and tourism practises (Neumann, 1997:567). Questions of unequal power remain unaddressed in new conservation practises that promote integrated planning between local communities and conservation. It is quite realistic therefore, to expect resistance to contemporary conservation proposals, as occurred with colonial conservation, given that there have been few meaningful changes, perpetuating political economic relations.

Successful and socially just conservation requires a truly mutual dialogue between local people and conservationists that empowers local groups to gain control over their lives and improve their living conditions (Harvey, 1996; Neumann, 1997). Recurring flaws in past and present conservation practises must be identified and policies which promote power sharing must be promoted (Kothari *et al.*, 1995; Neumann, 1997). In

order to achieve this, the differences between indigenous groups and their customs must be accepted. Conservation policies must be examined to expose hidden political motives that impose particular conditions on local groups. Finally, our understanding of the effects of conservation must be informed by a politically aware perspective that promotes socially equitable conservation (Blaikie, 1995a; Blaikie, 1995b; Bryant, 1997, Ghimire, 1994; Neumann, 1997).

This point is illustrated with reference to the establishment of the Richtersveld National Park in the north western Cape, South Africa. The harsh environment of the Richtersveld, the habitat of a diversity of rare flora and fragile ecosystems, had been home to the Nama people for generations. In the context of apartheid South Africa, the Richtersveld was also a "coloured reserve". In the 1980s, the proposal to establish a national park in the area was met with strong objection from the Nama who had not been involved in the process (as a result their needs and interests were not represented) and were offended at the sudden need to conserve the land, afterall, they had not destroyed it (Beinhart and Coates, 1995). After lengthy negotiations with a representative committee from the Nama, the national park was renegotiated to favour the rights of the Nama people, as well as stock farmers in the region (Boonzaier, 1991). The Nama changed their image from a primitive, subservient and geographically isolated people, promoting the idea that they were part of the coloured population in South Africa (Boonzaier, 1991). Although this had negative connotations, it gave the Nama a group with whom they were able to identify in the broader context. In 1990, the signing of the national park contract formalised a mutually beneficial relationship between the National Parks Board and the Nama (Beinhart and Coates, 1995; Boonzaier, 1991). It also showed that establishing a national park involves acknowledging the integral relationship with people and the environment, as well as resolving conflicting interests (Boonzaier, 1991). However, on a cautionary note which deserves further study, the Richtersveld National Park case displays many of the assumptions (such as nature *production* and the preservation of "African wilderness") strongly criticised in the history of the Serengeti National Park in Tanzania by Neumann (1995).

Protected areas form the heart of conservation action and while there are clear advantages as well as disadvantages to this approach, it is necessary to accept that, although a critical component of any future conservation strategy, protected areas

alone will not be sufficient (Adams, 1996:115). They are traditionally isolated not only from surrounding areas and local people, but also from the wider economy. Protected areas will be harder to acquire in future, and they are also more effective if integrated into the landscape, beyond rural land-uses, thus penetrating into society and the economy and binding "rural, town and country together" (Adams, 1996:150).

A review of contemporary environmental literature displays the essence of the dualistic understanding of the world, as natural environmental issues are researched and managed in almost total isolation from urban issues. I have referred to the vast literature on nature conservation issues centred on the preservation of biodiversity and integrating surrounding rural communities, and in the following chapter, to an equally large body of literature on urban environmental problems, focused on pollution, sanitation and housing. Our understanding and management of environmental issues[18] seldom bridges this divide between the urban and the natural context. A simple reason for this is existence of very few cases where protected natural areas abut urban areas (as with the Cape Peninsula National Park and the Cape Metropolitan Area). The distinction is also related to the fact that society and urban systems have traditionally been understood through the social sciences, whereas physical sciences generally underpin natural systems. Before considering the current inadequate and ineffective efforts to address environmental problems, the context of rapidly expanding urban areas and the fact urban areas will be home to the majority of the world's population, provide sufficient reason to justify the need for environmental scientists (of all sorts) to reconsider this disjuncture.

For most people, their experience of nature will be predominantly urban, whether holidays involve trips to national parks, or whether the only "accessible" nature is an urban park, a river winding through the suburbs or the sea beyond the harbour breakwater. Many of us will only see cities for their ability to pollute and destroy nature (Adams, 1996:111; MacDonald, 1996). Nature is therefore interpreted through the culture, values and knowledge acquired in an urban environment and it is thus vital, that:

> "[C]onservation ... take[s] seriously the challenge of doing something about the increasing distance between people and nature, and particularly the irrelevance of nature within urbanised lives and urban spaces. We have to rebuild contact with nature, and re-establish a place for nature in popular culture. ... If we do not tackle the issue of our cultural distance from nature, no amount of tinkering with

[18] both urban and natural (environmental) issues

> protected area systems will be much use. ... The task for conservation is therefore to foster and build up this community of experience, the daily recognition of the existence and otherness of nature: its actions, its values, and its rights."
> (Adams, 1996:113)

Humans cannot be seen as factors external to nature. Humans have long since been an agent of ecological change and are a fundamental component in the dynamic and variable patterns of nature. As a result, conservation should not be about preserving a particular status quo, but about negotiating human impacts and thus handling the transition through time (Adams, 1996:96; Harvey, 1996).

A further dimension is added to the dualism debate which is widely criticised for dividing society and nature. Nature is socially constructed but there is something beyond that construction. Adams (1996:105) argues that there *is* an "otherness" to nature that we are able to experience but which lies beyond our (conservation science and cultural construction) ability to tame nature.

> "We must allow nature space to be itself, to function, to build, to tear down. ... Nature *acts* outside our [conservation] plans. We must be prepared to allow nature to act. Our conservation must recognise that it does so, and not seek to corral it within the bounds of either our predictive science, or within the frameworks of our bureaucratic or business-management models."
> (Adams, 1996:170)

Conservationists cannot assume that nature can be contained within their plans and this ability of nature to act as an active agent must be recognised. There must be space for the power and uncontrollability of "wild nature" within conservation. "This is the beginning of conservation" (Adams, 1996:105). Ironically, accepting the notion of an "other", long criticised as part of technocentric thinking, underpins ecocentric movements like deep ecology (Adams, 1996:105).

CONCLUDING REMARKS

The future and success of conservation begins when we move away from historical ideas of protected areas as largely separate from other land-uses to one emphasising co-ordination and integration on natural, social, economic and broadly human ecological grounds (Ghimire, 1994; Dearden and Berg, 1993:209). Unless conservation thinking evolves to incorporate these ideas and changes in a politically aware mindset, it is predicted that conflict surrounding protected areas will increase, rendering centuries of conservation efforts of little significance.

A review of the evolution of attitudes towards nature and conservation illustrates the degree to which environmental thinking is inextricably bound by the mindset and

policies of the dominant political economic systems. For example, images of nature and nation are fused in South Africa with the use of the springbok and the protea emblems to represent national sporting teams. The creation of the Kruger National Park (named after President Paul Kruger) was less about support for conservation than the "surge of white nationalism" (Beinhart and Coates, 1995:76). Thus the patterns of domination of nature are manifested in the domination of groups and communities within our society, creating a set of inequitable and imbalanced power relations (clearly illustrated between Kommetjie and Ocean View). This chapter has focused on conservation and has emphasised the way in which natural systems, power relations and inequities are related to, and compound, environmental problems. In chapter four, I explore parallel developments in the urban realm, while looking for a space where the dialogue between conservation and human society can be re-opened, opening the way for an integrative approach to the Cape Peninsula, Kommetjie and Ocean View.

- CHAPTER FOUR -

THE BROWN AGENDA: URBAN ENVIRONMENTAL ISSUES

INTRODUCTION

The 1990s have seen a flurry of activities highlighting urban environmental issues (Drakakis-Smith, 1995; Leitmann, *et al*, 1992; MacDonald, 1996). A review of the literature on urban environmental issues shows a young, yet rapidly expanding field (Clark; 1996; McCarney, 1995). The focus of an explicitly urban environmental agenda is on problems of third world cities, concentrating on the relationship between poverty, health and the environment (Drakakis-Smith, 1995; McCarney, 1995). By contrast, urban environmental issues of the first world are researched under the banner of environmental quality and standards (McCarney, 1995:230). However, as the importance of first world cities grows and cities of the South become more differentiated, the gap between the environmental agendas of first and third world urban areas is slowly closing. The effects of many urban environmental problems cross this divide, especially in large, rapidly expanding cities, and notably in South African cities, where the divide between first and third world is split along racial lines.

First world environmental policies, largely influenced by the 1969 National Environmental Policy Act of the United States, are being used to influence and in many cases determine, environmental policies for countries throughout the world, including those in the South. Numerous international conferences and reports (see Table 4.1) address the urban environmental problems of the world. Although these represent admirable efforts, "even taken together, they do not constitute a comprehensive, consistent approach to the environmental issues faced by third world countries" (Leitmann *et al.*, 1992:131). Furthermore, there is little evidence of practical solutions for increasing the *sustainability* of urban areas (Drakakis-Smith, 1995). Environmental policies in the South have developed in reaction to first world environmental problems and are based on the availability of first world facilities and infrastructure to address these problems. As a result these policies may not be suitable for third world cities where the facilities, infrastructure and institutional capacities may differ (Fuggle, 1992).

DATE	NAME	FOCUS
1969	Pearson Commission	dealing with the problems of development and assessed policy solutions
1972	Stockholm Conference (The United Nations Conference on Human Environment)	highlighted the disparities between the rich and the poor countries of the world
1979	Brandt Commission Report	emphasising the importance of non-renewable resources etc.
1985	Healthy Cities Project of the World Health Organisation	aimed to introduce health to the agendas of European cities
1986	HABITAT Report (from 1st United Nations Conference on Human Settlements)	reviews the conditions of human settlements and analyses the forces and trends accounting for both their present development and continuous creation, maintenance and improvement (HABITAT, 1987:1)
1987	Brundtland Report (World Commission on Environment and Development)	emphasised the need to link environmental and developmental issues
1992	United Nations Rio "Earth Summit" (UNCED)	attempted to foster political co-operation in the issues of biodiversity and climate change. (Walmsley and Botten, 1994:1) Although Agenda 21 was one of the main outcomes of the Rio Earth summit, the summit failed to address the "brown agenda" -- urban environmental problems (Cohen, 1993).
1996	HABITAT II Istanbul - 2nd United Nations Conference on Human Settlements	intended to set a new agenda for the 21st century to ensure governments and agencies tackle increasing urban problems.
1997	Special Session of UN General Assembly, New York	to determine how well countries, international organisations and sectors of civil society had reacted to the 1992 Rio Earth Summit (CMC, 1998)

Table 4.1: Conferences and reports addressing current environmental issues. (Compiled from: Cohen, 1993; CMC, 1998; HABITAT, 1987; Leitmann *et al.*, 1992 Walmsley and Botten, 1994; WCED, 1987)

A precise understanding of urban environmental problems, in both first and third world cities, is therefore important. In reviewing the literature on urban environmental issues, it is found that although some of the environmental problems and specifically their causes, may differ between the first and the third world, the people worst affected by these problems are the same in both first and third world cities. The people that are least able to protect and/or separate themselves from environmental problems and who are often forced to live and work in environmentally degraded or hazardous environments are the poor, unemployed or homeless people of the city (Cohen, 1993; Cutter, 1995; MacDonald, 1996; Perlman, 1994; Rees, 1992; Satterthwaite, 1993; Seabrook, 1996). Furthermore, the poor are the most disenfranchised people in the city and the least able to express their concerns regarding urban environmental problems (Harvey, 1996; Vyn Williams, 1997). It is

thus through the lens of social justice that the impact of environmental problems of both first and third world cities is most acute, and through this lens that these issues will be discussed. Current theoretical approaches to urban environmental problems will firstly be examined, followed by an analysis of particular policy approaches to urban environmental problems. The strengths and weaknesses of these approaches in relation to social equity will be highlighted.

THEORETICAL APPROACHES TO URBAN ENVIRONMENTAL ISSUES

The broader impact of urban areas on the environment is a crucial issue, but one that has not enjoyed high academic profile, either in urban literature or environmental research. Theoretical approaches to the broader impacts of cities on the environment have been documented in the literature but practical attempts to mitigate urban impacts in surrounding areas are seldom considered. The dominant theoretical approaches examined in this section include: the interest in achieving urban sustainability; the concept of ecological footprints which considers the impacts of cities in the broader environment; global perspectives on urban environmental issues and their implications at a local scale; and finally issues of social justice which examines the position of the poor in the environmental agenda.

Urban Sustainability?

There has been marginal interest in urbanisation in the debate on sustainability, despite the importance of cities in the development process and the urban origin of many environmental problems (Clark, 1996; Drakakis-Smith, 1995:662). Although debates on sustainability are hindered by a lack of hard evidence and speculation (Clark, 1996), two opposing arguments emerge. These advocate that cities are either essentially unsustainable or that they play a crucial role in sustainable development.

Global sustainability would be attained if all populations lived within their own regional carrying capacities without imposing unjust costs on regions beyond their boundaries (Rees, 1992; Walmsley and Botten, 1994). However some authors suggest that the permanent carrying capacity of the earth, has already been overrun (Catton, 1980 in Rees, 1992; White and Whitney, 1992 in Drakakis-Smith, 1995). We must accept that cities are unsustainable as the nature of economies and urban living entails a global interdependence. Urbanites are heavily reliant on resources from distant regions, and thereby expedite the exploitation of those areas. Whether the current

rate of urbanisation can be supported, given the strain on resources, throws doubt on the sustainability of urban living (Clark, 1996).

The differential impacts of developed and developing world cities must be considered in the sustainability debate. The resources consumed and wastes produced by cities of the North far outweigh those of cities of the South (Clark, 1996). Furthermore, the countries and cities of the North cannot support themselves. Resources extracted from the third world and surrounding rural areas are necessary to support first world urban centres (Anton, 1995; Hardoy, *et al.*, 1992; Rees, 1992). Therefore, it is important to establish an equitable balance between first and third world cities that does not place the latter as the victim of the former's affluence.

Not all authors are so pessimistic about the role of cities. Mitlin and Satterthwaite (1994), query the arguments for the unsustainability of cities as they suggest that urban areas are essential for sustainable development. Not only are cities huge investments of capital and resources, but also centres of advantage and potential. The positive effect of cities in the development process is seldom acknowledged. Urbanisation often causes fertility rates to decline while the concentration of people in the urban area reduces pressure on surrounding rural land (McCarney, 1995:245). However, a key requirement for beneficial urban areas and the successful utilisation of the resources within cities is good governance[19] (Drakakis-Smith, 1995; McCarney, 1995; Walmsley and Botten, 1994; Vyn Williams, 1997).

O'Riordan (1997) argues that sustainability is not the endpoint of a linear progression, but rather a transition. To facilitate this transition it is essential that partnerships and links are developed in society, both vertically and horizontally, that allow the diffusion of knowledge and the adoption of common goals founded in sustainability. The transition to sustainability is thus a process that must be allowed to adapt to and incorporate new developments in knowledge. A focus on the impacts of cities in broader ecosystems is a recent development that enables planners and environmentalists to see beyond the urban context.

[19] which implies legitimacy in the relations between civil society and the state (McCarney, 1995:252).

Ecological Footprints

> "How brilliant its economic star, every city is an ecological black hole drawing on material resources and productivity of a vast and scattered hinterland, many times the size of the city itself."
> (Rees, 1992:125)

Ecological principles were firmly integrated into contemporary planning theory with the publication of the seminal *Design with Nature* in 1969 by Ian McHarg. Since then authors have considered the application of ecological principles to urban planning and the implications for urban areas (Aberley, 1994; Rees, 1992; Stearns and Montag, 1974). However, policy responses to environmental problems are restricted if they fail to understand the complex local and regional impacts of urban areas, better described as the human ecosystem (Rees, 1992; Stearns and Montag, 1974). Solutions are thus short-sighted in their application, not looking beyond the local environment, treating the symptoms and not the causes of environmental problems. An ecological understanding of urban areas has the potential to reveal complex dimensions of the urban system that have traditionally been ignored, for example, the dependency and impact of cities on the resource bases of distant lands (Rees, 1992; Stearns and Montag, 1974).

The total area of land required to sustain an urban region (its ecological footprint) far exceeds that within its municipal boundaries or the total developed area (Rees, 1992; Walmsley and Botten, 1994). The result is an ecological and geopolitical dependency (Rees, 1992:121). Consequently, attempts by planners and policy makers to tackle local environmental problems fall short of addressing the stresses and imbalances created by the city throughout the ecosystem at its broadest scale.

The size of a city's ecological footprint is dependent on the material standard of living of those in the urban area (Rees, 1992). Affluent living standards of higher income groups have a greater impact on distant resource bases which sustain their lifestyles, affecting the both urban poor and rural dwellers. The poor are most affected because, although their own impacts are significantly less than the rich, they bear the brunt of the of urban environmental problems. The resource base of rural areas is exploited to support distant affluent lifestyles, leaving large tracts of previously productive land barren.

As with many "anti-urban" arguments, the "ecological footprint" concept gives little consideration to what cities contribute to the environment (McCarney, 1995). Urban areas offer a means to support and absorb the impacts of an expanding population, the potential to produce goods and services, and to reduce population growth rates while offering opportunities and hope to its population (McCarney, 1995; Mitlin and Satterthwaite, 1994).

In attempting to understand a sustainable relationship between cities and their surrounding biophysical environments, Gasson (1993) proposes the idea of an "environmentally viable city." This is a city that, while growing, remains dynamically integrated into, attuned to and enhances the processes, forms and meanings of its biophysical setting (Gasson, 1993).

Gasson (1993:1) identifies three demands a city makes on the biophysical environment which together determine a city's ecological footprint.

- *extractive demands*: the inputs (e.g., air, water, food, materials) required for the functioning of a city;
- *absorptive demands*: the ability of the physical environment to absorb urban outputs (e.g., waste, pollution and heat);
- *expansive demands*: the spatial growth of the city for housing, employment and other social and physical infrastructures.

South African cities have been described as some of the most inefficient and wasteful urban regions in the world (Walmsley and Botten, 1994). Causes include low density sprawl, the culturally and functionally segregated nature of cities and the unequal resource consumption between cultural groups. In a study of the Cape Metropolitan Area (CMA), Gasson (1993) indicates this inefficient and sprawling urban region is in a state of imbalance, misfit and disharmony with the surrounding environment in terms of its environmental performance. In other words, the CMA is exceeding the capacity of the broader environment to support it, in terms of the resources consumed, the space needed for expansion and absorption of the impacts and wastes from the urban area.

While authors raise the issue of the impact of urban areas on both local and regional surrounding areas (Drakakis-Smith, 1995; Gasson, 1993; OECD, 1990; McCarney, 1995), few go so far as to suggest practical means of mitigating these urban impacts. McCarney (1995:246) identifies a priority for the urban environmental agenda:

> "the need to address the multijurisdictional nature of environmental planning in cities where natural geographic boundaries (versus political and administrative boundaries) define the scope of planning. Treating the city as an ecosystem demands re-thinking of the political jurisdictional conventions in planning across formal structures of government."

Global and local perspectives on urban environmental issues

The urban environmental agenda has shifted its focus from "local" issues of recycling, clean water, sanitation, etc. to global concerns of ozone depletion and global warming (McCarney, 1995). Whether this represents northern hemisphere environmental issues is unclear, however studies indicate that this agenda does not match citizens' specific concerns of waste, sanitation, water and pollution (McCarney, 1995). The failure to acknowledge and address popular environmental concerns may be attributed to the 1992 United Nations Conference on the Environment and Development (UNCED) which failed to focus on *urban* environmental issues.

Related to the neglect of UNCED to target urban environmental issues, is the failure of local governments to prioritise environmental issues, despite glaring evidence of environmental degradation. The inability of local governments to understand and act on environmental issues may be related to a failure to realise that global problems are rooted in local activities (Roseland, 1994). As a result local governments do not realise that by targeting local environmental problems they can have an effect on broader issues. Instead of dividing environmental issues between local and global arenas, it is essential to understand their interdependence and the importance of local environmental initiatives[20]. A means of addressing the interconnection of sustainability and urban problems has emerged and is articulated by Clark (1996). At an international scale, governments must intervene in unsustainable practises and interact to address these in a co-operative and integrated manner. Locally, authorities must attempt to regulate activities that challenge sustainability and threaten to undermine urban life from within (Clark, 1996:176). In this manner, issues that affect people on a daily basis are removed from their perceived isolation and given the international stature needed to focus funds and resources in their direction. The failure of local governments to address environmental issues perpetuates the squalor and poverty that is the way of life for impoverished urban residents. These and other

[20] A policy approach aimed at integrating global and local urban environmental issues, Local Agenda 21, is discussed in chapter five.

issues of social justice are crucial factors that demand the attention of the environmental agenda.

Social Justice

> "This then, is the contemporary city, and in it the relationship between rich and poor is made plain. The only difference is that when the plague threatens ... the rich can withdraw; but for those who serve them, there is no going back; whatever horrors the city reserves for them, they cannot return to degraded lands, mortgaged farms and ruined forests."
> (Seabrook, 1996:15)

The situation of the poor in the city is made poignantly explicit by Seabrook (1996). Having committed themselves to an urban life in the hope of improving their futures, the poor are forced to confront the environmental malaise in which they find themselves living. There is no escape and to return to the rural areas is to admit failure in the city. Hopes of improving their futures become secondary as poor health and well-being are inflicted by unhygenic living conditions. Research in Latin American cities shows that people living in apparently desolate circumstances choose to confront their situation, determined to cope, rather than return to the rural areas (Gilbert, 1997).

Environmental problems have traditionally been seen as elite, or even white, concerns and many would argue that mainstream issues are still perceived in this way (Harvey, 1996; Khan 1991; 1994, Lawson, 1991). Those who have the time and money to worry about environmental issues do so, while the rest have other, more immediate concerns (Cock, 1991). For example, in South Africa, black people, trapped in a daily battle for survival view environmental issues with suspicion as white middle class issues. Environmental issues in South Africa are thus inherently political and directly related to the apartheid regime (Cock, 1991; Khan, 1994). It was soon realised that environmental problems did affect the lives of the poor majority, but still believed that only those with power and money could address environmental issues (Harvey, 1996). As a result, the environmental agenda does not reflect popular concerns as decision- and policy-makers are out of touch with the concerns of the majority. The poor therefore remain affected by environmental problems that are not addressed by decision-makers and often caused by affluent lifestyles. Further, the poor are often at the receiving end of the decisions taken regarding the environment that do not represent their interests (Harvey, 1996)

Current environmental thinking acknowledges that while all urbanites are affected by environmental problems the poor are the most vulnerable since they are forced to live on hazardous sites and are least able to protect themselves (Harvey, 1996; Perlman, 1994; Seabrook, 1996). Confronting the root causes of environmental (and social) issues will require transformation of the underlying structures and processes which created the problem in the first place (Harvey, 1996:401). Equitable and creative strategies to utilise resources in cities that do not sideline the poor or the quality of the environment are essential for environmental justice. Priorities are to educate, empower and form partnerships between the urban poor and decision-makers. In this way popular environmental concerns are placed on the agenda and are addressed and targeted at a local level, by those whose lives they affect. This will provide an alternative approach of tackling environmental issues to the costly, resource-consuming conferences, summits and reports, organised and attended by politicians. Partnerships between local governments and the people they serve will raise the hope that environmental issues that affect the lives of people on a daily basis will find their way on to the international environmental agenda (Perlman, 1994).

Cutter (1995) argues that degraded environments are associated with economically impoverished areas. Environmental degradation is not equally distributed across the earth and inequities (e.g., more hazard-prone environments) between and within regions, as well as social injustices, compound the problem (Cutter, 1994; Harvey, 1996). For those whose position is already marginalised, unsafe or unsanitary environments in which they may be forced to live, reinforce their downward spiral. In South Africa, the poor, who live in appalling conditions reinforced by apartheid legislation and social engineering, have no escape from these grim environmental legacies of apartheid (Dewar, 1991, Khan, 1991; MacDonald, 1996, Ramphele, 1991).

Lessons for future environmental strategies

As in any field, understanding past and current thinking is essential to inform future urban environmental agendas. Policy-makers are thus aware of the positive and negative aspects of past strategies, enabling them to work with this knowledge and incorporate new thinking into future agendas. Emphasising the link between urban areas and sustainability exposes the broader impacts of cities on the environment -- how the effects of activities in cities extend beyond their municipal or even national

boundaries, to a regional and global scale. Explained eloquently by O'Riordan (1997): unsustainable activities in the environment, such as clearing forests and pollution-generating factories, serve to "tear the *fabric* of the earth". The global and local environmental dimensions of environmental problems must be made explicit in order to address these problems at all levels. Environmental strategies must also be designed to educate and empower those most affected by urban problems -- those who, because of the effects of degraded environments on their circumstances, are unable to break the self-reinforcing, downward spiral of degradation and poverty.

The focus of these theoretical approaches has largely been at an intangible, non-place based level. However, there are a variety of approaches that have addressed more tangible, policy-oriented issues. An understanding of past and present theoretical approaches to urban environmental issues, provides the framework for the review of approaches targeted at specific issues and policies that follows.

POLICY APPROACHES TO URBAN ENVIRONMENTAL ISSUES

Addressing specific urban environmental problems

Mainstream urban environmental issues include:

- *pollution,* including air, water and noise pollution;
- *sanitation*, which includes the removal of urban waste and sewage;
- *health*, on which most environmental problems have a significant impact;
- *overcrowding*;
- *access to resources*, especially to land and clean water, and
- *urban sprawl* and land use issues.

None of these problems occurs in isolation and their impact is most acutely experienced by the poorer members of society. In order to improve living conditions in urban areas, in both first and third world cities, the root cause of urban environmental problems must be identified and targeted. It must be realised that these problems are the manifestation of broader socio-economic or political imbalances that should be addressed before any improvement in conditions in both urban and rural areas can be anticipated (Harvey, 1996; Lawson, 1991; Stearns and Montag, 1974). Further, the relationship between the lack of basic services (sanitation, water, electricity), environmental degradation and urban poverty, particularly in third world areas, and its effect on the city, deserves similar attention (MacDonald, 1996; 1998). In the South African context, it is necessary to note the racial implications of apartheid and urban environmental problems: most white South Africans have lived privileged

lives in clean, well-serviced areas while black South Africans have been forced into appalling living conditions (Khan, 1991).

Pollution: air, water and noise

The brown pollution haze that hangs above many cities is the urban problem most closely associated with the term "the Brown Agenda" for urban environmental issues (Drakakis-Smith, 1995; Vyn Williams, 1997). While there are many other forms of pollution whose causes and effects cross income groups, the poor remain most severely affected as they are frequently located near sources of pollution and are unable to move or afford adequate health care.

Fires for cooking and heating, vehicle emissions and polluting industries are the main culprits behind air pollution (Hardoy *et al*, 1992; Kgomo, 1991). In certain cities, for example Cape Town, Mexico City, Stuttgart and Athens, local topographical and climatological conditions compound already severe air pollution, preventing it from being dispersed (Hardoy *et al.*, 1992; MacDonald, 1996; Stren *et al.,* 1992). These cities are situated in valleys or lowlands where temperature inversions and stable atmospheric conditions trap the air pollution above the city, compounding the problem (Gelderblom and Kok, 1994; Schteingart, 1989).

Beyond the direct sources of air pollution in third world cities, insufficient political will, inadequate financial resources and institutional capacity to tighten and implement pollution controls, and for many little alternative to long daily travel distances and the use of wood or coal for energy, account for the high levels of air pollution (Dewar, 1991; Kgomo, 1991; Vyn Williams, 1997). In the first world, concerns about air pollution centre on the effects of acid rain on forests and architecturally significant buildings. Certain countries (e.g., Netherlands) have made efforts to reduce atmospheric emissions but they are still hard hit by pollutants from neighbouring countries, such as Britain and Germany (Stren, *et al.*, 1992).

Noise pollution is identified as an urban environmental issue, particularly for the poor (Hardoy *et al.*, 1992; Stren, *et al.*, 1992; Vyn Williams 1997). Noise pollution originates in the work environment of many factories and industries, as well as from traffic along roads, highways and from aircraft. Lower income residential areas and informal settlements are often located near noisy activities or highways as land is

either vacant or available at cheaper prices. The location of the old Kai Tak airport near an urban area in Hong Kong exposes half a million people to excessive noise pollution (Stren *et al.*, 1992). Members of the lower income group are targeted by noise pollution in the workplace as jobs dealing directly with noisy, heavy machinery fall into this income category.

Water pollution has the most severe implications for sanitation and health, spreading diseases and reducing the quality of life, well-being and ability of those affected to improve their living conditions (Centre for Science and Environment, 1989; Drakakis-Smith, 1995; Hardoy *et al.* 1992; Lawson, 1991; Stren *et al.*, 1992). Polluted water, from untreated stormwater, the dumping of industrial waste, lack of adequate sewage, drainage and refuse removal facilities, is compounded in areas of water shortages, causing devastation and hardship, especially in the impoverished third world countries (Dewar, 1991; Hardoy *et al.*, 1992; Sarre, 1991). Beyond its physical source, water pollution is caused by inadequate infrastructure and financial resources needed to improve water supplies and prevent the pollution of water. In Africa, the World Bank has estimated that 35 percent of urban people do not have potable water within 200m of their dwellings (Stren *et al.*, 1992). Thus the health and well-being of communities without access to water is affected. Water supplies in first world cities are contaminated by drainage from landfill sites and run-off from streets. The situation in Cape Town is particularly severe as polluted groundwater from inadequate sewage and refuse removal facilities flows quickly into large underground aquifers, located under the poorest areas (where the water table is high), and through rivers into the sea (MacDonald, 1996). Governments are then forced to look beyond their boundaries for future water supplies, spreading the burden of urban areas (Stren *et al.*, 1992).

Sanitation

Related to pollution, sanitation is an environmental problem in both first and third world areas with distinct implications for social justice. While the sanitation systems in many third world cities, particularly in the poorer areas, are inadequate, the waste produced by the first world has far-reaching environmental consequences. Canada and the United States are recognised as the top waste producers of the world, producing up to two kilograms of solid waste per person per day -- twice that of any other country and still increasing (Stren, *et al.*, 1992). In the third world, inadequate

sanitation systems are more common than a lack of water and this is compounded by the uneven distribution of taps, which is targeted as a source of poor sanitation (Sarre, 1991). Poorer communities are often located, or forced to locate near (and often exist off) the waste dumps of the affluent (Khan, 1991; Lawson, 1991). The siting of sewage treatment works in black areas in apartheid South Africa was accepted practice however the sewage treatment systems in these areas (e.g., Khayelitsha) were so inadequate that raw sewage was often seen in the streets (Khan, 1991:131).

A lack of financial resources and poor planning in third world cities have resulted in waste removal and sewage facilities that are unable to cope with the increasing demand. Refuse that collects on streets and vacant land not only poses pollution and health risks, encouraging pests and the spread of diseases, but presents dangers to children and animals exploring the refuse (MacDonald, 1996; Sarre, 1991). In Bogotá, half the garbage produced annually is collected and disposed of by the local authorities while in São Paulo, one third of the population lives in areas with no garbage collection facilities. In Lima, 40 percent of the waste is removed and in Mexico, 75 percent is thrown in open air garbage deposits (Stren *et al.*, 1992). According to the ANC (African National Congress), about 12 million South Africans do not have access to safe drinking water and about 20 million do not have proper sanitation (MacDonald, 1996:20). Accra has experienced success using community initiated communal sanitation systems, where even in the poorest areas, there is a willingness to address the problem[21].

Rivers that flow through urban settlements collect sewage and refuse that pollutes the water and creates health risks for downstream water users (Centre for Science and the Environment, 1989). These rivers become disease vectors, reducing the quality of life of the affected community and their ability to improve their living conditions. The effects of sewage and waste dumped in land within or beyond urban boundaries has numerous effects in the broader ecological system, polluting the land and ground water and thus affecting the natural systems of wetlands, rivers and oceans.

[21] the ethics of such issues are critically discussed in MacDonald (1998).

Health

Every urban environmental problem, in some way, impacts on the health, well-being, quality of life and potential of people living in urban areas (Ekblad, 1993). This crucial link is frequently overlooked and misconceived, explaining why the *extent* of the urban environmental impact on health is poorly understood. At least 600 million people in Africa, Asia and Latin America are estimated to live in "life and health" threatening homes and neighbourhoods because of environmental hazards (Satterthwaite, 1993:109). Poorer groups are least able to protect or separate themselves from environmental problems, compounding their living conditions, as they are most directly affected by the problems (Hardoy *et al.*, 1992; Satterthwaite, 1993; Stren, *et al.*, 1992). A lack of financial resources and political will to provide poorer areas with better physical and social infrastructure, particularly health facilities, reinforces these problems (Vyn Williams, 1997).

In European cities, diseases linked to poor housing, lack of potable water and inadequate sanitation have been replaced by mental and social health problems. However, respiratory problems in the young and elderly are common in cities with heavy air pollution such as Hong Kong, where people are confronted with unacceptable sulphur dioxide and nitrous oxide emission levels (Stren *et al.*, 1992).

The physical impacts of water and air pollution and sanitation on health and welfare are more easily observed than the spatial impacts of sprawl, access to resources and overcrowding. The visible impacts of these problems on health are, for example, the spread of diseases in cramped conditions and debilitating effects of exposure to pollutants and inadequate access to resources (Hardoy, *et al.*, 1992). In China, lung cancer in cities with heavy air pollution is six times as common as that in the country (Stren *et al.*, 1992), while in Cape Town, "easily preventable" diseases (e.g., tuberculosis, gastro-enteritis) are common sources of debilitation and death among black and coloured people (MacDonald, 1996:35).

Decent living conditions, access to resources and facilities, a sense of security and adequate infrastructure decrease stress levels and enhance health, well-being and potential (Hardoy *et al.*, 1992). Unfortunately the link between external factors (such as sprawl or pollution) and well-being is not widely understood. Huntley *et al.*, (1989) suggest that well-being depends on the relationship between economic

development, environmental health and a quality of life. This is reiterated by Albie Sachs who argues that environmental issues are essentially about quality of life (in Lewis, 1991:124). It is also necessary to consider that the ability of the poor to express these problems and their means to address them, might be restricted. They are thus trapped in a reinforcing cycle of health problems compounded by factors such as pollution and overcrowding. A further dimension to this problem is the relationship between poor health, the loss of productivity in the work place and the effect on the economy (MacDonald, 1996).

Overcrowding

Severe overcrowding is prevalent in lower income communities (e.g., South African townships) where people are forced to live in slums or informal settlements, compounded by the influx of large numbers of rural migrants due to the rapid urbanisation process (WCED, 1987). Overcrowding is so severe in Shanghai and other Chinese cities in the Yangtze delta that the average living floor space is 12 to 16 square meters. In 1982, 100 000 families in Shanghai had an average living floor space of 2 square meters with three generations sharing one room (Stren *et al.*, 1992). Of the total population in South Africa (41 million), 7 million people live in "squatter camps" in poorly constructed houses with inadequate services, while tens of millions more live in overcrowded and underserviced townships on the urban periphery (MacDonald, 1996:20). In Cape Town, one third of the population are homeless and one third are poorly housed (MacDonald, 1996:32).

Overcrowding results from a lack of affordable housing for lower income groups (Lawson, 1991; Vyn Williams, 1997). A failure to provide houses may be due to government structures that do not have the capacity or resources to provide affordable housing, or simply because of a failure to formally identify the problem. In South Africa, the housing crisis was compounded during apartheid by fragmented and underfunded departments (Wulfson and Walton, 1991). Those needing affordable housing are faced with two options: either to live in inner city slums or to move to informal settlements. The conditions in the already overcrowded slums are unsanitary, and social problems (e.g., drugs and alcohol abuse, crime etc.) further reduce the quality of life (Vyn Williams, 1997). However inner city residents are close to job opportunities and able to reduce transport costs. Factors such as government policy (e.g., apartheid in South Africa), a lack of land or affordable

housing in the inner city (e.g., current South African cities) may force the poor to locate in informal settlements in peripheral urban areas. In this case, the services and employment opportunities available in the inner city are less accessible to those in the periphery because of scarce financial resources (Sarre, 1991).

Overcrowding on the urban periphery leads to an increase in disturbance of adjacent marginal land (Lawson, 1991). The environmental degradation is not only localised, but because of problems such as wind blown litter and deforestation, it affects adjoining areas (MacDonald, 1996). Inadequate provision of physical and social infrastructure and a lack of access to resources perpetrates social problems of poor health, education and unemployment (Bartelmus, 1986; WCED, 1987).

Lack of access to resources and facilities

A lack of access to resources and facilities is a central feature characterising the urban poor. Without financial resources, access in almost every respect, is denied. The location of the poor, often on hazardous or peripheral land reinforces their marginalised position in society. Inadequate financial resources in these areas means that the necessary social and physical infrastructures needed for a decent quality of life are not available. Consequently, the poor cannot afford access to resources and facilities such as education, health care, transport and recreation. This disenfranchised and marginalistion position with respect to access, means that the poor are least able to change their circumstances which are compounded by scarce financial resources and little political power (Vyn Williams, 1997).

Access to resources and facilities is restricted by overcrowding, urban sprawl and systems of land tenure. Overcrowded lower income areas are poorly equipped with facilities such as clean water, sanitation, electricity, transport and the social infrastructure needed for a decent quality of life (MacDonald, 1996; Sarre, 1991). Areas adjoining overcrowded settlements, once covered with vegetation providing the wood needed for heating and cooking, are denuded, reducing the access to a primary energy source (MacDonald, 1996).

One of the greatest access problems facing the urban poor is lack of access to land (Sarre, 1991). Land not only provides a place for shelter, but also a resource base from which the resident can subsist. The location of informal settlements and low

income areas are frequently on sites that would be unacceptable to anyone able to choose where to live (Lawson, 1991). Sites near refuse dumps and polluting industries have serious implications for health. Unsuitable land for development (unstable dolomitic ground, floodplains etc.) and land at great distances from employment centres are frequently occupied by the poor, compounding already large socio-economic disparities in living conditions between rich and poor (Cohen, 1993; WCED, 1987). Factors such as overcrowding and lack of suitable land in urban areas forces residents to extend urban boundaries in the search for vacant land creating inefficient and sprawling cities.

Sprawl

Urban sprawl, particularly caused by low density single dwelling development, has not been given the attention it deserves in urban environmental research. Low density land-use, poor planning, a lack of land in the inner city or the availability of cheaper land on the periphery, results in inefficient metropolitan areas that encroach into valuable agricultural and natural land (Dewar, 1991; Lawson, 1991). Sprawl is the legacy of two false perceptions: our "right" to unrestricted use of the private motor car, whatever the social costs and externalities, and the perceived abundance of fossil fuels and other resources. The huge disparities in energy consumption between cities in North America, Europe and Asia is attributed to the differences in efficiency and land use between these cities. The per capita energy (petrol) consumption of North American cities is four times that of European cities, while ten times that of Asian cities (Roseland, 1994:72). Sprawl (along with fragmentation and separation) is one of the primary characteristics of South African cities (Dewar, 1991).

A sprawling periphery may be characterised by either low density, single dwelling suburban developments or crowded informal settlements. Suburban developments are attractive because they are separate from busy central urban areas, land is cheaper and the environment created is one of space and safety for families (Lawson, 1991). The location of people in peripheral suburbs is a result of a *choice* that is affordable, and therefore possible, for higher income people to make. The additional costs of transport and services will be weighed against the benefits of cheaper land, space and safety (WCED, 1987). Vast tracts of land (both rural and natural) are consumed by the inefficient and costly growth of the suburbs (particularly garden cities in South Africa) -- the nature of which demand space.

In contrast to the "leafy" low density suburbs on the periphery, are mushrooming informal settlements where people are *forced* to live due to their poor social and economic conditions (Bartelmus, 1986; Lawson, 1991). A lack of land and high costs of rental in the inner city force the development of low income settlements on the urban periphery (Vyn Williams, 1997). Conditions in informal settlements are overcrowded and squalid. Costs of servicing areas on the periphery are high and inadequate sewage and refuse removal causes diseases to spread rapidly (Bartelmus, 1986; WCED, 1987). Together with huge transport costs, the impact on the urban poor is immense (Dewar, 1991). People in informal settlements are forced to live *amidst* the environmental problems of poor sanitation, pollution and lack of access which serves to compound the vicious cycle of poverty and environmental degradation (Perlman, 1994; Seabrook, 1996).

In the suburbs, which Lawson (1991) describe as "long range destroyers", the environmental degradation is equivalent to that of the informal settlements however it is not localised and does not stifle the high style of living. Refuse is removed and dumped elsewhere, often near low income communities, electricity is supplied form distant power stations, also near low income communities, and sewage is removed on the municipal system.

It is crucial that urban sprawl is not only an issue somewhere on the urban environmental agenda but is prioritised and addressed urgently at several levels: by communities, policy makers and urban managers. Without immediate action, unrestricted sprawl will continue to accelerate the consumption of resources (land, fuel and materials), compound poverty and perpetuate the inefficiency and environmental problems of urban areas (Vyn Williams, 1997; Lawson, 1991).

Lessons for future environmental policies

A review of literature on specific urban environmental problems has highlighted, besides a focus on third world issues and the victimisation of the poor in society, that it is primarily *intra*-city issues that are being researched. There is little evidence in the literature of research that addresses the broader impact of cities on their surrounding areas.

The number of urban poor is likely to increase because of poor urban management (e.g., the unequal distribution of wealth and undemocratic governance) which reinforces poverty (Sarre, 1991). Therefore, without sound management, urban areas represent a "back hole" of poverty and environmental degradation that traps the poorest members of society. While largely absent in the literature, a geographical analysis of inequity has the potential to inform our understanding of and ability to respond to the social injustices of environmental problems (Cutter, 1994, 1995).

Urban management is strengthened with a thorough understanding of the geography of the local environment -- the relationship of the city with the surrounding area. The city must not only be seen in the surrounding biophysical context, but also in terms of the broader social, political and economic structures. In this light, the origins of events occurring in the city (e.g., overcrowding due to rapid urbanisation) can be understood in their broader context. These issues must not be overlooked in the mandate for local authorities to develop sustainable development strategies, provided in Agenda 21 by the United Nations Conference on Environment and Development (UNCED) (CMC, 1998). Referred to as Local Agenda 21, these "urban environmental action plans" are locally derived policies for achieving sustainable development, particularly within the urban context. While linking global policy-making with local issues, the concept Local Agenda 21 represents one of the more practical approaches for addressing the complex and integrated nature of environmental issues (this issue is explored in greater detail in chapter five).

CONCLUDING REMARKS

A review of both first and the third world urban environmental problems requires consideration of specific urban problems (e.g., pollution, sanitation etc.), who is most affected by these problems, what forces place these groups in marginal and vulnerable positions, as well as current urban environmental initiatives at both a local and global level. In providing the theoretical background to the urban component of the case study in Kommetjie and Ocean View, many issues are only touched on, as a deeper analysis of the structural and social reasons behind the state of the urban environment is not intended.

There appears to be a realistic consensus that urban sustainability is beyond the ability of current political economic structures and environmental policies, without requiring

significant changes to the social relations and values that underpin such structures. A brief review of the environmental problems associated with both first and third world urban areas reveals the inequitable distribution of urban environmental problems (Cutter, 1994). Understanding the nature of urban problems reveals why the poor are particularly vulnerable to urban problems. They are trapped in a marginalised position in the environment which is reinforced by their socio-economic situation, particularly in South African examples (like Ocean View), where legislation prevented racial groups from moving beyond their degraded environment. The success of urban environmental "action plans" (e.g., Local Agenda 21) requires not only strong urban and regional management, but an aware and empowered society.

While continuing to address the effects of urban problems and play a pro-active role in society, future urban research agendas need to consider ways of mitigating the impact of cities in the surrounding biophysical environment. This is not only necessary to counteract sprawl and the *physical* impacts of cities, but through focusing on peripheral areas (such as Kommetjie and Ocean View) where the poor are often located, impacts on *society* from local environmental degradation, poor provision of services and potential hazards (e.g., fires, landslides etc.), can be addressed. Linking cities with areas beyond urban boundaries thus requires an understanding, not only of the characteristics of the area, but of the theoretical underpinnings informing attitudes and approaches to managing these areas (which, in the context of this research, are protected natural areas). The following chapter thus provides a theoretical understanding of the relations *between* societal and natural problems, focusing particularly on the urban context, and introduces the framework for a practical, politically aware approach to integrated natural and social issues that is utilised in the analysis of the Kommetjie and Ocean View studies.

> If one day the cities disappear
> The fields will survive
> But if the fields disappear
> The cities will not survive.
> Abraham Lincoln (in Evans, 1992:xxi)

- CHAPTER FIVE -

INTEGRATING "NATURAL" AND "URBAN" ISSUES

INTRODUCTION

> "...the crisis of the earth is not a crisis of *nature* but a crisis of *society*..."
> (Foster 1994 in Harvey 1996:194)

Our perspective on the environment seems to be characterised by a schizophrenic attitude, torn between the mainstream approach which identifies *distinct* realms of "nature" and "society" on one hand, and on the other, the growing realisation of the need to situate environmental issues within a broader picture, comprised of both natural and societal issues. A review of attitudes towards nature (chapter three) argued that conservationists and mainstream environmentalists must move beyond their narrow scientific outlook and take cognisance of the human factor, in terms of its impacts on nature. At the same time, while addressing issues of social justice, environmentalists can no longer afford to ignore the influence of the urban realm in the biophysical environment. A similar examination of urban issues (chapter four) has drawn attention to two factors -- the impact of urban problems (and environmental solutions) on the poorest members of society, as well as a failure to practically engage urban issues in the surrounding environment. It is with these points in mind that we explore theoretical attempts to integrate natural and social issues.

David Harvey's (1996) recently published book, *Justice, Nature and the Geography of Difference* (hereafter *JNGD*) represents a deep and complex examination of the nature of environmental problems and societal differences confronting the world today (McDowell, 1998:5). *JNGD* "is an extended intellectual analysis that can have few counterparts of its time" (Williams, 1998:33), situating the reader at the centre of a typical contemporary social struggle (Galano and Lipietz, 1998:14). Many of the theoretical concepts presented by Harvey, in particular his focus on issues of social justice and the separation of the built and natural environments, are central to understanding and framing my research problem, and provide an enhanced insight to the many angles of this problem as well as a rationale for integrating the natural and urban issues discussed in chapters three and four respectively.

In an elaborate and often bewildering analysis, Harvey examines the origins of traditional approaches to "natural" environmental and "urban" environmental problems. He relates these approaches to a range of societal and environmental issues that we are trying to address in isolation from one another, effectively ignoring a large component of the problem. *JNGD* focuses on understanding environmental problems through the lens of class differences, the impact of such problems on different classes and how class biases are inherent in management responses to environmental problems which then compound socio-economic inequities. In order to address these (class) differences and related social and environmental problems, Harvey proposes that our narrow understanding of society and nature as separate entities must be re-integrated to reveal vital interactions between "nature" and "society". Attempts to address "natural" environmental problems cannot offer sustainable and environmentally just solutions if they ignore the relationships with human society and the impacts of environmental solutions on communities.

According to Williams (1998:27), *JNGD* represents the "grand art of synthesis" Harvey seeks as he situates the discipline of geography, with its various methods and perspectives on the environment, in the position to tackle environmental problems[22]. Harvey has attempted to "link together the political-economic, social and symbolic elements of human geography (and other disciplines) with 'hard science' ... in a way that is 'responsive to human interests'" (Williams, 1998:27) A synopsis of Harvey's key arguments will be presented (together with a critique of the shortfalls in *JNGD*), and supported by social constructionist perspectives on environmental issues. This overview provides the theoretical underpinnings of a methodological framework (political ecology) that, in its analysis of an issue, integrates societal and natural perspectives on environmental problems.

SOCIETY AND THE ENVIRONMENT: TRADITIONAL PERCEPTIONS

> "...there is increasing public acceptance of the idea that much of what we call "natural", at least as far as the surface ecology of the globe is concerned, has been significantly modified by human action."
> (Harvey, 1996:119)

[22] this sentiment is echoed by Blaikie (1995a:213) and Taylor (1997:242) who argue that the need for interdisciplinary cross-pollination (which geographers are qualified to do if the divide between human and physical geography is addressed) has been discussed over recent years, but practised by few.

The are two central points in *JNGD*[23]. The first focuses on the false distinction between the "built and the unbuilt environment" and the second criticises the distinction between town and country that instils the anti-urban bias inherent in much ecological thinking (Williams, 1998:30). Harvey argues that environmental movements are necessarily movements for *social change* which embed particular social values in nature. In this way, environmental agendas reinforce class differences, unjust power relations and the control of capitalism (Williams, 1998:30).

The basis for Harvey's argument is that current perceptions of nature are rooted in the "domination of nature"[24] thesis which emerged from the seventeenth and eighteenth century Enlightenment ideals of human emancipation and self-realisation (Benton, 1994:33; Harvey 1996:122). In order to reveal the secrets of nature (and importantly human nature), nature had to be externalised to become an object of inquiry through which an understanding of nature, and the laws of nature could be revealed. Supported by the Cartesian construction of nature[25] as something external to our world of thought ("the other"), these principles have cast nature as an object that can be dominated and conquered by the human mind, and is understood through a "technical discourse" which masks intrinsic societal relations to nature (see chapter three). This view is internalised by, and central to the functioning of, the classical political economy (capitalism). In the drive for profit, nature has been commercialised and is viewed as a set of passive assets: a resource for exploitation (although not necessarily destruction). The market pricing system serves to regulate our use/exploitation of natural resources according to conditions of scarcity or abundance, preventing destruction and thus liberating us from environmental restraints (Williams, 1998:30). The result of these perceptions was the belief that dominating nature was necessary to achieve the Enlightenment ideals. Many of the ideas in these and similar discourses continue to shape attitudes towards nature (Benton, 1994; Hannigan, 1995; Harvey, 1996:123-5).

At the end of the 18th century, Malthusian writers, reducing the environment to a population:resources relationship, argued against the mainstream technocentrist view of nature (Benton, 1994:39). Notions of "ecoscarcity" and natural limits, based on a

[23] this section is largely drawn from Parts 2 and 4 of *Justice, Nature and the Geography of Difference.*
[24] otherwise known as the "Promethean", "cornucopian" or "technological optimistic" view (Benton (1994:32)
[25] introduced by Decartes in 1641 (Gerber, 1997:).

burgeoning population, were proposed, forcing scientists of the dominant view to reconsider the accepted relations between society and nature. Technology could not overcome natural limits, nature could not be dominated, and humans should accept their place along with other species interacting in the broader ecosystem (Benton, 1994:39). However, instead of correcting the imbalances in the nature/society relations, society, once presented as the "master" of the planet, became the scourge of the planet. Overpopulation, environmental degradation and misery would only befall the lower classes and providing welfare would only compound their situation. In comparison, a population explosion would be prevented in the upper classes, in their interests of maintaining high living standards. Thus according to Malthusian thinkers, the bulk of the population (lower classes) are believed to live according to natural laws, while the Enlightenment ideals are reserved for a small elite group (Benton, 1994:40; Harvey, 1996:145). Harvey goes further to state that:

> "What exists "in nature" is in a constant state of transformation. To declare a state of ecoscarcity is in effect to say that we have not the will, wit, or capacity to change our state of knowledge, our social goals, cultural modes, and technological mixes, or the form of our economy, and that we are powerless to modify either our material practises or "nature" according to human requirements. To say that scarcity resides in nature and that natural limits exist is to ignore how scarcity is socially produced and how "limits" are a social relation within nature (including human society) rather than some externally imposed necessity."
> (Harvey, 1996:147)

In his review of *JNGD*, Corbridge (1998:46) supports this argument, stating that scarcity is a social creation linked to the markets and the definition of "resources". Seen in this light, the debate about conservation, overpopulation and sustainability is more accurately interpreted as an argument to preserve a particular social order (capitalism) under the guise of ecological projects (Harvey, 1996:148; Williams, 1998:31). Therefore contemporary environmental projects (such as those related to overpopulation) have very political agendas (Young, 1990:16) and, seen in the context of socio-economic inequities, these projects can have drastic consequences.

Having referred to the relations between capitalism and nature, Harvey goes on to look at the implications of valuing nature in terms of money. Money eventually displaces other forms of imagery which might attach value to nature and in their place, leaves something indifferent and soulless, often linked to negative images. In effect, we have created "a moral vacuum at the heart of capitalist society" (Harvey, 1996:156).

The use of *moral* values in nature is also problematic, raising questions of neutrality and morality, as well as the role of the value-laden metaphors embedded in scientific inquiry, for example the implication of gender relations in the representation of the natural world or the "naturalness" of territoriality inherent in state politics (Harvey, 1996:159-162). Extricating facts from socially tainted information, and ascribing untainted values to natural features, is a complex task as we are bound within our social and political framework (Hannigan, 1995). In answer to questions regarding the value of nature, Harvey, draws on the philosophy of deep ecologists. He proposes that we acknowledge the *existence* value within nature: that we should not look for value in terms of the "use" of nature, but that nature, species and features have a right to exist, simply because they do[26]. Furthermore, we need to learn to live *within* nature accepting its intrinsic value, and to experience and understand the qualities of the "place". In doing so we develop a geographical sense of belonging, central to the long-held ideal of self-realisation and vital to the construction of the community. For it is at the level of local community that the political implications of ecological projects can be understood and resolved (Harvey, 1996:169).

Advancing the concept of the local community, Harvey probes the bioregional ethic, originally introduced by Aldo Leopold who outlined the notion of a "land ethic" in which humans were members, and not conquerors, of the "land-community" (Adams, 1996:154). The bioregional ethic proposes that the boundary of the community be extended to include the natural elements needed to sustain the community. However such ideas, while apparently "ecological", may become exclusionary (or nationalist or fascist) if the principles are corrupted and dominated by goal-seeking individuals. Harvey (1996:171) illustrates this with certain themes central to Nazism (such as "blood and soil") where if one was not "native" to the land (Germany), one did not belong to the community. It is important therefore to understand how "place-bound" sentiments become exploited and at the same time, to understand the original values of bioregional ideas (Harvey, 1996).

What appears to be emerging as a common theme in this review of traditional perceptions to society and environment is the inherent subjectivity and variability of

[26] supported by Adams (1996:109) and Bayliss-Smith and Owens (1994).

environmental issues as they are perceived and presented by different interest groups. The manner in which environmental issues are socially constructed and slowly accepted as "fact", and the role of a social constructionist perspective in environmental analysis deserves greater consideration.

TOWARDS A CONSTRUCTIONIST PERSPECTIVE ON ENVIRONMENTAL DISCOURSE

Environmental issues are by definition social issues, and we cannot escape (and should not desire to escape) the multiplicity of "languages" that construct environmental issues (Blaikie, 1995b; Bryant, 1997; Hannigan, 1995; Harvey, 1996). It is important however, that the languages of different communities are not fragmented, but embedded in the basic conditions of daily life, and that the differences are embraced, allowing us to interact with others (Harvey, 1996:171; Williams, 1998:32). Contextualising the position of the "speaker" allows other groups to understand the variety of languages, discourses and perceptions of nature that influence the political agenda. In this way, the power of dominant structures or institutions which control the environmental agenda in order to advance their own needs (e.g., Nazi Germany; apartheid South Africa) is disseminated, as other groups are able to play a role in the politicised global environmental agenda (Beinhart and Coates, 1995; Harvey, 1996)[27].

Following a review of different discourses framing environmental issues, in a broad synopsis linking ecological and political issues, Harvey states that:

> "all ecological projects (and arguments) are simultaneously political-economic projects (and arguments) and vice versa. Ecological arguments are never socially neutral any more than socio-political arguments are ecologically neutral" (Harvey, 1996:182).

Returning to this recently accepted view, he restates the importance of ensuring that ecological issues are integrated into every social and political project (Williams, 1998:32; Young, 1990:16). As politics and the environment are deeply interconnected, the acknowledgement of the "politicised" environment necessitates an awareness of power relations[28] in environmental issues (Blaikie, 1995b; Bryant, 1997:9).

Our construction of nature as a uniform, homogenous entity (e.g., green wilderness areas) is problematic (Corbridge, 1998:46; Harvey, 1996:183). We need to accept

[27] Neumann (1997) expresses similar concerns related to new developments in conservation which integrate local communities in conservation initiatives.
[28] power relations will be discussed in greater depth in an examination of political ecology.

the variety and differences within nature and acknowledge that through hugely transformative relations and interactions, nature and society are inextricably bound: "nature ... is not a timeless essence, but, rather, humans and nature continually construct one another" (Wilson, 1992:13 in Hannigan, 1995:126).

> "...there are no nature/society, mind/matter or reason/emotion dualisms at the level of the concrete. On the other hand, at the level of *abstraction*, these categories have played a vital role in bringing about the dominant vision of the world, a vision according to which we act. *This vision is being negotiated as new facts arise which render it problematic.*
> (Gerber, 1997:14, italics added)

Based on Cartesian structures of thought, this dualistic view, in which the world around us is automatically and subconsciously classified into categories according to a state of power/political relations, is (not easily) being rejected and transcended[29] (Benton, 1994:28; Gerber, 1997:12). While this is a sentiment quickly expressed by authors, it is a task few have embraced. Benton (1994:29) outlines three reasons for this:

- dualistic modes of thought are deeply entrenched within our society and to eliminate them is in effect "to pull oneself up by one's bootlaces";
- the qualitatively distinct realms of nature/culture offer ways of escaping biological or environmental determinism;
- "it involves the daunting ... task of developing new concepts for analysing and thinking through the relationships and processes which were previously allocated to their respective conceptual "boxes" and posted to the appropriate address: "natural science" or "social science"" (Benton, 1994:30).

In order to renew our understanding of the world we need to acknowledge that "the meaning of nature and environment are not fixed but continually constructed and contested" (Hannigan; 1995:126). Our act of defining "nature" is an act of constructing a concept according to our knowledge system (Blaikie, 1995b). We are placing our beliefs and interpretations on what we perceive to belong "in nature". Therefore we cannot exclude any form of human activity (e.g., cities or other causes of environmental change) from our definition of nature and understanding of ecosystems, particularly in the light of urban impacts in[30] "natural systems" (and vice versa) (Adams, 1996:89). To illustrate this point, Harvey (1996:186) argues that there is nothing *unnatural* about New York City which is as "constructed" as pristine wilderness, but merely dominated by humans (who we are conditioned to separate

[29] although renegotiated and conceptualised by authors like Adams (1996).
[30] to talk about urban impacts *on* natural systems once again separates the two as if they existed independently of one another (Harvey, 1996:186).

from nature), as opposed to "wild animals". However, the sustainability of such an urban ecosystem could only be achieved with fundamental changes to the social relations that produced it and it is the required magnitude of these changes (to bring about the sustainability of New York City for example) that society resists. Therefore, while talking about conserving *nature*, we are in effect trying to conserve the status quo in social systems (Harvey, 1996).

Environmental movements are therefore social movements which promote a certain set of social relations, entrenched by "corporate control, state organisations and scientific innovation" (Benton, 1994:50). Cities and "nature" are intrinsically linked and we are destined to pay a high price for separating them in our understanding and management. We are dismissing the systems and interactions that sustain our lives, and shattering our holistic definition of the environment.

> "This prominent anti-urbanism is as odd as it is pernicious. It is almost as if a fetishistic conception of "nature" as something to be valued and worshipped separate from human action blinds a whole political movement to the qualities of the actual living environments in which the majority of humanity will soon live. It is, in any case, inconsistent to hold that everything relates to everything else, as ecologists do, and then decide that the built environment and the urban structures that go with it are somehow outside of both theoretical and practical consideration. The effect has been to evade integrating understanding of the urbanising process into environmental-ecological analysis."
> (Harvey, 1996:427).

It is important that the contested concepts of environment and nature are able to evolve. In this way we can embrace new knowledge and ideas and slowly improve our understanding of these complex notions. Hannigan (1995:127) quotes Wilson (1992:87) who remarks:

> "the culture of nature -- the way we think, teach, talk about and construct the natural world -- is as important a terrain for struggle as the land itself."

A diversity of human geographers have argued that we urgently need a new language, new metaphors and categories for bridging the divide between society and nature (Gerber, 1997:1). Harvey explains:

> "We badly need a much more unified language than we currently possess for exercising the joint responsibility towards nature that resides with the social and biological/physical sciences ... [that] translates across discursive domains ... [and] may require deep shifts in ontological and epistemological stances on both the social and natural scientific sides, if it is to succeed"
> (Harvey, 1996:190).

In an attempt to suggest a path for the future Harvey proposes "a dialectical and relational schema" that explores the connections between the evolutionary process

and the principles of capitalism, exposing the deep-seated power relations within politics and ecology. Only with an acute awareness of these power relations will we be able to understand and address the political ecological debates central to "ecosocialist politics" (Harvey, 1996:193). By incorporating socialist objectives, ecosocialist politics is equipped to free us from the social (power) relations inherent under capitalism, directly linked to current ecological problems, and thus liberate the poor from unsatisfactory living conditions (Harvey, 1996:196). Ecosocialism allows us to address the geography of difference in an increasingly urbanised and ecologically stressed world (Williams, 1998:27).

The aim of Harvey's work is to find a common theme between the traditional discourses framing ecological and social projects. By integrating social and ecological projects the environmental discourse is extended beyond "affluent" issues to those issues relevant to other (income) groups. The groups most frequently confronted by urban, social and ecological problems (the poor) are thus empowered to interact on the environmental agenda, and influence ecological projects that affect them, but which were previously dominated by other interest groups. By contextualising the positions of different groups, their "languages" are rooted in a common discourse and on that platform negotiations can occur which integrate the interests of all groups in the decision-making process.

> "... further progress requires more attention to be paid to understanding both social and political-economic forces that affect the construction of knowledge. ... We also need to realise that the internalisation of environmentalism has involved it being shifted towards and grafted on to a set of geopolitical institutions ... that both decisively shape environmentalism and define its limits in the late twentieth century"
> (Buttel and Taylor, 1994:249).

Although a considerable and highly praised publication, *JNGD* has been impugned for its inadequacy to look beyond socialism and to provide a practical approach to change.

> In an nutshell, how do you persuade the working class (as opposed to the non-working class) in western democracies, emerging economies, and areas of ex-communist repression, that their emancipation and self-realisation should in some way be decoupled from those standards of living that regrettably but inevitably entail the production of more goods, more pollution and more travel? ... Inevitably the working class will have to be led from the front."
> (Williams, 1998:33)

Harvey's retreat into class politics has been criticised as dangerous and isolating, marginalising critical issues in increasingly distant and insulated academic worlds

(Hardy, 1998:13). Bound to his loyalty of socialism and his criticism of capitalism, Harvey does not venture beyond his Marxist beliefs: he does not offer any criticism of Marxism and fails to advance the theories that underpinned Marxist literature in the 1960's and 1970's (Corbridge, 1998:48; Featherstone, 1998:24; Galano and Lipietz, 1998:16-18). Furthermore, he fails to present plausible (socialist) alternatives to problems identified with capitalism (welfare and consumption) and does not venture beyond class analysis (Corbridge, 1998:44; Williams, 1998:34). One of the general criticisms of *JNGD* is that while presenting some elaborate and logical ideas that few would dispute, Harvey fails to take his ideas further and offer a solid grounding for operationalising his ideas within the geographic context and thus provide a realistic agenda for change (Corbridge, 1998:48; McDowell, 1998). It is with this criticism in mind that political ecology, as a framework that promotes the integration of societal and environmental values in its approach to environmental problems, is examined.

POLITICAL ECOLOGY: A FRAMEWORK TO LINK "SOCIETY" AND THE "ENVIRONMENT"

> "It is quite remarkable, how even the most thoughtful and least obviously orthodox of socialist writers, [for example, David Harvey and Raymond Williams] still feel that their criticism has reached its goal once 'capitalism' has been identified as the villain. There the argument ends as a kind of black box of negativity, to be exorcised, without further effort at intellectual deconstruction, following some future proletarian revolution as the consequence of assumed contradictions between capitalism and the industrial working classes." (Atkinson, 1991:6)

One of the fundamental critiques of many current environmental writers is their failure to look beyond the abstract realm of theory and propose a practical framework and realistic methodology to address real world environmental issues (Bryant, 1997:5). Emerging from the radical movement, political ecology is strongly critical of the shortcomings of these environmentalisms which fail to convey the complexity or address the source of contemporary environmental problems, thus rendering much current literature in the field irrelevant. Combining an understanding of the political economy with ecological issues in an interactionist perspective, political ecology aims to address the complexity produced by social, political and economic processes that interact at different scales (Taylor, 1997:243). Political ecology assists in the reconceptualisation and reconstruction of, not only our social world, but the relations between society and nature (Atkinson, 1991:6; Blaikie, 1995a:203; Bryant, 1997:8). Blaikie (1995b:8) explains the essence of political ecology:

> "political ecology includes both the natural and the social sciences and therefore confronts challenges central to understanding society and the environment. Political ecology brings together diverse disciplines and approaches and internalises them in oppositional and eclectic ways."

However, political ecology[31] has been criticised on a number of issues: for a "woolly and dispersed" understanding of the political economy; for a form of pluralism that borders on volunteerism; for the inability to explain how factors become causes; for the near omission of local, informal politics[32] in political ecology and for an old-fashioned view of ecology (Neumann, 1992; Peet and Watts, 1993:239). As a result of these shortcomings, and helped by its broad disciplinary basis, the field of political ecology has seen new and important developments, one of which has been a focus on the social construction of the environment and nature in the arenas of conservation, environmental history and others (Peet and Watts, 1993:239-41). I would like to take political ecology a step further, out of its familiar rural context, and look at the application of its principles and methodologies in the context where an *urban* area abuts a protected natural area.

A brief explanation of the development and theoretical bases of political ecology lends an understanding of what political ecology offers the environmental movement today. The dominant influences on political ecology shifted from neo-Marxism in the late 1970s and early 1980s, to a combination of post-Marxist social movements theory, neo-Weberianism and feminist studies in the late 1980s and 1990s (Bryant, 1997:8; Peet and Watts, 1993:239). Issues of social justice and equity are therefore fundamental concerns in political ecology. The innate dialectal approach links current attitudes and actions to the legacies of Enlightenment thinking which failed to create a society able to use its vast knowledge of nature with sufficient wisdom (Atkinson, 1991:7). The blame for current environmental problems is largely ascribed to the entrenchment of a set of global economic and political power relations through capitalism, rather than the failure of specific policies (Bryant, 1997:8). The resolution of these environmental (and related social) problems will therefore only be through radical changes to the local and global political economy.

[31] particularly as explained in Blaikie and Brookfield's (1987) seminal "Land degradation and Society"
[32] although this has been raised by Bryant (1997) in his account of third world political ecology

Atkinson (1991) lays out three philosophical preconditions for adopting a political ecological approach to environmental issues. Through *rationality* we abandon the idea that science (itself socially and culturally dependent) will provide us with one overarching truth to understand the ecological crisis. At the same time, we are reminded that structure is contingent to the needs of analysis. An analysis of *ideology* reveals that all human actions are based on abstractions of reality and there should be no ideology that dominates above others. Lastly, *alienation* (gaining a level of objectivity on an issue) enables us to construct an understanding of human nature and the human condition. These underlying philosophical considerations provide a context for examining the epistemological basis of political ecology.

Linking ecological and political concerns, political ecologists draw together two themes: an appreciation of the natural processes involved in the continuous production of nature with an awareness that natural resources are continually perceived and reinterpreted by different cultural groups (Blaikie, 1995a; Blaikie, 1995b). While all elements of the environment are socially interpreted, some elements are interpreted more variably than others. The use of "objective (physical) science" is central to understanding society and nature, but the entrenchment of values, social judgements and diverse interpretations in science must not be overlooked (Blaikie, 1995b). Science must be deconstructed and the assumption that it can provide an objective and universal truth must be renegotiated, at the same time addressing the misgivings between natural and social scientists. Political ecology also includes an appreciation of the social, economic and historical context of environmental degradation that deepens an analysis of environmental issues (Neumann, 1992:86; Peet and Watts, 1993:241; Taylor, 1997:243). In combining the study of people and their environment, the task of political ecologists is to identify the propitious contradictions within the parent disciplines (from the natural and social sciences), to order these contradictions into a set of interacting discourses, and to provide a negotiating space necessary for the contradictory views in a politicised environment (Blaikie, 1995b:8).

> "Only by acknowledging multiple views, understanding the politics of how actors present their views and pursue their projects can scientific and conservation thinking be literally brought down to earth."
> (Blaikie, 1995a:209)

The continual unifying and oppositional relations between society and nature are thus examined through a dialectal approach to discourse. In this respect, political ecologists see:

> "the environment as ... providing resources and services as they are defined and redefined by society as it develops. Environment therefore is constantly in a state of being conceived of, learnt about, acted upon, created and recreated and modified, thus providing a constantly shifting "action space", both productive and ideational for different players, as they create and recreate their own history. At each moment in these histories then, the environment is in reflexive relation to these different players in which it offers both opportunity and constraints. These are both socially patterned through access, use and control of elements in the environment; and environmentally patterned by physical limits, which themselves are subject to available and different knowledges, technologies, labour and capital."
> (Blaikie, 1995b:12)

There are a variety of analytical foci in political ecology that make it a suitable approach from which to transcend the impasse in contemporary environmental research (Bryant, 1997:5). The primary conceptual tool in political ecology is found in politics, and more specifically, the analysis of the power relations between different environmental interest groups. The role of politics is therefore examined, followed by a brief description of other common analytical elements in political ecology.

The emphasis on global, state and class politics[33] puts political ecologists in the position to offer an enhanced understanding of (and perhaps even solutions to) environmental problems, but also to appreciate the link between the environment and political interests (Bryant, 1997:9; Harvey, 1996). The role of science in politics cannot be uncritically accepted. Science is an important component in state politics which often blurs the distinction between "knowledge claims" and "facts" and is used to create support for political objectives (Blaikie, 1995a:210). The relationship between politics and ecology is not equally balanced and much of what we perceive as "nature" is "produced nature". Therefore, although the role of ecology is vital to understanding environmental problems, the focus on politics is critical. Guha and Martinez-Alier (1997) use the phrase "ecological distribution conflicts" to describe the domain of political ecology. Social, spatial and temporal asymmetries (determined by politics and power relations) characterise ecological distribution, as well as the use

[33] although lacking attention to politics at a local and informal level in society (Neumann, 1992:87; Peet and Watts, 1993).

and pollution of the environment (Guha and Martinez-Alier, 1997). Conflict and contestation over natural resources are thus primary concerns in political ecology.

Power in ecological problems is described as the relationship between different actors and the relationship between actors and the physical environment, or the control one party has over the environment of another (Bryant 1997:11). The influences of power are inherent in many aspects of an environmental issue including: the control over access to resources; the power to pollute the environment (of others); the power to locate more vulnerable groups in polluted environments; the control over the prioritisation of environmental projects; the control of the discourse ("public transcript") of the environmental agenda; and the power to promote the discourse of a group (Blaikie, 1995a:207; Bryant, 1997:11). The physical environment (nature) is thus described as the manifestation of power relations and can be seen as a "text" depicting the way unequal power relations are inscribed in the environment (Bryant, 1997:12). However, intangible qualities associated with power, such as the ability of a "weaker" group to offer resistance in the context of unequal power relations, may not be revealed in the environment. Thus although power relations do structure the surface of the (politicised) environment, it is seldom in ways that lead to wide generalisations (Bryant, 1997:15).

Other useful analytical components in political ecology include (Blaikie, 1995b):

- an analysis of *global* (non-place based) *factors* related to environmental issues, such as international agreements and policies, the power of states over other states, the role of international organisations, and the nature of global or international discourses which influence funding and research determined by the environmental agenda.

- an analysis of conditions at the *local level* (place-based) such as the nature of governance, the representivity of different groups in government, accessibility of resources to different groups, the power of different groups over others as well as physical environmental conditions.

- an analysis of issues at the *micro level* which includes the immediate users of the environment who are not always involved in decision-making -- the first "link" in the "Chain of Explanation" (Blaikie, 1995b).

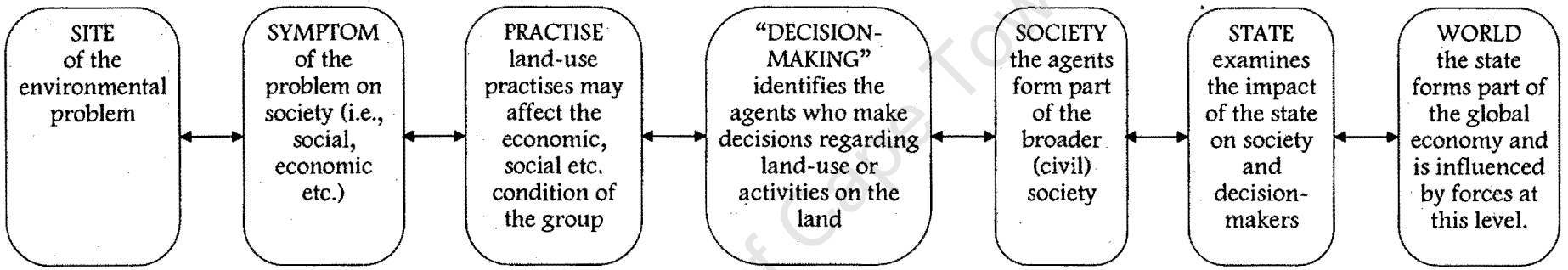
- approaching environmental problems from *different levels*, thus linking factors at the micro and local levels with less tangible forces at the global level. Interactions between global and local forces are internalised and linked to symptoms of ecological problems.

- an analysis of the *state* and state institutions such as different departments, legislation and bureaucracies which play a central role in ecological problems.
- an analysis of *temporality and historical factors*, including an awareness of different time scales in environmental and political processes and the impact of historical events on current environmental conditions (Taylor, 1997).
- a response to the call for an *interdisciplinary approach* to environmental research -- integrating natural and social science perspectives on environmental issues.
- an awareness of the *social construction of environmental issues*, thus incorporating discourse into the political ecological analysis of environmental problems.

Together with the focus on politics and power relations, these analytical elements contribute to a political ecological analysis of environmental issues, providing a thorough understanding of the complex interplay of social-natural forces and their interaction with political, economic and environmental processes (Taylor, 1997:243).

These analytical foci have been integrated into a methodological framework, designed for political ecological research by Blaikie (1995b). The "Chain of Explanation"[34] (see Figure 5.1) presents an analytical and methodological framework for contemporary environmental problems that integrates natural and social sciences while linking human and physical place-based elements with the less tangible non-placed elements of the global and international levels. In this way, the chain of events, decisions and actions that contribute to an environmental problem can be identified, incorporating all actors and understanding how (power) relations at one level affect living conditions at another.

[34] originally developed for rural land degradation but useful as a general framework



The nature and scale of a particular issue may affect the direction of the linkages in this "Chain of Explanation" and it may be suitable to omit certain levels (Blaikie, 1995b:19). In addition, the effect of the "links" may serve to compound the symptoms and effects of the problem. This framework is used to structure and guide the analysis in chapter eight, of the Kommetjie and Ocean View case studies of environmental degradation caused by urban and natural interactions.

Figure 5.1: The "Chain of Explanation" (Blaikie, 1995b:18)

Although many of these elements in the "Chain of Explanation" are debated at the global level and form part of contemporary environmental discourses without formally adopting a political ecological approach, political ecology holds several advantages over other methods of analysis. The links in environmental problems, from the "intangible" levels of policy formulation and decision-making are traced through the chain, as issues are distorted and contested, to the lowest, most tangible domain where the effects of global policies and national decisions affect the lives of people whose survival depends on the environment. Political ecologists accept that environmental issues are perceived differently by different members of society and thus use multiple perspectives on an environmental issue to gain as complete an understanding of the issue as possible. Therefore, instead of looking for one truth (traditionally sought using scientific methods) political ecologists critically evaluate different versions of an issue, thus making room for negotiation, often (and importantly) on issues far removed from the environment (Blaikie, 1995a).

> "Political ecology can locate itself at points of new association and interpretation from its parent disciplines in the natural and social sciences. It should identify what these points are ... [and link them] as markers for a methodological and empirical field."
> (Blaikie, 1995b:26)

GROUNDING INTEGRATIVE THEORY

A critique of authors, who fail to extend their sophisticated and theoretical approaches to the dialectal relations between societal and natural issues to a practical level, has been examined above. Attempting to bridge this gap and provide a practical framework that embraces a multidisciplinary approach to environmental issues, I have suggested the use of political ecology (in particular, in an urban/natural context). In drawing this chapter on integrating natural and urban issues to a close, I wish to provide practical urban examples where I believe such an integrative approach has potential.

Urban governance and environmental issues

Recognising that half the world's population are expected to live in cities by the turn of the century, Global Forum '94 was convened to focus on urban environmental issues which had been overlooked during the Rio Earth Summit in 1992 (WCED, 1987; Walmsley and Botten, 1994). Global Forum drew attention to the fact that activities occurring within cities manifest themselves in wide-spread environmental

problems, highlighting the need for local initiatives to address these problems (Walmsley and Botten, 1994). This gave strength to the Local Agenda 21 initiative introduced in Chapter 28 of Agenda 21. Through liaison with citizens, NGOs, business and sectors of government each city would develop a Local Agenda 21: a locally appropriate, non-binding strategy, with clear objectives, to promote and achieve sustainable development within the urban region by the 21st century (UNCED, 1992; Walmsley and Botten, 1994; Wynberg, 1993).

According to Wynberg (1993), Agenda 21 contains significant inadequacies. These include failures to:

- recognise the incompatibility of sustainable development and economic growth;
- address inequitable and environmentally damaging rules of trade;
- provide recommendations for regulating the activities of trans-national corporations; and
- act specifically on the need for full-pricing on natural resources.
  (Wynberg, 1993:15)

Despite its inadequacies however, there are authors who feel Agenda 21 may have meaningful application. Walmsley and Botten (1994) outline potential for the application of Agenda 21 within post-apartheid South Africa and specifically within the context of the Reconstruction and Development Programme (RDP). While there is validity in arguments either promoting or dismissing Agenda 21, it is a valuable foundation on which to build. The results of Local Agenda 21 have not been widely felt in South Africa, particularly in Cape Town, although the city was chosen as a candidate for the Model Cities Programme -- a Local Agenda 21 initiative[35]. However, a local planning process in Kommetjie and Ocean View[36], is coincidentally accomplishing Local Agenda 21 objectives. This process, the Ward 21 Strategic Plan, discussed in greater detail in chapter seven, is bringing together local communities, local authorities and officials, non-governmental organisations (NGOs) and community-based organisations (CBOs) around issues related to the urban and surrounding natural environment.

However, while considering social factors, urban management and environmental degradation, and bringing to the table critical issues in planning for sustainability,

[35] Cape Town was chosen as one of fourteen candidates for the Model Cities Programme, alongside Durban and Johannesburg (Asmal, pers. comm., 1998).
[36] in Ward 21 of the South Peninsula Municipality (SPM) although not associated with Local Agenda 21

little is said of the interactions between the broader biophysical environment and urban areas, as raised in Drakakis-Smith (1995), Gasson (1993), Harvey (1996), the OECD (1990), MacDonald (1996) and Rees (1992). It is necessary to consider more than the spatial expansion into new land. Impacts such as urban pollution, increased run-off from hard surfaces, the threat of fires and other natural hazards on the urban community require an integrated management strategy.

Looking beyond the urban boundaries...

The interface between urban and surrounding areas is a sensitive zone and the unique dynamics across the boundary require specific management (Anagnostopoulos, 1994; Soulé, 1991). The nature of the land surrounding an urban area will obviously vary from place to place, however some generalisations can be made. The environment of the surrounding or adjacent area is being altered and affected by urban impacts, and likewise, urban areas are influenced by surrounding areas (Anagnostopoulos, 1994). While the nature of these influences vary, little is written about the interaction between an urban area and its surrounding area, which is, at the very least, poorly understood.

The interface between urban and surrounding non-urban areas (i.e., rural or natural) is the zone where urban and natural forces meet. In hazard-prone environments, such as low-lying areas, fire-prone areas or unstable slopes, the combination of forces from a modified (urban) and an unstable environment creates potential for disaster (Anagnostopoulos, 1994; Seabrook, 1996). Thus, in the event of an extreme event (e.g., fire, flood or landslide) those located in marginal areas (generally the poor) that are least able to protect themselves, are most seriously affected (Lawson, 1991; Seabrook, 1996).

Densification strategies and the need for hard urban edges to contain sprawl are frequently advocated in urban policies, such as the Metropolitan Spatial Development Framework for the Cape Metropolitan Area (CMC, 1996). Although these strategies are needed in certain aspects of the urban environment, they have implications for adjacent lands, particularly fragile environments. One must question if the edge (or urban boundary) alone is sufficient to manage the effects of a dense modified environment. In the South African context, problems caused by the separation of the built and natural environment are intensified by the tendency to neglect poverty-

ridden peripheral areas where the majority of urban black South Africans have been forced to live (MacDonald, 1996). Together with a lack of basic services, problems caused by poor planning in these sprawling areas have significantly degraded the natural environment. Unless the underlying socio-economic and political causes of degradation are targeted, the condition of the surrounding areas (as well as that of these urban areas) will continue to decline.

Possible reasons for the paucity of research on the effects of urban areas on surrounding areas are numerous. Much of the focus in urban environmental research is on "visible issues", such as the effects of pollution, sanitation, health and access, where funding for research is directed. Contemporary environmental research, if not focusing on "surface" problems, addresses the broader issues of environmental management and policy formulation (e.g., the Brundtland Report, the Rio Earth Summit). The effects of urban areas on surrounding land (which embraces local issues and spatial issues at the human-environment interface) goes beyond "traditional" urban problems and is not established in mainstream urban research. However, there are important themes related to the interactions between urban and adjacent areas that are consistent with mainstream research, such as social justice, the effects of pollution and sprawl and the recently-debated need for a multidisciplinary approach to environmental issues.

CONCLUDING REMARKS

Harvey presented the theoretical precepts for understanding and approaching environmental problems that embrace the complex interactions between social and natural sciences in a politically sensitised context. The environmental and social inequities, inherited from traditional Western modes of thinking and entrenched in the current political economy, are highlighted, and linked to the inadequacy of environmental initiatives to successfully address not only environmental problems, but related socio-economic disparities. However, Marxist analysis, as well as much of the pure constructionist thinking, addresses issues from a theoretical perspective and fails to suggest an appropriate and practical agenda that targets the heart of environmental problems. A methodological framework developed by political ecologists that includes the analytical components (and framework for integration) currently lacking in mainstream attempts to address environmental issues, is suggested to inform such an agenda. This framework is used to examine the "natural issues" (discussed in the

following chapter) and the "social issues" (chapter seven) of the study in Kommetjie and Ocean View, in an integrative political ecological analysis in chapter eight.

- PART III -

A PRACTICAL ANALYSIS: INTEGRATING "SOCIETY" AND "NATURE"

> We must realise that the distinction between *environment* as commonly understood [green issues] and the *built, social and political-economic environment* is artificial and that the urban and everything that goes into it is as much a part of the solution as it is a contributing factor to ecological difficulties.
> (Harvey, 1996:435)

The stark juxtaposition of the built and natural environments of greater Cape Town poignantly embodies the theoretical issues discussed in part II. Together the city and its biophysical setting create the environment of the Cape Peninsula -- the landscape and its powerful sense of place. Despite this unity in reality, it is in the abstract realm of theorising and perceiving where the environment becomes fragmented into "manageable" components. Beliefs and theoretical viewpoints inform management practices, ignorant of the environmental forces and processes interacting across socially categorised environmental elements. The conceptual separation of society and nature is perpetuated as society is constantly reminded that nature is a separate and isolated entity. We appropriate nature for recreation and profit, but it is the ultimate responsibility, not of ourselves, but of conservationists who manage "nature" up to where it ends at the reserve fence. The effect is to alienate neighbouring communities from their environment, in terms of belonging and responsibility, and instil the belief that nature is independent from and unaffected by societal forces.

The physical manifestation of these beliefs is the focus of part III which presents an application of the theoretical and methodological principles discussed in part II. Mirroring the pattern in mainstream literature and the structure of the previous section, the case study analysis is divided into two components, each portraying an element of the nature/society interface, which are subsequently integrated using the analytical tool discussed in chapter five.

Based on theory of reserve boundaries and their impact on natural species in protected areas, chapter six offers a biophysical assessment of the physical nature and ecological impact of societal and natural interactions around Kommetjie and Ocean View. The key question underpinning this assessment is: do urban areas (or activities associated

with urban areas) create a disturbance in surrounding natural areas, and if so, does this relate to the surrounding neighbouring communities? Based on an evaluation of the threats to the protected area, it is argued that needs and priorities of local urban communities must be considered in the planning and management of conservation areas, thus mitigating negative effects of the interactions in the urban and natural areas.

Chapter seven presents a parallel investigation of urban and natural interactions from the perspective of local urban communities (Kommetjie and Ocean View). The nature of environmental degradation discussed in chapter six, is related to social conditions in the urban communities. The intent of the social assessment is to understand how socio-economically differentiated communities perceive and relate to the surrounding environment. A further aim is to evaluate the opportunities and constraints for involving the Kommetjie and Ocean View communities in environmental initiatives that would mitigate the disturbance in natural areas, but also upgrade conditions in the communities. Constraints, largely rooted in economic factors, are presented in an urban context when involving local communities in initiatives to reduce environmental degradation in urban and natural areas.

Nature and society, and theory and practice are finally drawn together in chapter eight. Using the political ecological framework discussed in chapter five, key issues from the physical and social assessments (chapters six and seven) are integrated in an analysis which reveals strong connections between factors at the global level, such as international environmental discourses, and local environmental conditions in Kommetjie and Ocean View. While no panacea regarding the daily management of the (urban and natural) environment is attempted, a political ecological analysis equips us to identify the underlying causes and thus target the heart of contemporary environmental problems. In doing so, we are able to address environmental issues in a way that positively affects the living conditions of urban communities, thus spanning the chasm between environment and society.

- CHAPTER SIX -

A BIOPHYSICAL ASSESSMENT: INTERACTIONS BETWEEN URBAN AND ADJACENT NATURAL AREAS

INTRODUCTION

> National parks can no longer be seen as pristine ecosystems protected by impenetrable boundaries. It is now realised that many forces outside national park boundaries create significant changes within those boundaries.
> (Deaden and Berg, 1993:194)

There is a common perception that the boundaries surrounding a protected area are sufficient to protect what is present inside the reserve from threats and pressures occurring outside the boundary. However, the biggest challenges facing most reserves occur along their boundaries (Schonewald-Cox, 1988; Dasmann, 1988). In addition, studies have shown that boundaries themselves impact on protected areas: breaking species' migratory patterns, preventing genetic interchange and interrupting natural systems (Schonewald-Cox, 1988). These challenges are intensified when the protected area abuts an urban area (e.g., around the Cape Peninsula National Park) where the nature of urban forces and processes differ vastly from natural processes. Interactions occur across the protected area boundary as ecological processes and symptoms of environmental degradation are not constrained by fences. The permeability of protected areas thus highlights the need to co-manage activities on either side of the reserve boundary.

In this chapter, theory surrounding the role of boundaries and conservation is examined, drawing attention to the impact of fences on natural species and the influence of forces and processes across administrative boundaries. Attempts at co-managing resources on either side of reserve boundaries are discussed, revealing the specific focus on rural communities that abut parks and, due to the existence of very few cases, the neglect of adjacent *urban communities* and protected areas. In this regard, the Cape Peninsula National Park, situated at the heart of the Cape Metropolitan Area (see Figure 2.1), presents a microcosm of the broader problems faced by conservation managers and adjacent authorities. The Cape Peninsula is particularly relevant as an indicator of problems and issues experienced across the developed/developing world spectrum which are captured at a local level in

Kommetjie and Ocean View (Cowling *et al.*, 1996). Drawing on the theory of reserve boundaries and conventional botanical assessment procedures, research carried out in Kommetjie and Ocean View to determine the nature and extent of urban impacts in surrounding natural areas is analysed. Finally, the need to integrate the planning and management of conservation areas with surrounding land-uses is proposed as a means of enhancing the conservation of the protected area and managing the interactions between the two abutting areas.

THE BOUNDARIES OF PROTECTED AREAS: A THEORETICAL APPROACH

The influences of boundaries of protected areas have been examined from a variety of viewpoints, including their effects on species within the reserve (Dearden and Berg, 1983; Forman and Moore, 1993; Gilbert and Dodds, 1991; Wilcove and May; 1986), their visual impact on the landscape (Dearden, 1988) and the implications for management of resources, within and around the reserve (Dasmann, 1988; Morehouse, 1996; Schonewald-Cox and Bayless, 1986; Schonewald-Cox, 1988; Stephens, 1996; 1998). Attention is drawn to the problems of congruence between the legal (or administrative) and the ecological (or natural) boundaries associated with national parks and ecological realities (Newmark, 1985; Wilcove and May, 1986). In many cases national parks are too small to support ecological processes (e.g., fires or seasonal floods) and to maintain minimum viable populations of certain species. Furthermore ecological or biotic boundaries[37] are dynamic, changing over time and varying from species to species (Newmark, 1985). In order to gain a better understanding of the processes within and around protected areas, it is necessary to understand the characteristics of reserve boundaries.

Schonewald-Cox and Bayless (1986:305) hypothesise that the "effectiveness of reserve protection is...more dependent upon what *crosses* the boundary than any internal process alone" (italics added). To understand the dynamics of reserve boundaries Schonewald-Cox and Bayless (1986) propose that these boundaries be divided into their separate components.

The *administrative boundary* (A on Figure 6.1) acts as a filter, affected by regulations and their enforcement, as well as how people act with respect to the boundary

[37] defined as the area required to support the largest terrestrial species with the largest home range (Newmark, 1985:203)

(Dearden, 1988). This is designated by legislation and coincides with existing private property. Thus, the administrative boundary has little correlation with natural requirements, but reflects what land has been made available for protection (Schonewald-Cox and Bayless, 1986). It is important that both the potential external and internal processes acting on the boundary, including biophysical and social processes, are incorporated into the reserve design to ensure its maximum effectiveness (Schonewald-Cox and Bayless, 1986:307).

Ecological edges associated with a protected area can be classified as either *natural ecological edges* (C on Figure 6.1) or *generated edges* (B on Figure 6.1). The natural ecological edge represents the extent of the area inhabited by a species within a reserve (Schonewald-Cox and Bayless, 1986). Generated edges occur as a result of differential protection inside and outside a protected area. The generated edge represents the physical manifestation of the boundary, reflecting changes in human behaviour as a result of the administrative boundary and resource distribution along and across the boundary (Schonewald-Cox, 1988; Dearden, 1988). The generated edge may be represented by the decline in certain species towards the perimeter of the protected area due to increased disturbance in this area.

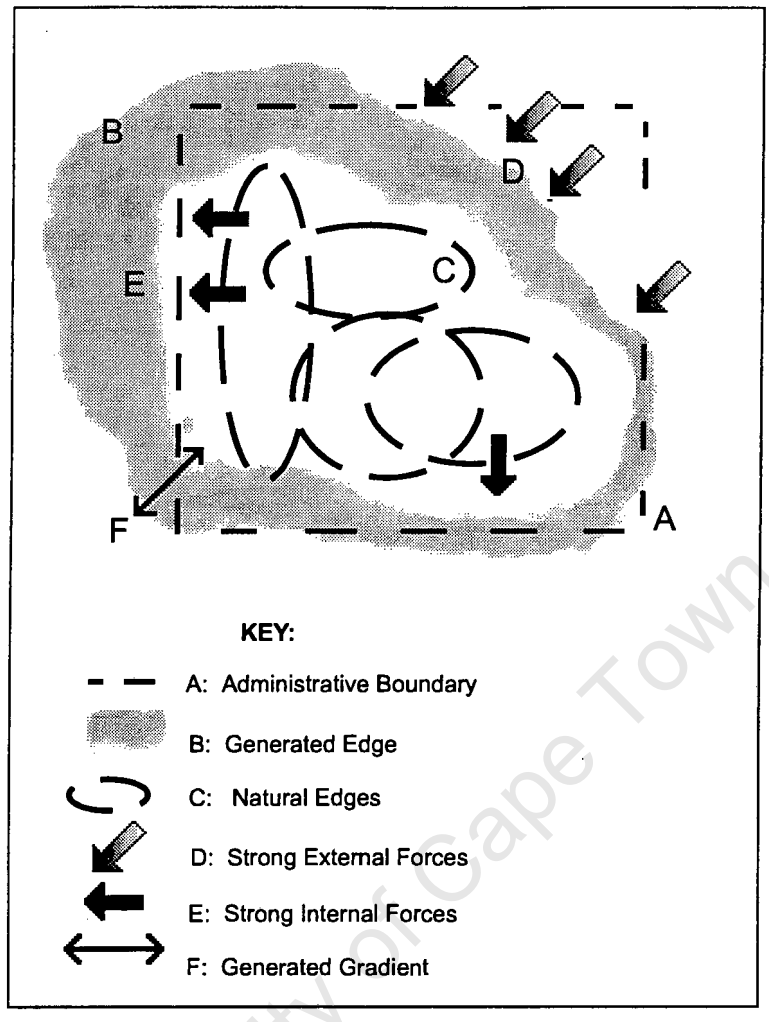


Figure 6.1: A Schematic Map of Reserve Boundaries
(Source: Adapted from Schonewald-Cox and Bayless (1986))

If external forces (e.g., urban influences) acting on the reserve are greater than the internal forces (e.g., conservation management), the generated edge may move into the reserve (D on Figure 6.1). E on Figure 6.1 illustrates the situation if the converse applies -- when external forces are weak relative to the internal forces, the generated edge will lie beyond the boundary (Schonewald-Cox and Bayless, 1986). If the generated edge lies inside the boundary (in the case of D), the effective size of the reserve is reduced. The formation of the generated edge is referred to as the "boundary effect". It represents changes in species population characteristics caused by the establishment of the administrative boundary and the protection of internal areas (Schonewald-Cox and Bayless, 1986).

The generated gradient (F on Figure 6.1) is the change in abundance of species, resources and human activities that develop perpendicular to the generated edge. The

generated gradient represents the width of the generated edge. A state of equilibrium exists across the boundary and, when this is disturbed, compensation must take place from one side of the boundary to the other to enable a new equilibrium to establish. The existence of a buffer zone around a protected area is useful as it enables populations to stabilise when there is a disturbance. A co-operative approach between landowners on either side of the boundary is encouraged as this can help manage the gradient between the conservation and urban areas (Schonewald-Cox and Bayless, 1986).

Should the generated edge lie outside the boundary of the reserve, the effective size of the reserve increases as a result of the surrounding undisturbed lands. This land then forms a *buffer zone*, in which there are restrictions on development, that protects the administrative boundary from negative external influences, and increases the effectiveness of conservation in the reserve (Dearden, 1988). Optimally, each reserve should contain a protected core area surrounded by a buffer zone that protects the perimeter and reduces the effects of steep generated gradients caused by the boundary effect (Schonewald-Cox and Bayless, 1986). If no buffer exists, the generated edge is likely to move into the reserve as a result of increased external pressure on the boundary. An ideal situation would be for the establishment of a buffer within which the generated edge falls and which protects the core area. The effectiveness of the buffer will depend on its quality and the degree to which it fulfils species requirements along the length of the boundary. It is the intention of the buffer model (see below Figure 6.2) to achieve as natural and protected a boundary for the reserve as possible.

Humans and the boundaries of reserves have an important and interdependent role to play with respect to the generated edge. If the livelihood of local people is threatened they could be forced to ignore regulations and exploit the resources of the reserve, pushing the generated edge inwards. Studies highlight the importance of incorporating local communities in the protection of reserves (Dasmann, 1988; Ghimire, 1994; Kothari *et al.*, 1995; Stephens 1996; 1998). If correctly done, this should provide benefits for both the conservation authority and the local community. The incorporation of human societies, behaviour and welfare into the planning and design of conservation areas is currently lacking, but is destined to become a vital component of conservation management (Schonewald-Cox and Bayless, 1986). The

buffer zone concept presents a means of enabling such integrated conservation efforts (Stephens, 1996; 1998).

The three general components of the buffer model are (refer to numbers on Figure 6.2):

1. the adjacent external area
2. buffer zones with varying degrees of conservation status
3. a pristine core zone

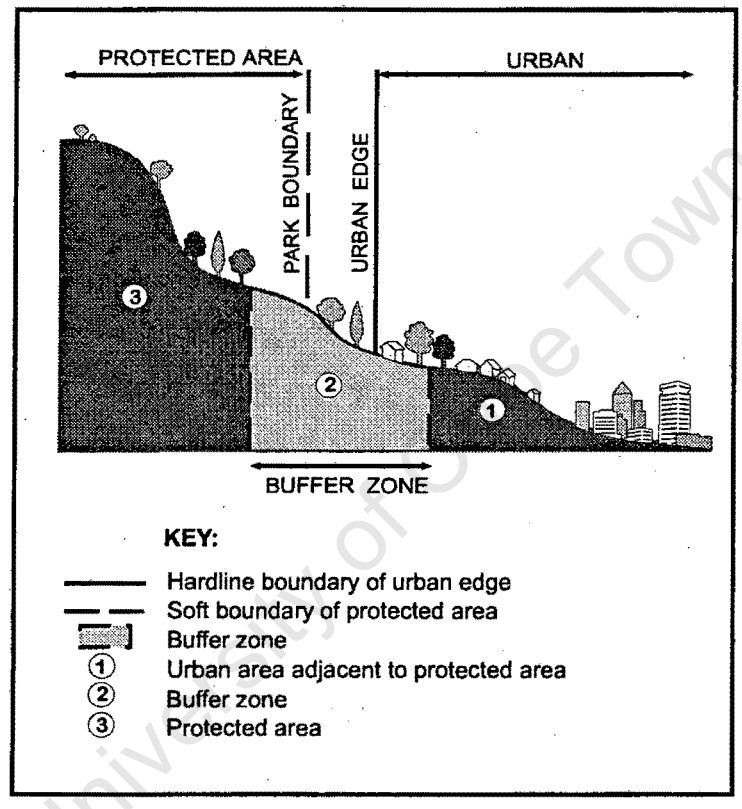


Figure 6.2: The Buffer Model -- between urban and natural areas (Source: Stephens (1998))

The advantages of buffers include increasing the available habitat area, decreasing the potential exposure to adverse impacts and absorbing the severity of impacts (Dearden, 1988; Schiffman, 1989:30). A buffer zone serves to distance rural or undeveloped land surrounding the urban area from developed land. The presence of a buffer provides assurance to owners of adjacent natural land that the land should be protected from the negative effects of urban areas. Buffers include areas ranging from almost full protection to areas in the process of rehabilitation, and to those that may include small, low density urban communities. Specific considerations need to be made before areas are declared buffer zones. These include the suitability of the area

for the model, whether local residents and landowners will accept and support the concept, and how the model will be implemented (Stephens, 1998).

Buffer zones have been used in California and Maine, where they surround agricultural areas to protect them from the negative effects of urban areas (Schiffman, 1989:31). Buffer zones are also key components in UNESCO's Man and Biosphere (MAB) Programme, where a biosphere reserve is established with three elements, namely: core areas, which are formally protected sites; a buffer zone, used for activities compatible with conservation (education, ecotourism etc.); and a transition area, where a variety of activities from agriculture to settlements occur (Batisse, 1995). Biosphere reserves continually evolve as they adapt to suit an increasingly diverse range of situations (UNESCO, 1995). The buffer concept is also central to the IUCN conservation category V -- "protected landscape". The protected landscape category has particular significance where resident populations in an area might preclude the establishment of national parks. As a result of its extensive area, a protected landscape may incorporate different categories of protection such as nature reserves, national monuments or national parks. These areas form the core of the protected area, while land in the surrounding protected landscape them may serve as a buffer to the core areas (Lucas, 1992).

CO-MANAGING NATURAL RESOURCES

Although the buffer model has come under criticism as a tool that facilitates government involvement and state expansion into rural areas (Neumann, 1997), its flexibility has provided multiple benefits for conservation in a variety of situations (Dasmann, 1988; Dearden, 1988; Gilbert and Dodds, 1991; Newmark, 1985; Stephens, 1998). There have been many calls for joint management and partnership approaches in the management of natural resources, which the buffer model is able to facilitate (Dearden and Berg, 1993; Kothari *et al.*, 1995; Newmark, 1988; Notzke, 1995; Osherenko, 1988; Swinnerton, 1995). The relevance of co-management of approaches has been particularly noted where aboriginal and non-aboriginal groups have a common interest in utilising specific resources (Ghimire, 1994; Kothari *et al.*, 1995; Notzke, 1995).

In Canada, factors indicating the need for a co-management approach to national park management included the enormous differences between conventional national

parks and the northern aboriginal use of the environment; the creation of new national parks in areas where aboriginal land claims were being made; and the importance of renewable resources to the northern aboriginals' mixed economies (Notzke, 1995:203). It was found that the key components of a park (i.e. recreation and preservation) are foreign concepts in aboriginal cultures (Notzke, 1995:203). Their philosophical perception of preservation differs from that of 'western environmentalists':

> It is good that some areas are set aside to protect wildlife and it is good that there are some controls on industries and road building, but the southern ideas of excluding all human activities from wilderness are not ideas that my people can ever agree to.
> (Kassi, 1990:95 in Notzke, 1995:203)

> One is based on an exclusive view of man's role in national parks - as a visitor who does not remain. The world view of indigenous peoples, by contrast, is based on a perception of themselves and their activities as part of rather than separate from the natural environment. Within this framework the notion of wilderness reserves is foreign and discordant.
> (Sadler, 1989:193 in Dearden and Berg, 1993:201)

In order to resolve conflicting interests, a move has been made to incorporate aboriginal groups into the management and establishment of national parks in northern Canada. Co-management schemes established between aboriginals and conservation authorities have enabled agreements and compromises to be made over the use and conservation of the area. Co-management of natural resources has enabled aboriginals to be incorporated into the management of national parks and empowered them to play a role in determining management techniques in the park.

The use of co-management techniques in Canada illustrates the adaptability of current conservation efforts. Although the lifestyles and needs of residents in urban areas differ to those of northern aboriginals in Canada, incorporating urban residents into the conservation of the area would have potential benefits for all stakeholders. It is therefore with interest that we observe such changes in the international arena and anticipate their impact on conservation in South Africa, particularly where protected areas abut urban areas.

Co-management is a viable and effective means of managing the diverse interests of local communities and conservation bodies involved in the abutting area. The

changes needed in the management of protected areas in South Africa are summarised as the need to move "from a view of parks and protected areas as largely separate from other land uses to one emphasising co-ordination and integration on natural, social, economic, and broadly human ecological grounds" (Nelson, 1991:33 in Dearden and Berg, 1993:209).

Research on the interaction between protected areas and their neighbours is generally focused on rural communities, while the relationship between protected areas and surrounding urban communities has been overlooked. Although this is understandable considering the very few protected areas world-wide that abut urban areas, the situation presents complex and challenging management issues in both areas that require appropriate responses. A case study of the Cape Peninsula National Park, a 29 000 ha protected area, surrounded by the greater Cape Town metropole (see Figure 2.1) is presented as a microcosm of the issues associated with abutting urban and natural areas, highlighting not only the problems unique to this situation, but also similarities with abutting rural and natural areas, and how methods developed in this regard can be applied to urban communities that neighbour protected areas.

THE CAPE PENINSULA: A STUDY OF THE URBAN IMPACTS ON NATURAL AREAS

The proximity, and more importantly, the accessibility of the Cape Peninsula to surrounding urban areas has meant that the protected area (the CPNP) is under tremendous pressure from urban encroachment, tourism, a variety of leisure activities and research (Blignaut, 1996). The growth of the CMA not only threatens the phenomenal diversity of the Peninsula, but presents complex and challenging management issues.

Many of the problems affecting the conservation and management of the Cape Peninsula Protected Natural Environment (CPPNE) are rooted in the delimitation of its boundary. Following recommendations, it was decided to accord the entire Cape Peninsula, from Signal Hill to Cape Point, the status of a protected nature area in 1982[38] (Hey, 1994). A committee was established to delineate the boundaries of this area, but this process relied on subjective criteria and value judgements (Firer,

[38] the Cape Peninsula Protected Nature Area was reproclaimed as the Cape Peninsula Protected Natural Environment (CPPNE) in terms of the Environment Conservation Act in 1989.

1993:34). For political and pragmatic reasons, the Boundary Committee was instructed to use existing cadastral beacons as far as possible and the 152m contour was chosen to inform the boundary (Hey, 1994). The result of this process was a rigid, unsatisfactory boundary which ignores ecological and aesthetic criteria. The boundary of the CPPNE has been the cause of many inappropriate developments on the slopes of the Cape Peninsula mountains, often violating the scenic integrity of the area and threatening this internationally recognised hot-spot of botanical diversity. Conservation of the protected environment was also frustrated by its division amongst 14 different bodies, many without the necessary experience and resources to manage a system as complex and diverse as the Cape Peninsula (Firer, 1993; van Wilgen, 1996).

In 1996, the Cape Peninsula was accorded the highest possible conservation status in South Africa, that of Schedule One National Park. The entire nature area from Signal Hill to Cape Point was thus placed under the custodianship of the South African National Parks (formerly the National Parks Board). This move complies with the requests of numerous commissions and has finally provided an opportunity for the Cape Peninsula to be managed by a single experienced and equipped body, fulfilling the criteria for the Cape Peninsula to become a World Heritage Site (Cowling, 1995).

The South African National Parks (SANP) are faced with an array of complex and challenging management issues on the Cape Peninsula. One of the focal points for managers will be along the 140km perimeter, where the edge to area effect influences management policies (Blignaut, 1996; Trinder-Smith *et al.*, 1996). Over half the perimeter of the protected area (90km) abuts urban areas, resulting in substantial edge effects caused by a spill-over of human influences into the surrounding natural land (Richardson *et al.*, 1996:608). Other management issues that SANP will have to prioritise include the infestation of alien vegetation, conserving biodiversity, dealing with problems caused by private landownership within and abutting the protected area and arguably, at the top of the agenda, mitigating urban influences.

Fragmentation of protected areas through urban growth, agriculture and alien infestation disturbs the natural habitats of certain species (Richardson *et al.*, 1996). Important ecological processes, such as fires, seasonal floods and migrations, crucial to species' survival and maintaining biodiversity, are disrupted when surrounding

tracts of land are transformed by urban growth and agriculture. The effects of urban expansion on the Cape Peninsula are extensively analysed in Richardson *et al.* (1996), who emphasise the need to defend the boundary of the protected area and consolidate land under conservation to offer an effective attempt at sustaining the phenomenal biodiversity on the peninsula.

The natural area around Kommetjie and Ocean View provides the ideal environment to study the effects of urban settlements. Ocean View is located on the mountain slopes behind Kommetjie, which lies on the narrow strip of land between the mountains and the coastline (see Plate 1.2). Behind the villages, the mountains are covered largely in mountain fynbos vegetation, with coastal scree and lowland fynbos on the lower slopes and flat land. Pockets of milkwood trees and forest thickets are found in protected valleys and behind the primary sand dunes at the coast. While both areas are currently small and separated from the surrounding metropolitan areas (see Figure 2.2), there is pressure within Kommetjie and Ocean View for growth, as well as from people wanting to move to these quieter and safer areas from central city suburbs (Midgley, 1984). The pressures of larger populations in Ocean View and Kommetjie are threatening the natural systems that create the beauty and define the sense of place of the area.

Much of the natural land surrounding Kommetjie and Ocean View on the slopes of Slangkop and Kleinberg is densely infested with alien vegetation (see Plate 6.1) and exhibits signs of anthropogenic disturbance such as pollution, dumping, erosion and trampling of vegetation. Indigenous vegetation is further threatened by the prospect of urban growth on parcels of natural land around Kommetjie and Ocean View. *Gladiolus aureus*, an endangered endemic species found only behind Ocean View, and a thin strip of sand plain fynbos on the eastern slopes of Kleinberg, are two examples in the immediate vicinity of Kommetjie and Ocean View, where the survival of indigenous vegetation is threatened by alien vegetation and potential urban growth (Grindly and Raimondo, 1996).

TRANSECTS ALONG THE INTERFACE BETWEEN URBAN AND NATURAL AREAS

Sampling Methods

The decline of species towards the boundary of a protected area is known as the edge effect (Richardson *et al.*, 1996; Sisk and Margules, 1993) and is represented by the

generated edge -- the physical manifestation of the boundary of the protected area (Schonewald-Cox and Bayless, 1986). In the presence of an urban area abutting a natural area, evidence of disturbance in the natural area was used to identify a generated edge and thus detect an urban impact in the surrounding natural area. It is important to be aware of the difference between natural disturbance (e.g., fire) and disturbance due to human modification of the environment. The effects of anthropogenic disturbance on the natural disturbance regime (e.g., disrupting natural fire frequencies), called perturbations, are a significant factor affecting invasions (Richardson *et al.*, 1992).

Fynbos vegetation, found in the western and southern Cape, is an incredibly diverse and disturbance-adapted vegetation type (Cowling and Holmes, 1992; Cowling *et al.*, 1992). Measurements of species diversity along the urban edge are therefore not always a clear indicator of disturbance, as detecting perturbations in fynbos vegetation may be problematic[39]. However, it is possible that using species diversity together with other "disturbance" indicators (see below), trends observed in the data could indicate important interactions between the adjacent urban and natural areas and also highlight topics for further research.

In an attempt to quantify disturbance in the natural area, three sample sites were selected, reflecting a range of perceived anthropogenic impact. The mountain side above Witsand, considered to be most pristine, represented the control, while land surrounding Kommetjie and Ocean View represented the disturbance sites. At each site, three transects were sampled down the hillside, with each transect comprising three equidistant quadrats arranged linearly from the upper level of the slope to the lower level (see Figure 6.3). Transect length varied from 100m, on moderate slopes, to 50m on steep slopes[40], and individual quadrat size was restricted to 10m by 10m, to prevent the inflation of diversity indices in the low-stature vegetation (Simmons and Cowling, 1996).

[39] Midgely, pers. comm., 3 March 1998
[40] Trinder-Smith, pers. comm., November 1997

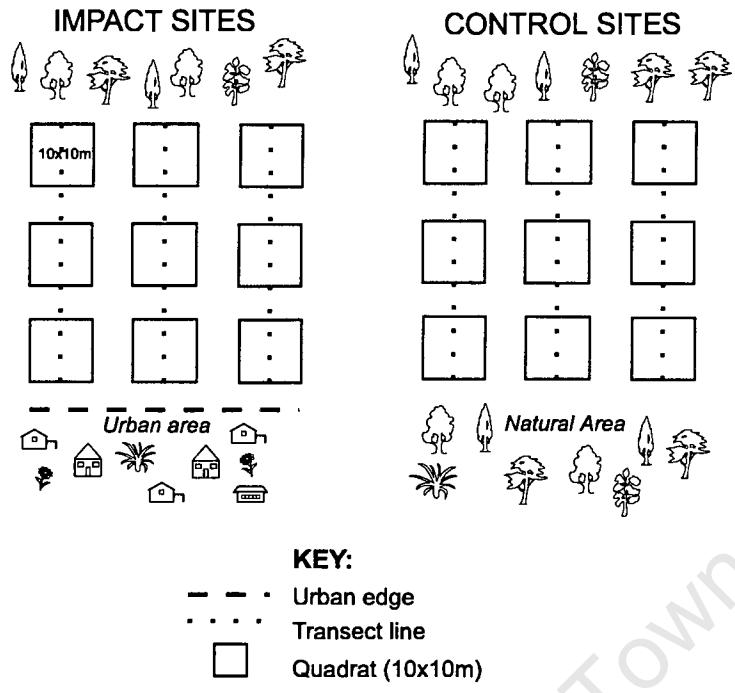


Figure 6.3: Layout of sampling sites

Indicators to identify perturbations were determined for both a visual and biophysical level of analysis. In each quadrat, the following possible "visual" disturbance indicators were noted:

- trampling of vegetation;
- unmanaged footpaths;
- amount of bare ground;
- soil erosion;
- exotic garden plant species;
- dumping (e.g., builders' rubble); and
- litter.

Botanical indicators used to determine the degree of disturbance in each quadrat included:

- the total number of indigenous species (species diversity) in each quadrat;
- total vegetation cover; and
- alien vegetation cover.

[The raw data from the transects at Kommetjie, Ocean View and the control sites are included in Appendix B.]

Data collected from control transects were used for comparison with the data from the impact sites. Specific criteria applied to the selection of the control sites, namely: there

was no adjacent urban area; the site had to be in a "pristine" condition, with no evidence of human disturbance; and as far as possible, it had to be homogeneous with the impact sites. The sampling methods (using three transect lines, three quadrats within each transect, and the same disturbance indicators) employed in the impact sites were identical to those used in the control sites.

To avoid possible sampling errors arising from the deciduous nature of many species, only perennially identifiable species were recorded (Simmons and Cowling, 1996). As all sites spanned an altitude gradient, it was important to keep this consistent as far as possible. Other variables for which consistency was maintained (where possible) included aspect and therefore radiation regime, soil type, gradient (as far as possible along the slope) and vegetation type within the fynbos biome (e.g., Ericaceous fynbos etc.). The sampling was done on a one-off basis as the data did not depend on change over a period of time.

Statistical Analysis

Botanical indicators of disturbance were first scrutinised visually to identify qualitative trends in the data. Subsequently, the variables were subjected to quantitative statistical analysis, using 2-way analysis of variance (ANOVA)[41]. For the purposes of this procedure, the transects at each site were considered to be replicates of one another. In this way it was possible to evaluate the following hypothesis:

> The magnitude of the biological response variable[42] at each of the three levels[43] sampled along the slope is independent of sample site[44].

This hypothesis could be rejected by a significant site/level interaction term in the ANOVA model.

For each variable, the sample probability distributions were assessed for deviations from normal by means of categorised normal probability plots, while the homogeneity of variances was evaluated using a Bartlett Test. This allowed appraisal of any violations of the two major procedural assumptions of ANOVA. Where necessary, the data were transformed and resubmitted to analysis.

[41] All analyses were conducted using Statistica Version 5.
[42] botanical disturbance indicators
[43] distance away from urban area at the impact sites (corresponds with transect lengths at the control sites)
[44] the impact sites (near urban areas) or the control sites (away from urban areas)

Results and analysis of botanical disturbance indicators

An initial qualitative comparison between the means of the response variables indicated important trends. In all cases, the control site appeared least impacted: the species diversity was consistently highest, and exhibited no decline down the slope; total vegetation cover was highest; and alien vegetation cover was consistently lowest (see Figures 6.4, 6.5, 6.6). By contrast, Ocean View had the lowest species diversity and had the greatest amount of alien cover. Interestingly, the total vegetation cover at Ocean View was higher than that at Kommetjie, possibly as a result of the presence of greater numbers of alien plants. Management practices, including clearing alien vegetation and firebreaks, at the Kommetjie impact site has affected the trends in alien vegetation cover and total vegetation cover which were not as explicit as at Ocean View.

The trends in the results indicate increasing disturbance (perturbations) towards the urban edge at the impact sites in each botanical indicator: total species; total alien vegetation cover and total vegetation cover, while this trend is absent at the control (see Figures 6.4, 6.5, 6.6).

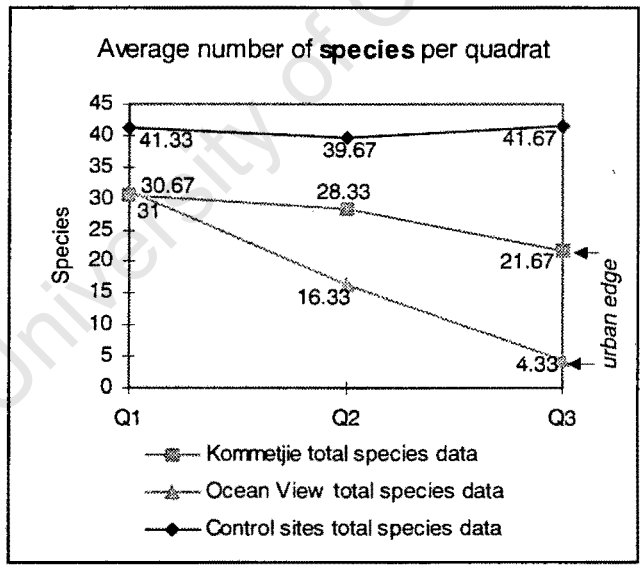


Figure 6.4: Average number of species per quadrat

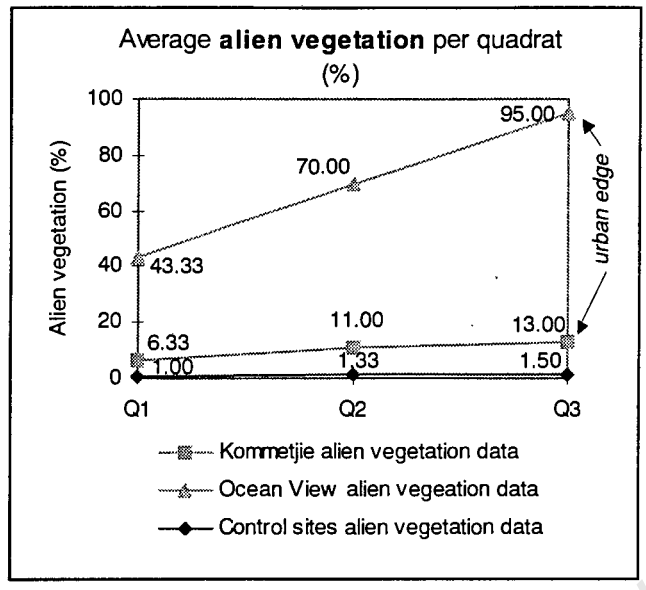


Figure 6.5: Average percentage alien vegetation per quadrat

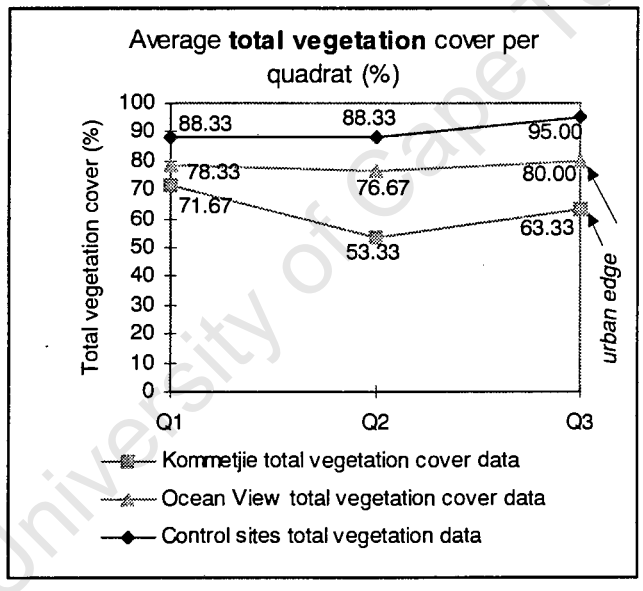


Figure 6.6: Average percentage total vegetation cover per quadrat

The decline in total species per quadrat towards the urban edge in the impact sites, as indicated in Figure 6.4, indicates the presence of an edge effect. However, as mentioned previously, it is not easy to draw firm conclusions about the effects of disturbance on vegetation in the fynbos biome (Richardson *et al.*, 1992). A sharper decline in total species per quadrat in the transects at Ocean View is attributed to the extremely dense stands of *Acacia saligna* - an invasive alien tree species. *Acacia saligna*, known as Port Jackson, is a common invader of perturbed areas, particularly agricultural or other transformed lands (Richardson *et al.*, 1992). Although primarily

dispersed by water or ants, disturbance-coupled recruitment is critical for most plant invader species (Richardson *et al.*, 1992:296). It is therefore suggested that historical disturbance of the land surrounding Ocean View (the agricultural land-use) together with more recent disturbance originating as a result of the neighbouring urban area[45] are associated with the dense invasion of the alien vegetation.

Attempts to quantify these differences proved futile. Although the data were generally suitable for analysis (only total vegetation cover data had to be square root transformed to stabilised within-cell variances), non-significant interaction terms were obtained in all cases (see Appendix C, Tables C.1, C.2, C.3). Thus, from the data currently available, it is not possible to detect significant spatial trends in response variable means. This was the result of the low number of replicates sampled in comparison to the amount of variability present in the data. Based on these initial trends in the qualitative and quantitative analyses, it is anticipated that further sampling would verify the visual trends that current analysis has failed to do.

It is accepted that, within broader parameters of significance, there are factors driving the differences between the quadrats closest to the urban areas in the impact sites and the control sites. There is a high probability that certain activities in urban areas and in natural areas accessible from urban areas, initiate a disturbance to the natural systems in the land abutting the urban area. This indicates a relationship between the proximity of the natural land to the urban area and the disturbance on that site. Consequently, the disturbance negatively impacts on conservation efforts in the natural area as the conservation managers have no direct influence over activities beyond the boundary of the protected (natural) area.

Analysis of threats associated with disturbance in natural areas

The visual disturbance indicators were analysed and evaluated using an environmental evaluation matrix to determine the degree of severity each indicator posed as a threat to the area in terms of the conservation of botanical diversity. Each disturbance indicator can be understood as a threat to the conservation of the natural land surrounding the urban area. Each threat is associated with a series of actions or causes that create and sustain the threat. A matrix evaluation of these threats and

[45] discussed further in chapter seven

their causes was therefore undertaken to extend the understanding of the effects of threats from urban areas on adjacent natural land (see Figure 6.7). Such an analysis allows the identification of problem areas and structure management plans in response to the severity and impact of each particular threat.

An "environmental matrix" is an accessible and effective means of undertaking such an analysis (Fuggle and Rabie, 1983). It allows "environmental elements" (aspects of the environment) to be assessed against specific actions that will affect each environmental element. In this way problem areas, as well as the cumulative effects of specific actions, can be identified and integrated in management proposals.

Data from the sample sites around Kommetjie and Ocean View were presented in an environmental matrix. Each transect site (for both the impact and control plots), represented the "environmental element" on the y-axis of the matrix. The existing and potential threats to the surrounding land, as well as actions that perpetuate each threat (e.g., alien vegetation more easily invades land that is overburnt; Richardson *et al.*, 1992), were then determined and entered onto the x-axis. Each cause on the x-axis was then ranked against each site on the y-axis according to the following ranking scale:

0 - *no impact:* there is no evidence of the cause of the threat in the transect and there is no indication that it is likely to occur if the existing conditions remain.

1 - *slight impact:* there is minor evidence of the cause, but it is not considered to be a significant threat; *or* there is currently no evidence of the cause of the threat but it is believed that if existing conditions remain, it is likely to occur.

2 - *moderate impact:* there is evidence of the particular action and the associated threat which is considered to have a moderate impact on the condition of the land.

3 - *severe impact:* there is large scale evidence of the action/cause and the associated threat resulting in severe environmental degradation of the land.

In order to highlight problem areas, actions which were considered to have a significant impact on the site in terms of specific criteria[46] scored a three in the ranking system and were "red-flagged" to draw attention to that action or cause - indicated in blue on Figure 6.7. In order to identify specific causes that were

[46] e.g., importance; probability; timing of occurrence; duration; benefit (Fuggle and Rabie, 1983)

problematic in each area (i.e., Ocean View, Kommetjie and the control site) the total ranking for each action was "red-flagged" if it was greater than or equal to six[47] - indicated in pink on Figure 6.7. The ranking for each cause associated with a threat was then totalled to give a score for the threat (e.g., alien vegetation etc.) - indicated in bold red on the matrix. The total score was then "red-flagged" if when divided by the number of causes associated with the threat, it was greater than or equal to six.

[47] Six was chosen to be a significant as it represented two thirds of the highest attainable ranking for each action (9).

THREATS	ALIEN VEG.					DUMPING				BARE GROUND					EROSION					OVER BURNING					TRAMPLI		PETS	
CAUSES	trampling	no management	exotic garden veg.	overburning	sub total	litter	dumping (builders rubble etc.)	dumping garden refuse	sub total	overburing	clearing	walking off path	dumping	sub total	clearing	walking off main path	overburing	alien invasion	sub total	alien invasion	dumping	litter	habitation	sub total	walking off main path	sub total	threat to natural species	sub total
IMPACT SITES																												
KOMMETJIE																												
Transect 1	2	0	2	2	6	1	0	1	2	1	2	2	1	6	2	2	1	1	6	1	1	2	0	4	2	2	2	2
Transect 2	3	0	2	2	7	1	1	2	4	2	2	3	2	9	2	3	2	1	8	1	2	2	0	5	2	2	2	2
Transect 3	3	0	3	2	8	2	1	1	4	2	2	3	1	8	2	3	2	2	2	2	1	2	0	0	3	3	2	2
sub total	8	0	7	6	5	4	2	4	3	5	6	8	4	6	6	8	5	4	4	4	4	6	0	2	7	7	6	6
OCEAN VIEW																												
Transect 1	3	3	1	3	10	3	3	3	9	3	3	3	3	12	3	3	3	3	12	3	3	3	3	12	3	3	2	2
Transect 2	3	3	1	3	10	3	3	3	9	3	3	3	3	12	3	3	3	3	12	3	3	3	3	12	3	3	2	2
Transect 3	3	2	1	2	8	3	2	2	7	2	2	3	2	9	2	3	2	3	10	3	2	3	0	8	3	3	2	2
sub total	9	8	3	8	7	9	8	8	8	8	8	9	8	8	8	9	8	9	9	9	8	9	6	8	9	9	6	6
CONTROL SITE																												
WITSANDS																												
Transect 1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	0	0	0	0
Transect 2	0	2	0	1	3	0	0	0	0	1	0	0	0	1	0	0	0	1	1	1	0	0	0	1	0	0	0	0
Transect 3	0	2	0	1	3	0	0	0	0	1	0	0	0	1	0	0	0	1	1	1	0	0	0	1	0	0	0	0
sub total	0	6	0	2	2	0	0	0	0	2	0	0	0	1	0	0	0	3	1	3	0	0	0	1	0	0	0	0

KEY TO RANKING:
0 -- no impact
1 -- slight impact
2 -- moderate impact
3 -- severe impact

KEY TO "RED FLAGGING"
pink -- cell score equals 3
blue -- action totals >5
red -- threat sub totals divided by number of actions equals >5

NOTES:
* if the causes of the threats ranks a "3", in terms of specific criteria, it is considered to be a severe factor at that site.
* if the sub total of the ranking of each "cause" is greater than 5, that cause, at the impact site, is considered to be a significant factor perpetuating the threat.
* the particular threat to the site is considered to be significant if the sum of the sub totals, when divided by the number of causes, is greater than "5"
* ">5" represents two thirds of the highest possible ranking of each "cause" (9) and is therefore chosen as a number of significance.

Figure 6.7: Environmental Evaluation Matrix -- visual disturbance indicators

The most striking result from the matrix is the degree to which the land surrounding Ocean View is under threat from actions related to the proximity of the urban area. Each action or cause, with the exception of exotic garden vegetation, is "red-flagged", indicating it has a significant impact on the land around Ocean View and requires urgent attention in terms of management. Furthermore, each threat on the x-axis is considered significant in terms of the evaluation. This is testimony to the condition of the land surrounding Ocean View and the potential impact of the disturbance should the threats continue unabated.

The significant threats at the Kommetjie impact sites are considerably fewer than those at Ocean View, as only trampling and bare ground are "red-flagged". Although other threats and their causes do not appear significant it is important that they are not ignored -- particularly the threat of alien vegetation which only narrowly misses "red-flagging". The threats of bare ground and trampling can be attributed to the use of the land for walking (see Plate 6.2) and also inappropriate methods of alien vegetation and firebreak clearing which are detrimental to natural systems (see Plate 6.3).

The control site at Witsands is unthreatened by factors associated with an urban influence, due to its remote location from urban areas. The lack of direct management of the land poses the only significant risk to the area, but the inclusion of the land in the future national park and alien clearing activities in the area should negate this threat.

The poor condition of the land surrounding Ocean View can be attributed to a variety of factors, not only current activities on the land which account for some of the high scores. Historical factors such as past land-uses also account for the condition of the land today. Until the establishment of Ocean View township in 1968, the area was under agricultural use (see Plate 6.4) (Midgley, 1984). Disturbance to natural systems caused by the transformation of the land through, for example, agricultural land-use, facilitates the invasion and rapid spread of alien plant species, particularly *Acacia saligna* (see Plate 6.5) (Richardson *et al.*, 1992). High population densities, low levels of social and economic development and the extent of overcrowding in Ocean View also contribute to environmental degradation in and around the community (see chapter seven).

Plate 6.1 Alien vegetation and rubble around Ocean View

Plate 6.2 Unmanaged footpaths and trampled vegetation

Plate 6.3 Clearing firebreaks and alien vegetation

Plate 6.4 Prior to the development of Ocean View in 1968, the land was under agricultural use (1944)

Plate 6.5 Dense infestation of *Acacia Saligna* (Port Jackson) around Ocean View

Plate 7.1 The Bokramspruit site between Ocean View and Kommetjie (in the distance in the photograph)

Plate 8.1 Another plot for sale around Wildevoëlvlei

The environmental matrix highlights the current and potential threats to the land surrounding both Ocean View and Kommetjie. Many of the threats are attributed to poor management of the land and inappropriate use by the surrounding communities (e.g., dumping rubble and garden refuse, habitation and creating unsuitable footpaths) as well as erosion, overburning, windblown litter and other forms of pollution carried from the urban area.

Regulation or prevention of many of these causes requires frequent, if not daily monitoring of the area. However, in the light of inadequate resources and the unfeasibility of daily monitoring, much of the responsibility for managing and mitigating "urban impacts" falls onto the local communities. Not only is it important that local residents acknowledge this responsibility, but that they act on the threats to the protected area. In this way, positive spin-offs from threats to the natural area can be identified and utilised. These benefits might include instilling a community-level environmental awareness and sense of responsibility for the environment, as well as the economic spin-offs from job creation through tasks such as alien clearing, monitoring of the area, education and tourism. Through such initiatives, conservation, economic growth and urban living are integrated in a sustainable and proactive manner.

CONCLUDING REMARKS

Research along the boundaries of the future Cape Peninsula National Park has justified the opening statement that the greatest challenges facing protected areas occur along their boundaries (Schonewald-Cox, 1988; Dasmann, 1988). Comparative sampling and observational analyses of the impact sites (around Kommetjie and Ocean View) with the control site, revealed useful information regarding the interaction between abutting urban and natural areas. At the impact sites, it emerged that disturbance in the natural area increased towards the urban area, creating a generated edge[48]. This was validated by data from the control sites which revealed no signs of disturbance or perturbation towards the lower end of the sampling sites. An evaluation of the threats to the land surrounding the urban area has attributed the causes of each threat to activities related to the presence of the urban area. Severe threats and problem areas highlighted in the matrix provide an indication of management priorities, but also

[48] which is represented by a decline in indigenous species towards the edge of the protected area (Schonewald-Cox and Bayless, 1986)

indicate a need to utilise local resources for managing the area. Conservation policies are incomplete if managers have no ability to influence decisions and activities in neighbouring areas where disturbance in the natural area originates. Local authorities and private landowners need to act on behalf of, and in association with, conservation managers to enable effective and integrated conservation practises.

Further challenges are presented by the differing levels of disturbance around Kommetjie and Ocean View. Owing to past land-use practises, socio-economic factors and current management practises, the land around Ocean View is considerably more degraded than around Kommetjie. This provides greater motivation for the managers of the protected area (SANP) to approach the community and explore the possibilities and mutual benefits of involving residents in local environmental initiatives that simultaneously upgrade urban living conditions and reduce levels of disturbance in the surrounding protected area. This issue is explored in greater detail in the following chapter which evaluates the level of environmental awareness in Kommetjie and Ocean View in comparison to the needs and priorities of the communities. In this way, it is hoped to show how conservation issues are integrated with urban environmental problems, and thus to draw together the segregated domains of "nature" and "society".

- CHAPTER SEVEN -

A SOCIAL ASSESSMENT: LOCAL COMMUNITIES AND THE NATURAL ENVIRONMENT

INTRODUCTION

> The difficulty is that "environment" means totally different things to different people, depending not only on ideological and political allegiances, but also upon situation, positionality and political capacities. When the big ten environmental groups in the United States target acid rain ..., ozone holes, biodiversity and the like, they point to serious issues that have relevance at a global scale. Responses to those issues have the most profound implications for urbanisation processes. But they are hardly the most important issues from the standpoints of masses of people flooding into the cities of developing countries.
> (Harvey, 1996:428)

The preceding chapter, which examined the biophysical indicators of disturbance in natural areas that abut urban areas (specifically Kommetjie and Ocean View), drew attention to the need for communities to assume a level of responsibility over their local environment. Many problems encountered in natural areas originate in adjoining urban areas and similarly, many factors that affect residents in these urban areas, originate in the natural areas. It is thus essential that a level of co-operative management exists between the two areas. However, administrative boundaries, property rights and legislation are some of the factors which constrain integrated management and entrench our ideas of rigid boundaries and fragmented administration. An understanding of the needs and interests of role-players involved on either side of the boundary thus provides an awareness of the complex issues that may thwart co-operative management in the area. The dialogue surrounding the management of urban and natural areas, as interpreted by social agents at various levels is therefore examined.

The discussion in this chapter is centred around the development and nature of divergent discourses that emerged from the Kommetjie and Ocean View communities during the participatory process to produce a growth management plan for the local area (Ward 21) (see Figure 2.2). Dialogue with key players in the study area, focused specifically on the needs and priorities of residents, the interpretation of those needs by community representatives and the connection between needs and local environmental issues, reveals differing perceptions towards the natural and urban

environments. Two ostensibly disparate discourses emerge from this discussion, converging respectively on "social justice" and "green" issues. Key concerns are identified within each discourse (e.g., housing and nature conservation) and discussed within the context of the debate. Each issue is examined from the perspective of the key players in the process, illustrating the use and implications of socially constructed "facts" in the broader goal of co-operative environmental management. The "social justice" and "green" debates are then analysed together, enabling us to distinguish points of connection between the proponents and their interests.

The aim of this analysis is to provide an indication of the relative importance of environment and development issues amongst the actors in Kommetjie and Ocean View. From a clear understanding of the key problems, a suitable approach to co-managing abutting urban and natural areas, that incorporates both social and environmental priorities, is possible.

DIVERGENT DISCOURSES WITHIN A LOCAL PLANNING PROCESS

Triggered by the growing concern amongst Kommetjie residents of urban expansion into surrounding natural areas, a process to produce a strategic plan for Ward 21 was initiated during the early months of 1998. The plan would identify the outer limits of Kommetjie and Ocean View, an appropriate means of integrating the two communities, as well as ways to address the problems of economic development and housing in Ocean View. As part of this process, a participatory planning forum[49], responsible for public liaison, was convened and helped to inform the planners of local issues and ensure that the planning process was responsible and accountable to the public. The forum consisted of the consultants[50] commissioned to produce the strategic plan, officials from the South Peninsula Municipality (SPM) and key players in the communities.

[49] The Ward 21 planning initiative consisted of a forum where key representatives from the Kommetjie or Ocean View communities were able to express their concerns in the presence of other representatives and municipal officials. The process thus provided the ideal opportunity for me to develop an intimate understanding of the needs and dynamics of the communities. From the onset of the Ward 21 planning process, my presence as an observer at the meetings became a central element in the fieldwork. Due to the contentious nature of the topics, the anonymity of community members that are quoted will be preserved.

[50] The consulting team for the Ward 21 Strategic Plan consisted of local planners and urban designers appointed by the South Peninsula Municipality.

The key players in the two communities included representatives from the main organisations in the area:

- Kommetjie Residents Association (KRA): the mouthpiece of the Kommetjie community which tended to be slightly conservative in its directive and opinions;
- Kommetjie Estates (KE): a major landowner around Kommetjie and Ocean View, also responsible for the recent surge in urban development in Kommetjie;
- Kommetjie Environmental Awareness Group (KEAG): a local, but active and well respected environmental group, not only associated with the Kommetjie community but very active in neighbouring areas (e.g., Ocean View and Masiphumelele);
- Ocean View Reconstruction and Development Programme Forum (OVRDP): the mouthpiece of the Ocean View community and the umbrella group for smaller organisations in Ocean View; assists in economic and social development in the community;
- Ocean View Development Trust (OVDT): a community-based organisation that facilitates the provision of affordable housing and economic development in Ocean View using funds from national development programmes;
- Ward 21 Councillor: a member of the Ocean View community who represents Kommetjie, Ocean View and Imhoff's Gift residents.

Other groups represented at the planning forum meetings were:

- South African National Parks (SANP): the managers of the Cape Peninsula National Park, and thus a major landowner in Ward 21;
- South Peninsula Municipality (SPM): the local municipality, responsible for the South Peninsula from Wynberg to Simon's Town;
- Imhoff's Gift representative groups
- Friends of Scarborough and other neighbouring interest groups.

One of the flaws in the process was the late introduction of key players such as SANP and neighbouring groups who are directly affected by developments and decisions taken in Ward 21. Other interested parties, such as representatives from the neighbouring communities of Masiphumelele, Capri and Noordhoek (see Figure 2.2) were not involved in the process but would have helped situate the Ward 21 Strategic Plan amongst issues in the broader context.

During the introductory meeting of the planning forum, strongly divisive emotions were expressed which created distinct (although not unexpected) polarisation amongst members of the forum. Feelings of suspicion and distrust between the Kommetjie and Ocean View representatives were fuelled by concern over the "ownership" of the planning process. The plan originated from a request for a local structure plan for Kommetjie as the generally white, affluent residents were concerned about the increasing loss of open space and ad hoc development occurring

in the village.[51] Based on the initial request for a Kommetjie structure plan, the local municipality took the initiative, without proper consultation of interested parties, to commission a strategic plan for Ward 21, using funds from a budget set aside for Kommetjie[52]. Kommetjie representatives were concerned that while the plan was funded from the Kommetjie budget, the original motives for the plan (environmental conservation and controlling development) would be marginalised by the more immediate needs of housing and employment in the predominantly coloured and much poorer Ocean View.

> I am worried that Kommetjie won't benefit from its money being spent.
> (Kommetjie representative)[53]

Hidden motives for the plan could be interpreted as wanting to prevent the growth of Ocean View in the direction of Kommetjie and the resultant integration of the two communities. Following concern over the "ownership" of the process and suspicion of hidden agendas, Ocean View representatives felt that if the plan was to focus on Kommetjie, their involvement would be irrelevant.

> If it's Kommetjie's money and Kommetjie's interests, what's the point of bringing Ocean View in? We are sitting here with great suspicion of Kommetjie's interests.
> (Ocean View representative) [54]

The failure to properly consult members of the community regarding the brief and objectives of the plan contributed to the suspicion of hidden agendas and the resultant conflict between the communities during the planning process. The community representatives realised that neither group would benefit from the plan if the conflict and poor understanding between the Kommetjie and Ocean View remained unresolved. The representatives decided to meet independently of the consultants and the municipal officials to find common ground beneath the suspicion and distrust of each other's motives[55]. It was also necessary for both communities to start uncovering what lay beneath the historical and political legacies that had structured and affected their development.

[51] Community meeting, 22 April 1998
[52] Although Kommetjie and Ocean View fall into the same ward, during community meetings, it was stated that the strategic plan was funded from a "Kommetjie budget".
Planning meeting, 15 April 1998; Community meeting, 22 April 1998
[53] Community meeting, 22 April 1998
[54] Ibid.
[55] Planning meeting, 15 April 1998

Although the community forum[56] meetings that followed inherited the polarisation of the planning forum, the tone was notably less confrontational and as a result, the community forum meetings were more constructive than the planning forum meetings. Through dialogue with Kommetjie and Ocean View representatives, the needs and concerns of each group were explained and the misconceptions and suspicions between the communities slowly discarded. From an outside perspective, it appeared that the representatives from these neighbouring communities were coming together for the first time to discuss mutual interests. This feeling was echoed by the following statement made during a community forum meeting:

> This and last week's meeting was the first time that the Ocean View people have met Kommetjie [people]. We were treated as two separate communities in the past. In terms of the way the country is going ... this is the way we should be meeting and use it to dispel suspicions of one another.
> (Ocean View representative)[57]

Although there were still clear differences between the communities, each group accepted each other's needs as equal to their own, and through this, they were able to express their joint concern regarding the shortcomings and problems of the strategic planning process to the consultants and officials.

There are thus distinct discourses dominant in either forum, each interpreting the environment from a different perspective. In the planning forum the discourse originates from a "green" tradition (see chapter three) and the focal issues include the need to define urban edges, preserve open space and nature conservation objectives. Although these issues are voiced by the middle to upper income Kommetjie community they appear to dominate the planning forum meetings. The second discourse only acquired equal recognition in the community forum meetings where dissatisfaction with the apparent focus on "Kommetjie issues" was expressed by Ocean View representatives. Emerging from a social justice interpretation of environmental issues, their priorities include the need for affordable housing and overall economic development, particularly employment opportunities and better living conditions. The issues raised by the Ocean View representatives are thus largely established in the brown agenda, centred on mainstream urban problems (see chapter four). The threat

[56] It is important to understand the differences between the *planning forum* (consisting of the consultants, municipal officials and community representatives) and the *community forum* (consisting *only* of the community representatives from Kommetjie and Ocean View). The consultants and officials were *not* included in the community forum meetings.
[57] Community meeting, 22 April 1998

of high income residential development is a factor which affects residents in either community and influences issues in the green and social justice discourses. The implications of the development of affluent housing estates is thus applicable to both sides of the debate and is discussed accordingly.

In the following section, I will use the key issues in each discourse to illustrate the complexity of the urban environmental debate, particularly in the context of an urban/natural interface where communities with diverse needs and interests, provide a challenging array of issues to address. An analysis of the debate will reveal the interplay of social and natural factors in the environment, in the context of seemingly divergent interests.

The Social Justice Debate: housing and economic development

> What is more important? The environment or the human beings living on the earth!?
> (Ocean View representative)[58]

Overcrowding and the Shortage of Affordable Housing

Apartheid has left Ocean View economically underdeveloped and facing a housing crisis, with many people living in miserable and overcrowded conditions. The official population figures of Ocean View have varied enormously[59] and are believed to have been grossly underestimated[60]. With an estimated annual growth rate of 2.8 percent, the current population in Ocean View is thought to be around 18 000 people. The severe overcrowding, where two or three families live in sub-economic flats or small houses and others are forced to squat in surrounding bushes, is not represented in official population figures. An indication of the size of the problem facing Ocean View is the waiting list of 1 400 people needing houses in the village[61]. Conditions were compounded in 1987 when Mountain View (on the south side of Ocean View) was developed as a temporary site for people squatting on the Fish Hoek dunes, with the intention to allocate them housing in Ocean View (MLH, 1996). Although lacking basic facilities, Mountain View became a permanent settlement (see Figure 7.1; Plate

[58] Planning meeting, 15 April 1998
[59] In 1991 population figures of 12 251 and 14 500 were released from the Central Statistical Service and the Regional Services Council respectively (CMC, 1997).
[60] Older sources indicate that in 1984 the population of Ocean View was 23 000 which was then suggested to be a significant underestimation of the real figure due to illegal overcrowding and squatting (Maralack and Kriel, 1984).
[61] Edwards, pers. comm., 13 April 1998

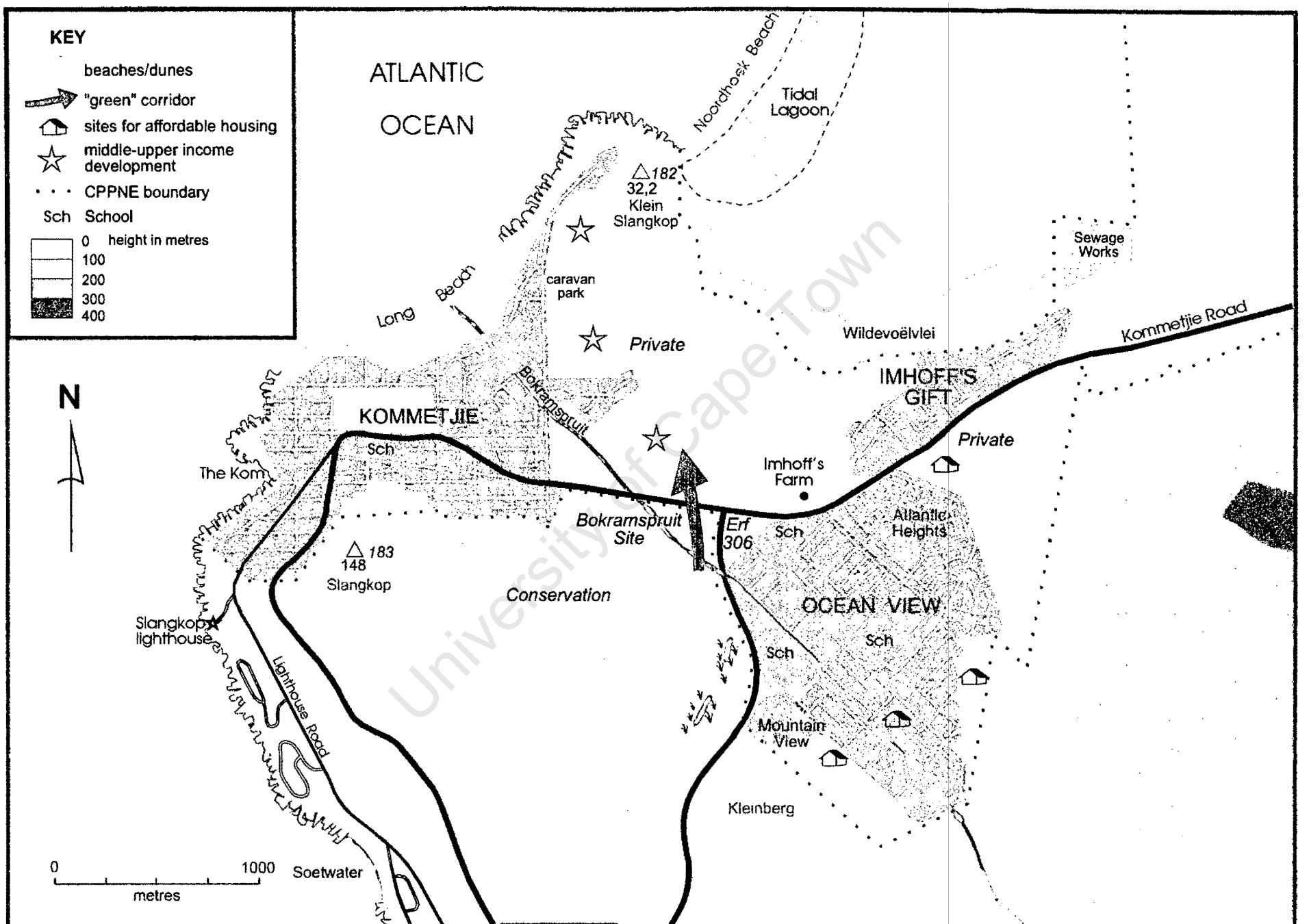


Figure 7.1 Kommetjie and Ocean View

2.13). Atlantic Heights, on the north east of Ocean View subsequently developed as an initiative of the OVDT in order to alleviate the overcrowding and squatting in Ocean View (see Figure 7.1).

The urgent need for housing is widely known amongst the Ocean View residents. 90 percent of residents surveyed in Ocean View[62] ranked the provision of affordable housing as a top priority, despite the fact that 50 percent of these residents indicated that they owned property and only 20 percent rented or subrented property[63]. This need is echoed by the Ward 21 councillor[64] and the Ocean View RDP Forum. The OVDT was established in 1992 in response to the housing crisis and lack of economic opportunity, to facilitate housing and economic development in Ocean View[65].

Although there is an urgent need for housing in Ocean View, the discourse is also misused by local groups wanting to further private interests. When members of the community forum indicated their priorities, the representative of Kommetjie Estates emphasised the need to address the housing crisis and integrate Kommetjie and Ocean View, thus exploiting a political discourse and appearing to offer support for the needs of Ocean View[66]. However, the houses developed by Kommetjie Estates, which are targeted at the middle to upper income bracket, are unlikely to address the needs in Ocean View, but will rather draw more people into the area who can afford the higher prices of these houses, thus increasing the strain on infrastructure (e.g., transport, sewage, open land).

Besides inadequate financial resources, one of the factors restricting the provision of affordable housing in Ocean View is the difficulty in obtaining suitable land. The land surrounding Ocean View is either privately owned (on the north and east sides by Kommetjie Estates) or used for conservation (the Cape Peninsula National Park on the

[62] A questionnaire survey was carried out in both Kommetjie and Ocean View to determine the priorities and nature of environmental concerns amongst the residents. Due to limited resources, the questionnaire was not intended to be a representative sample of the population, but rather to extract qualitative data on the nature of issues and to indicate whether issues raised by community leaders were important to the communities they represented. 200 questionnaires were distributed in Kommetjie and Ocean View with an overall return of 40 percent. See Appendix D for the questionnaire.

[63] A large number of questionnaire respondents did not answer this question, possibly because the property was registered under their spouse or they did not want to indicate they were subrenting or squatting.

[64] Johnson, pers. comm., 3 April 1998

[65] Edwards, pers. comm., 13 April 1998

[66] van der Horst, pers. comm., 3 April 1998; Community meeting, 22 April 1998

west side) (see Figure 7.1). Vacant land has been identified for housing within the boundaries of Ocean View, as well as to the south of Ocean View (MLH, 1996). Although this land is zoned for residential purposes[67], development has been restricted by the high cost of servicing and building on the rocky land[68]. However, a thin strip of the land along Jupiter Road is indicated as suitable for housing in the Ocean View Strategic Plan (MLH, 1996), and the Ward 21 planners have suggested the development of larger (higher income) plots on the rest of the land[69] (see Figure 7.1).

While these and other suggestions present an opportunity to alleviate the housing crisis, they will not address the full extent of the problem which will require further land beyond the boundaries of Ocean View. However, there is pressure to find land close to Ocean View as residents are not willing to leave the community, despite the limited housing opportunities[70]. Reasons for their preference to remain in Ocean View include the history of forced removal experienced by the community under Group Areas legislation, the existence of a tight community and family network in Ocean View, the higher price of houses in centrally-located areas and the belief that Ocean View is safer in terms of crime, than other areas in the CMA[71].

The most contentious piece of vacant land targeted by the Ocean View community for housing, is the Bokramspruit site linking Kommetjie and Ocean View (see Figure 7.1; Plate 7.1, page 115). Owned by the municipality and originally in the "coloured group area", this land was set aside for housing in the late 1980s[72], however the legal status and suitability of this land for housing is now disputed[73]. The land falls within the CPPNE[74] and as a result, development on this land would have to be approved at the provincial level. Ocean View representatives dispute the conservation status of the land, saying they were not involved in any public participation process when the land was accorded its conservation status[75]. From an environmental perspective, the land,

[67] Ocean View Zoning Map
[68] Walton, pers. comm., 28 November 1997
[69] Planning meeting, 18 June 1998
[70] de Costa, pers. comm., 23 April 1998; Johnson, pers. comm., 3 April 1998; Edwards, pers. comm., 13 April 1998; 7 September 1998
[71] Edwards, pers. comm., 13 April 1998; 7 September 1998
[72] Planning meeting, 18 June 1998
[73] Ibid.
[74] The majority of land in the CPPNE is scheduled to be included in the CPNP, however it is unclear whether this parcel of land has been ceded from the metropolitan authority to SANP.
[75] Community meeting, 3 June 1998

which is said to be unsuitable for development because of high ground water levels, provides one of the last links between the northern and southern sections of the CPNP[76]. Any development on this land will break the link between the northern and southern sections of the park. This argument is upheld by the Kommetjie community who would prefer not to see the land between Kommetjie and Ocean View developed, thus linking the villages and overwhelming the quiet and insulated atmosphere of Kommetjie[77]. The Ocean View community argue strongly for the development of housing on this site which they see as a social and political "buffer" between the communities (leftover from apartheid and now reinforced by conservation) and offering opportunities to alleviate the housing crisis[78]. The Ward 21 planners have suggested that the legal and environmental aspects of this site be officially clarified, although they recommend that the site is not developed for housing, but rather used as a walkway or access point to the Slangkop and the CPNP[79].

An application is currently being made by the "Back to Simon's Town" Committee to the Land Claims Court for retribution of those who lost their property during apartheid[80]. However, it is unlikely that even a favourable outcome of this application will significantly alleviate the housing shortage in Ocean View. While the housing crisis remains a contentious and political issue, economic development, which would help address this problem and present Ocean View residents with other options, must be given the same level of attention in order to develop a "viable" community able to prioritise issues other than basic needs.

The Need for Economic Development

As Ocean View is a dormitory suburb, job opportunities and the potential for economic development in the area are severely limited. The lack of opportunity is reinforced by the continual drain of money from the community as much of the income earned by Ocean View residents is spent on goods and services outside the

[76] The undeveloped land between the northern and southern sections of the CPNP includes the Bokramspruit site at the foot of Slangkop (on the south of Kommetjie Road) which links up with land on Imhoff's Gift (owned by Kommetjie Estates), in particular, Slangkop ridge and Klein Slangkop, which would form the backbone of the green corridor in the CPNP running to Noordhoek beach and the wetlands.
Planning meeting, 18 June 1998.

[77] 43 percent of Ocean View residents surveyed ranked linking Kommetjie and Ocean View as a priority, while three percent of Kommetjie residents ranked this as a priority.

[78] Community meeting, 3 June 1998

[79] Planning meeting, 18 June 1998

[80] Thomas, pers. comm., 7 September 1998

village. 90 percent of Ocean View respondents ranked the creation of jobs in Ocean View as a top priority, for which commercial development was favoured above industrial development, while tourism was believed to have the lowest potential in Ocean View (see Figure 7.2). The creation of jobs was also prioritised by Ocean View representatives. The OVDT believes that the key to economic growth is the development of small businesses and local markets in the community, creating employment for residents and helping them to improve their living conditions and opportunities, thus developing a "viable community"[81].

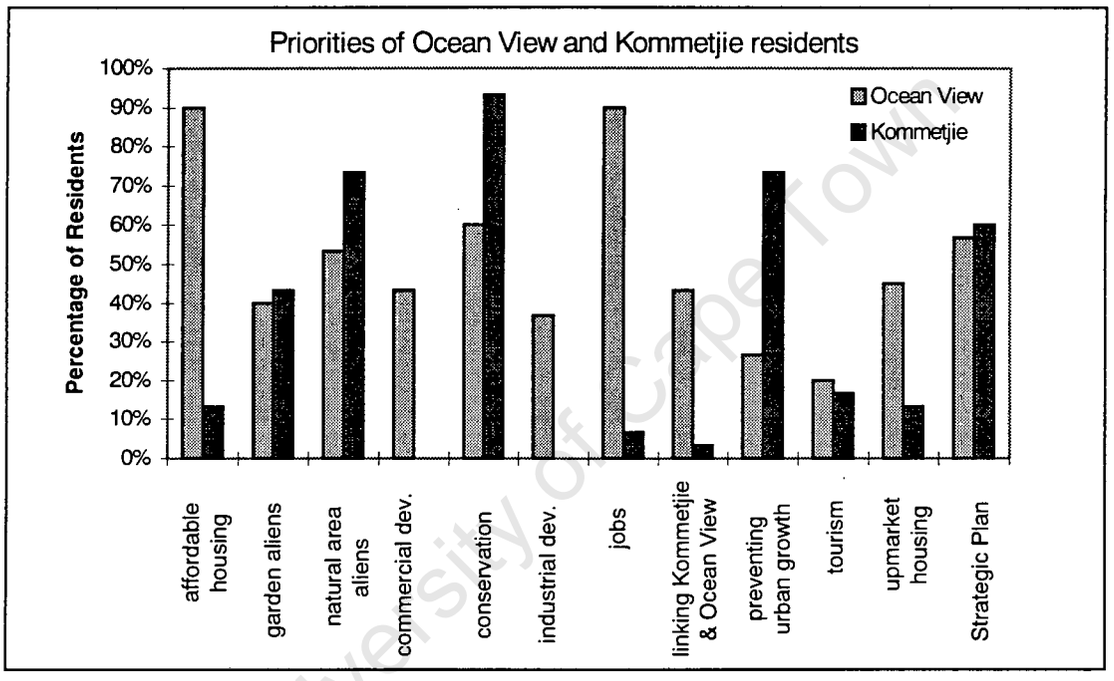


Figure 7.2 Priorities of Ocean View and Kommetjie Residents, as indicated in the questionnaire survey carried out in the villages

An initiative to facilitate economic growth in Ocean View is the integrated development plan for erf 306 on Kommetjie Road (see Figure 7.1). The proposal is to develop a community business centre, based on economic partnerships with the local residents and developers, which incorporates commercial and light industrial development, as well as informal trading. The plan aims to stimulate the economic and social upliftment of the community, through attracting investment and the provision of opportunities in the local community (MLH, 1997). A similar, although

[81] Edwards, pers. comm., 13 April 1998; 7 September 1998

unrelated development plan is currently being designed for Imhoff's Farm (see Figure 7.1), across the road from erf 306 in Ocean View. As developments on these adjacent sites could promote and enhance each other, providing equitable long term developments for both communities, it would be counter-productive to plan these sites independently, however this appears to be the course of action.

Tourism development was not perceived to be important in the Ocean View community (see Figure 7.2) which has not historically benefited, either economically or as a target market of tourism. People in Ocean View are generally employed "behind the scenes" where their role in tourism is unrecognised and poorly rewarded[82]. Further, tourism is largely oriented towards foreigners or more affluent locals and thus excludes lower income earners. However, tourism has the potential to play a valuable role in the economic and social development of the community. The existence of Imhoff's Farm tourist centre (see Plate 2.6), which attracts the passing tourist trade, is well-located to benefit Ocean View, and facilities are needed to harness this potential and draw activities and businesses into the village. For example, Ocean View has a culture and a history that tourists are increasingly wanting to experience and this market should be developed inside Ocean View, as opposed to using local resources in tourism to benefit other areas. Further, promoting tourism that is directed at the local residents should be another priority in the Kommetjie/Ocean View area, thus enabling members of the communities who cannot access other tourist facilities, for whatever reason, the opportunity to enjoy local tourism.

An example illustrates the way in which Ocean View is overlooked in tourism-related events. An annual half marathon, organised by local groups, is run around Slangkop, yet, while passing through Kommetjie, the route bypasses Ocean View, although the distance through Ocean View would be similar to the distance the run takes around the village. At Imhoff's Farm, where the race ends, there is a festival where runners and supporters enjoy local crafts and activities. Although there are food stalls at the festival run by Ocean View residents, taking the route through the village would increase the benefits and spin-offs to the community. It would not only increase the supporters along the route, but would draw visitors, who would otherwise bypass this

[82] Edwards, pers. comm., 13 April 1998

insular village, into Ocean View. "Opening" Ocean View up in this way could have many immediate and long term economic and social spin-offs for the community as schools and residents could enjoy and benefit from the annual activity associated with the run.

The main threat facing the Ocean View community is economic, and while there are many suggestions and options to address this threat, they too are constrained by economic factors. The most practical approach is that promoted by the OVDT, which aims at developing capacity and economic growth in the community by assisting small businesses and markets. However, it is important that local opportunities (e.g., the half marathon and tourism at Imhoff's Farm) are utilised to begin the process of economic development, thus improving living conditions and creating the space for an awareness of the interdependence of the urban and natural environment.

The consistent pattern of segregating urban and natural environments is manifested in the ostensible rejection of environmental concerns by the Ocean View community. The residents of Ocean View do not see any benefits from conservation or tourism-related activities which would improve their living conditions with the result that environmental initiatives are seen as a threat to the immediate needs of the community, despite the severely degraded nature of the land surrounding Ocean View (chapter six). The connection between "green" issues and social justice must be apparent for the residents of Ocean View to have any reason to participate in the environmental debate largely dominated by those who do not live in overcrowded houses on litter-strewn streets.

"Green" issues: open space and conservation

> No development should be allowed on ... one of the most beautiful and ecologically sensitive areas in the country, the land should be managed for conservation purposes alone.
> (Kommetjie representative)[83]

The natural features and beauty of the Kommetjie area deserve the greatest attention in terms of environmental awareness and conservation. However this discourse (the conservation argument) is open to misinterpretation and misuse by those who feel their needs or interests, be they conservation or development orientated, are

[83] Independent Newspapers, 2 July 1997

threatened by other factors. Therefore, the treatment of environmental issues in the area (e.g., urban sprawl) may be jeopardised if the conservation argument is either misused to protect the interests of a particular party, or misinterpreted to this effect. A further dimension of this debate is the unsteady relationship between environmental awareness and the level of economic development, and also the degree of environmental activity and economic development.

Conservation includes issues that affect both communities, but the economic battle that many residents in Ocean View experience has left very little room for environmental concerns[84]. In contrast, Kommetjie residents ranked conservation as the top priority for the area while it was ranked only the fourth highest priority in Ocean View (see Figure 7.2). Despite this, and although conservation issues are generally expressed by the Kommetjie community[85], an environmental awareness is not absent from the Ocean View community[86] as school programmes and activities such as recycling and alien clearing help instil an awareness of the environment in the community. In spite of these efforts, problems such as housing, unemployment, long travel distances to work and even the cost of domestic refuse bags affect the precedence of an environmental agenda in Ocean View. Issues such as job creation, housing and the provision of better social facilities were ranked above conservation by Ocean View residents. As a result, the conservation discourse is largely dominated by the Kommetjie community and issues that affect this community such as the activities of baboons in Kommetjie, pollution of the wetlands; the maintenance of a "green" conservation corridor between Ocean View and Kommetjie; the preservation of open spaces in Kommetjie; and the effects of housing developments in the area.

The Threat of Urban Growth

While the provision of housing is an urgent need in Ocean View, members of the Kommetjie community see this as one of the greatest threats facing the area. However, the nature of the housing debate in Ocean View differs from that in Kommetjie where housing developments in the middle to upper price range attract additional people to the area. Reacting to the unprecedented urban growth and demand for houses in

[84] de Costa, pers. comm., 23 April 1998; Edwards, pers. comm., 15 April 1998

[85] the Ward 21 strategic plan began as a Kommetjie initiative as the need was realised to protect the village and the natural elements from the effects of urban growth. As a result, conservation principles were the primary motives for the plan which subsequently grew to include other issues.

[86] Community meeting, 3 June 1998

Kommetjie, the development of housing was not prioritised at all by Kommetjie residents, while Ocean View residents ranked the provision of affordable housing as one of their primary concerns. The Kommetjie residents are opposed to further high income or low income housing development in the area.

Uncertainty over the status of vacant land in Kommetjie and the escalating threat of uncontrolled urban development were the motivating factors to produce a structure plan to guide developments in Kommetjie[87]. Large portions of land are zoned for educational purposes and may be sold by the education department, while other open land has already been seized for housing and commercial developments. An application has recently been made to the municipality for subdivision and development rights on parcels of land on Slangkop behind Kommetjie and in return, the remaining privately-owned land on Slangkop will be ceded into the CPNP. Although this is the type of proposal that the managers of the CPNP are encouraging to acquire privately-owned conservation-worthy land in the park[88], it should not be uncritically accepted. Each parcel of land in the proposal needs to be individually evaluated[89] and at the same time, specific environmentally-sound criteria be laid down to guide the developments. The sprawling development of housing estates along previously remote beaches (see Plate 2.20) and once unspoiled wetlands has highlighted the scale and impact of urban development.

The quiet and semi-rural atmosphere, which has long been the main attraction of Kommetjie[90], is enhanced by the unspoiled beaches and large open spaces in and around the village. However, the character and beauty of Kommetjie, as well as other areas on the Peninsula, are threatened as developers respond to the growing appeal of the Cape Peninsula[91]. Rather than addressing the existing housing shortages in the valley, developments in and around Kommetjie are drawing more people into the area[92]. These housing developments are pitched at the middle to upper income bracket and sell themselves on their natural setting, beachfront sites and breathtaking

[87] Erasmus, pers. comm., 17 April 1998
[88] Yeld, J., 1998b: Mountain to climb ... then the dream, in *Cape Argus*, 29 April.
[89] Erasmus, pers. comm., 17 April 1998.
[90] The Cape Argus, 1964: Kommetjie is a developing holiday resort, 28 April; Cape Times, 1985: Come to sea views and country living, 9 March.
[91] Yeld, J., and Craig, J. 1998: Building in Cape 'out of control': scenic beauty at risk, in *Cape Argus*, 29 April.
[92] Commercial feature, 1998: Property news: it's boom time in the bayl, in *False Bay Echo*, 26 March.

views[93]. However, increasing development is consuming these "selling points" and is pushing the boundaries of urban development further into the natural systems.

The majority of development around Kommetjie is occurring on Imhoff's Gift farm which is owned by Kommetjie Estates, who are developing a number of housing estates on the land. Kommetjie Estates argue that these developments are addressing the housing problem[94], but since these houses are clearly not intended for those most in need of housing, this argument is only used to gain "acceptance" for their developments. Any environmental objections to the Kommetjie Estates developments are refuted with the argument that these developments "fit in with the environment"[95] as they occur along "natural" boundaries (e.g., vleis and contours) and environmental guidelines exist for builders and homeowners. As most of the land around Kommetjie is owned by Kommetjie Estates, those wanting to conserve this unspoiled beauty and the natural habitats on the doorstep of Kommetjie and Ocean View would have to pay prices acceptable to the landowner[96]. The effect and implications of these developments are poignantly portrayed in the following quote:

> Seven years ago, I went for long walks along the Klein Slangkop peninsula outside Kommetjie. Duikers peered from the bushes, baboons played on the seashore; there was a fisheagle that snatched fish from Wildevoëlvlei and Cape clawless otters basked on the banks.
>
> Now the vlei is dead and so are the birds, the fish and the otters. Deadly blue-green algae, a direct result of pollution, invaded the vlei. The bush has been bulldozed into a housing development with security gates barring access.
>
> The third phase is now on sale, another piece of urban sprawl in a once pristine rural space. Seven years ago, I dreamt of walking there with my child. Now ... he will never know the paradise I once knew.
>
> He is lucky. I have the resources to take him into the African bush, to wild places unspoiled by greed and developers, where he can find his soul and his continent. But the children of Ocean View have lost that piece of wild land forever. Now it is just an extension of an extension within a suburb.[97]

A further implication of the inevitable outward growth of Kommetjie is the loss of undeveloped land linking the northern and southern sections of the CPNP (the Bokramspruit site discussed above in reference to Ocean View housing). SANP and KEAG are key proponents for an aesthetic and biological corridor[98] (see Figure 7.1) connecting the park and while they lack the resources to acquire this privately owned

[93] Ibid.
[94] van der Horst, pers. comm., 3 April 1998
[95] Gosling, M., 1998: Loss of vital Cape park link feared, *Cape Times*, 17 June.
[96] van der Horst, pers. comm., 3 April 1998
[97] Weaver, T. 1998: Paving the SA tourism paradise, in *Cape Times*, 18 March.
[98] Gosling, M., 1998: Loss of vital Cape park link feared, *Cape Times*, 17 June.

land, they will oppose any developments on the Bokramspruit or the Imhoff's Farm site, that may jeopardise a contiguous CPNP[99].

The development of housing and increased urban growth are one of the main causes of disturbance to natural systems. In addition to the destruction of natural habitats to make way for houses, factors associated with urban development, such as the enlarged population, increased pollution and loss of natural habitats push the impact of urban development beyond its boundaries into remaining natural habitats.

Conserving Nature

Increased urban development in Kommetjie and Ocean View disturbs the natural systems and species' habitats on the Peninsula. This is illustrated by two examples which have recently dominated the media: the pollution of Wildevoëlvlei (wetlands) and the escalating conflict between Kommetjie residents and baboons. Wildevoëlvlei became toxic after pollutants (herbicides, stormwater and sewage effluent) flowing into the vlei killed pondweed, a natural stabilising mechanism, causing a blue-green algal bloom in the vlei which cut off sunlight and oxygen[100] (Harding *et al.*, 1998). Any organisms that came into contact with the life-threatening algae were poisoned and the effects were felt throughout the ecosystem as birds died and marine resources became toxic. The baboons on the Cape Peninsula, which are the only surviving population of baboons in a natural area surrounded by urban areas, provide a source of fascination for tourists and locals, who stop to watch them and offer them food. As a result, the baboons view humans and their settlements as easy sources of food, and are often seen in picnic sites and villages, looking for food. The baboons have lost the fear of humans and become aggressive when confronted. The problem has intensified as baboons enter and ransack houses and attack dogs that harass them. Residents have now resorted to brutal and extreme, yet ineffective measures to scare the baboons from the villages (see Figure 7.3)[101]. The baboons, which have co-existed for centuries with humans on the Peninsula, are now in danger of extinction brought about by the attitude and activities of the current generation[102].

[99] Daitz, pers. comm., 20 April 1998; Petersen, pers. comm., 21 April 1998
[100] Dennis, M., 1998c: Herbicidal pollutant pumped into vlei could lead to toxic ecological disaster, in *False Bay Echo*, 22 January.
[101] Friedman, R. and Gool, B., 1998: Fears for troops' survival as male baboon shot dead, in *Cape Times*, 14 July; Barnes, L., 1998 Baboons found hanging in plantation, in *Cape Argus*, 24 July.
[102] Ibid.

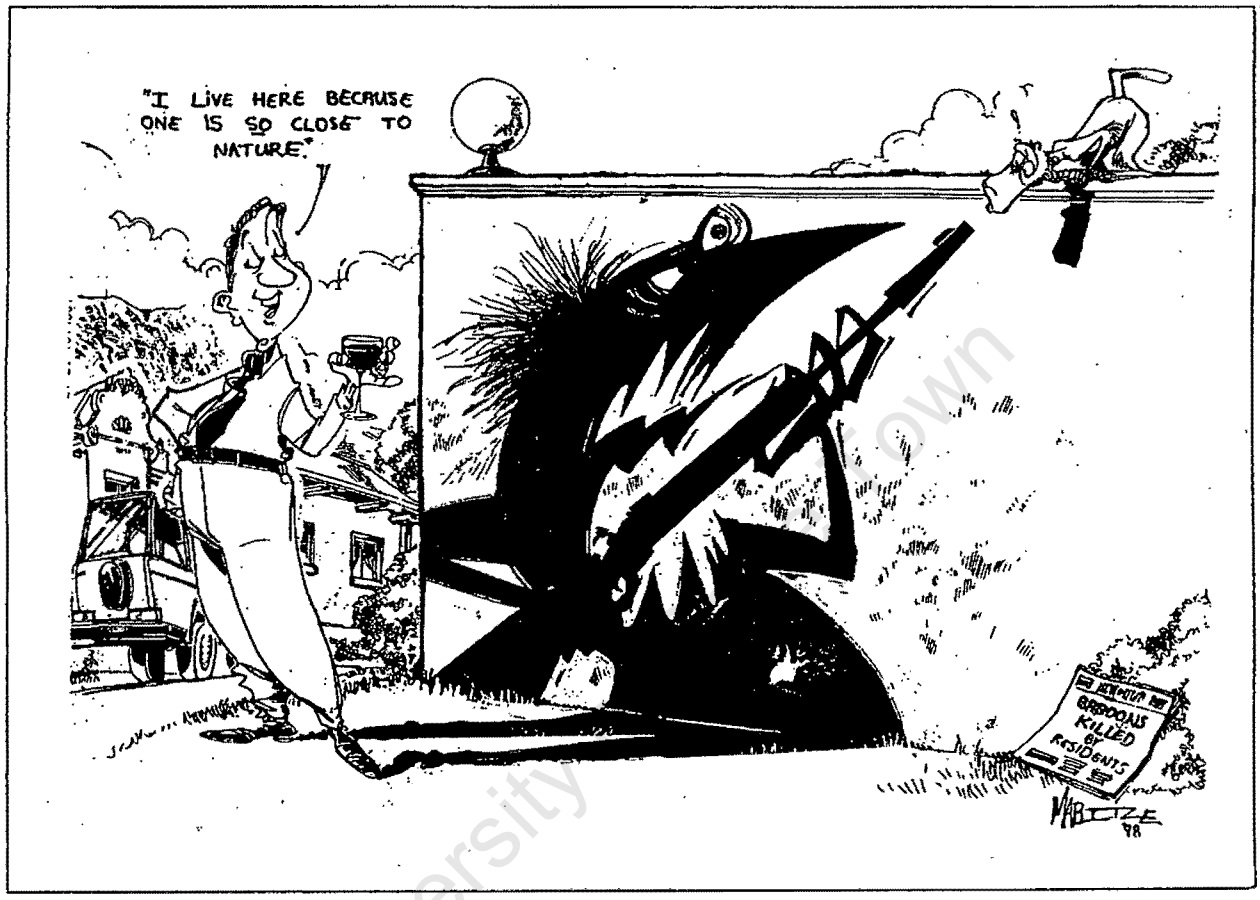


Figure 7.3: A representation of the attitudes of some affluent residents on the Cape Peninsula towards baboons
(Source: Maritz, A., 1998: Cape Argus Attitudes, *Cape Argus*, 24 July.)

The pollution of the wetlands near Kommetjie and Ocean View and the conflict between baboons and residents in Kommetjie are extreme, yet poignant examples which typify the imbalance between urban and natural environments. However, while the baboon problem has received a more emotive reaction from the public, neither issue has been extensively debated by the residents nor their representatives (with the exception of environmental groups). This is testimony to the fact that the implications and full extent of urban/natural interactions are not understood by residents or the majority of community representatives. Although local authorities commission studies to determine the nature and causes of "serious problems", it is not made explicit that residents and local communities have the ability to individually and collectively alleviate issues like the baboon problem or the pollution of the wetlands. While both problems have been the focus of independent studies which have examined possible solutions, their cause lies deeper, in the nature of the relations between society and the biophysical environment and our increasing impact on ecosystems. These issues are discussed in greater detail in the following chapter which examines the interactions between "society" and "nature", integrating the Kommetjie and Ocean View studies with theoretical issues introduced in part II.

The focus on Kommetjie and Ocean View has highlighted the relationship and differences between two adjacent, but socially and economically disparate communities. However an analysis of the interplay between the communities, using the above discussion of the discourses, reveals a dynamic relationship between their respective needs and priorities, as well as their perceptions of the surrounding natural environment. In the following section I will draw the two discourses together, showing not only how Kommetjie and Ocean View are related, but how issues are influenced by processes in a broader context. Using examples of key issues raised in the debates, I will argue that activities in Kommetjie and Ocean View cannot be seen independently. In order to understand and properly manage the interactions with the surrounding environment (which is the focus of the following chapter), the nature of issues in the urban environment must be well understood. Moreover, contextualising Kommetjie and Ocean View not only exposes the negative effects of activities in one community against another, but more importantly, it shows how the two communities enhance and benefit each other.

AN INTEGRATED URBAN (ENVIRONMENTAL) AGENDA?

Besides deep socio-economic connections between the two communities, an analysis of the social justice and green discourses revealed a variety of issues that are important in each community, but which are viewed from partisan perspectives. For example, housing and economic development are presented as "Ocean View problems", while the preservation of open space and nature conservation are "Kommetjie problems". These problems are then packed into separate "boxes" and left to the community leaders to address. There has been a consistent failure to relate these issues to the broader environmental context which balances the provision of housing with conservation management and job creation with the preservation of open space. This failure is attributed to the tendency to view Kommetjie and Ocean View as separate and isolated communities, whose problems extend to the edge of their village. As a result, problems, for example the shortage of affordable housing, are isolated from the broader context of unprecedented urban growth rates in the Noordhoek/Fish Hoek valley, and are falsely seen as problems specific to Ocean View. Connections between the nature of housing in Kommetjie and the housing shortage in Ocean View are seldom made. Short term solutions, which fail to consider regional forces, opportunities and constraints, are sought to solve the "Ocean View housing crisis". Therefore, before relating social and urban issues to the biophysical environment (which is the task in the following chapter), exposing the connection between issues raised in Ocean View with those raised in Kommetjie, as well as broader socio-economic and political factors, completes the social examination of the case studies.

At one level, the earlier establishment of Kommetjie has meant that the community is predominantly independent of Ocean View. Most Kommetjie residents rely on the broader metropolitan area for employment and more specialised services, and basic facilities were established during the early days of Kommetjie. However, in 1968 when Ocean View housing estate was established, Kommetjie became less insular. As with many other townships across South Africa, Ocean View was eventually intended to become self-sufficient (Innes, 1975). However, this goal was short-sighted as the absence of an economic base meant that self-sufficiency never occurred in Ocean View. Consequently, Kommetjie came under increasing pressure to provide economic opportunities for its neighbouring community. Ocean View is thus directly affected by factors, such as conservation and urban development in Kommetjie, which might restrict opportunities in the village. Time and the politico-economic situation has

therefore woven these two communities into an interdependent and dialectic relationship. Using a review of three key "social issues" (the development of housing; economic development; preventing urban growth) raised by Kommetjie and Ocean View communities, the nature of the relationship and points of connection between the communities is revealed.

Although housing was raised as a need in Ocean View, it is a contentious issue in both communities. In Ocean View, affordable housing is needed to improve living conditions in the village[103], while vacant land and the quiet atmosphere of Kommetjie is threatened by the development of middle to high income housing estates which draw more people into the area and increases the pressure on existing infrastructure[104]. There is no real need for the development of upper income housing in the area as it will not alleviate (and may even compound) the housing shortage. These developments mirror a pattern in the broader metropolitan area, driven by the demand for upper income housing along coastal areas in the Western Cape[105], particularly on the south Peninsula which is believed to be quieter and safer, and thus to offer a higher quality of life than surrounding areas. A parallel trend is the increasing rate of urbanisation driven by the patterns of rural-urban migration, which is reflected in the explosion of low income "informal" settlements on the fringes of urban areas. There is thus a huge demand for the development of affordable housing, as well as for land in urban areas to accommodate the scale of urbanisation. Economic development and job creation must also occur to cope with the rate of urbanisation.

Kommetjie and Ocean View thus represent a microcosm of broader national and metropolitan patterns of urbanisation and the demand for housing. However, although there is a growing demand for middle to upper income housing, the real need is to alleviate the housing shortage in Ocean View and other poorer communities (e.g., Masiphumelele) in the area. Members of the Ocean View community who need houses are not happy to move from the area and thus require that suitable land be found in the vicinity of Ocean View[106]. However, most vacant land near Ocean View

[103] Edwards, pers. comm., 13 April 1998
[104] Community meeting, 22 April 1998; Petersen, pers. comm., 21 April 1998
[105] Weiss, A. 1997b: We're set to be the Cape of good growth, in *Cape Argus*, 23 January; Weiss, A. 1997a: The Great Trek to the South, in *Cape Argus*, 23 January
[106] de Costa, pers. comm., 23 April 1998; Edwards, pers. comm., 13 April 1998

is unavailable for affordable housing as it is privately owned, used for conservation or intended for upper income housing developments. An investigation of the options regarding the development of affordable housing near Ocean View must be undertaken as a matter of urgency. In the light of the information presented, it is necessary to explore compromises between landowners and land-uses which enables the housing crisis to be addressed, but also balanced with other important factors (e.g., constitutional rights; sustainable development and conservation).

Related to the need for affordable housing is the need for economic development, particularly in the sectors of job creation and the provision of social facilities[107]. These needs exist primarily in Ocean View, as most Kommetjie residents are retired or work elsewhere and the community is well-equipped with social facilities. Although Ocean View residents are employed or seek work in other areas, they are affected by the costs (and inadequacy) of public transport and long travel distances[108]. As economic and commercial opportunities are not developed in Ocean View, residents therefore turn to Kommetjie and surrounding areas for employment and facilities. Most of the income earned by Ocean View residents is thus derived and spent outside the village, there is thus little circulation of capital and potential for economic growth in the community[109]. The pressure for economic development and employment is compounded by the needs from the growing population of Masiphumelele, a few kilometres down the road from Kommetjie and Ocean View. The Kommetjie community are concerned by the implications of this growing need for economic growth which they feel will threaten the character of the village.

There are proposals to develop centres on the edge of Ocean View[110] and Imhoff's Farm[111] that will stimulate economic growth and provide local opportunities. However the Ocean View proposal in particular will require investment and outside interest to be viable and to spark the process of economic and social development in the community. Entrepreneurship and the support of NGOs and CBOs, such as the OVDT, are essential tools to begin the process of development at a local level, that will

[107] Edwards, pers. comm., 13 April 1998
[108] Thomas, pers. comm., 7 September 1998
[109] Edwards, pers. comm., 13 April 1998
[110] Ibid.
[111] Dewar, pers. comm., 7 May 1998

eventually provide residents with access to an increasing number of options, particularly in terms of housing and long term economic and social development.

The concerns of the Kommetjie community are primarily reflected in the need to restrict or prevent urban growth. Uncontrolled development is threatening natural resources and conservation opportunities in the area, as well as the character and appeal of the village. While these concerns are voiced by the Kommetjie community, they are induced by broader national and metropolitan trends and have direct bearing on surrounding areas and communities such as Ocean View. Depending on the discourse, preventing urban growth can be presented as either promoting or restricting economic growth and opportunity. Viewed negatively, restricting development can mean compounding the housing shortages and low level of economic and social development in local communities. Presented differently, preventing urban growth means allowing conservation opportunities and in a balanced and responsible (sustainable) way, addressing social problems such as economic development and the need for affordable housing. Preventing uncontrolled urban growth protects open spaces and natural areas for local communities, thus providing resources for those who would otherwise not benefit from remote or exclusive conservation activities. Through conservation, opportunities are presented for enhancing the quality of life, maintaining a local character in an area threatened by encroaching suburbia, and utilising tourism and conservation-related activities to provide equitable and long term opportunities for economic and social development. These and similar issues will be explored in greater detail in the following chapter which examines the integration of natural and social issues.

Despite the connections which emerge after a closer analysis between issues such as housing and conservation, their treatment as separate issues not only reveals much about the nature of perspectives on the environment, but also about attitudes entrenched by forty years of "separate development" under apartheid. To enable all South Africans to perceive the relevance of the environment in their lives, it is important that factors upholding these approaches are uncovered, enabling attitudes to be dispelled and replaced by those which expose the relations between built and non-built environments of all income groups. Overcoming "black" and "white" perceptions of urban and natural environmental problems enables these issues to be

situated amongst the constraints and, more importantly, the opportunities of the broader context.

CONCLUDING REMARKS

A critical understanding that must be taken from this presentation and social assessment of the case studies, is that the priorities or problems in either Kommetjie or Ocean View are not specific to either community. Rather, these issues are related to "bigger" processes in a wider context that affect both communities, their environment and surrounding areas. Kommetjie residents must understand how failing to address the need for affordable housing affects them and Ocean View residents must understand why restricting urban development is important for them. At the same time, while there appear to be problems that require a specific focus in either community (e.g., the need to upgrade the village in Ocean View), similar issues are important in Kommetjie (e.g., the need to maintain a village atmosphere in Kommetjie). However while it seems possible to draw comparisons and strong connections between the communities, the individual character and history of either community should not be lost in sweeping generalisations and "all-inclusive" planning processes.

Once the nature of the relationship and interdependence of the communities is accurately understood by representatives and planners, it will be possible to understand further connections between urban and surrounding natural areas. It is not easy for those whose basic needs are lacking to prioritise the conservation of green spaces, but it is necessary to make the connection between these two sides of the environmental debate. Further, it is important that those promoting the need to conserve green spaces, and also those developing high income housing estates, understand the position of those who lack housing and other basic needs. Once these social justice and green issues are located within a balanced and equitable discourse, it is possible to see the relationship between urban areas and adjacent natural areas from a perspective that prioritises immediate needs with long term goals.

- CHAPTER EIGHT -

BEYOND BOUNDARIES: INTEGRATING NATURAL AND SOCIETAL ISSUES

INTRODUCTION

Examining the social and natural elements of the Kommetjie and Ocean View studies has yielded compelling evidence to show that urban and natural environments do not exist independently, but are intrinsically related components of a dynamic system. However, mainstream theoretical and practical approaches have failed to embrace the complexity of the system we call the "environment", but study through isolated disciplines. While the fragmented approaches have a long history, two related factors have been influential in structuring the "green agenda". The environmental discourse has been constructed and regulated by established social groups for specific and often politically motivated purposes, thus determining research opportunities and disregarding the concerns of less powerful groups and certain aspects of the environment. Furthermore, research is frequently focused on understanding specific environmental elements, rather than the relations between these elements which requires a systematic understanding and expertise in a variety of fields. Thus, an understanding of the interactions between components of the environment and the full extent of environmental problems, both vital in addressing the underlying causes of environmental issues, have been omitted from the agenda.

The intention in this chapter is to provide an integrated analysis of the biophysical and social assessments (chapters six and seven) of the case studies, thus relating this practical experience to the theoretical issues discussed in part II and illustrating the implications of our unilateral understanding of the Cape Peninsula environment. To provide the context to this analysis, the primary tenets of mainstream approaches to urban and natural environmental problems are presented first, highlighting the failure of those who have recognised social and natural interactions, to support the research agenda with a practical methodology. Against this background, an analytical framework which bridges the impasse between urban and natural research and is closely based on Blaikie's (1995b) "Chain of Explanation", is used to expose the multifarious nature of urban and natural interactions found in Kommetjie and Ocean View. The analysis concludes with a focus on the physical evidence of environmental

degradation associated with urban and natural interactions and the need for an awareness of environmental interactions to inform management responses.

TOWARDS AN INTEGRATED FRAMEWORK

Ingrained in mainstream approaches towards nature and conservation is a (Western) dualistic understanding of the world based on the notion of an external "other" (Harvey, 1996). The result is to separate humans from nature, creating unbalanced power relations between humans and other species, but also between the Western and non-Western worlds (Simmons, 1993:11). Conservation practises developed according to these beliefs, usually to the detriment of local communities who were often forcibly removed from protected areas reserved for scientists and wealthy tourists (Stocking *et al.*, 1995). Conservation models gradually evolved to incorporate local groups into protected areas, although on terms which prioritised the interests of conservationists, thus perpetuating colonial ideas and practises in new models of conservation (e.g., biosphere reserves) (Ghimire, 1994; Neumann, 1997).

Authors agree that protected areas such as the CPNP will be a vital component of future conservation strategies, however they contend that the dominant theories informing conservation must adapt according to changing ideas and increasing constraints, such as the need to reduce conflict between conservation and other land uses, and the scarcity of suitable land and funds for conservation (Adams, 1996; Neumann, 1997). The dominance of urban areas and global patterns of urbanisation require that links are made between conservation and the urban context to better understand the interactions between natural and urban environments (chapter six). For most of the world's population, their knowledge of nature will be through an urban lens, and for the large numbers who cannot afford the experience of nature promoted by Western society, natural areas in proximity to urban areas, such as the Cape Peninsula, are a valuable resource (Adams, 1996; MacDonald, 1996).

The urban environmental agenda has similarly failed to explore the connections between the biophysical environment, the vulnerability of the poor and urban problems (Harvey, 1996). The impact of cities on their surrounding environment has been briefly debated in academic discourse, but seldom engaged in practice. The brown agenda thus is characterised by a narrow focus on the city and its problems (e.g., pollution), neglecting the underlying causes and implications of societal and

natural processes, particularly the impact of environmental problems on vulnerable communities, such as those in peri-urban areas of the CMA. Achieving urban sustainability requires radical changes to social relations and political economic structures to enable the integration of societal and natural elements, not only in theoretical pursuits, but also in practical endeavours.

Exploring the need to reintegrate our understanding of society and nature, Harvey (1996) exposes vital interactions which enlighten our awareness of the relationship between class differences and environmental problems. Attempts to address problems in the biophysical environment cannot be sustainable and environmentally just if they deny the intrinsic relationship with human society and the inequitable impacts of environmental solutions on different communities. By failing to recognise this relationship, environmental agendas reinforce unjust class and power relations entrenched in capitalism, and disregard the environment of human society (Harvey, 1996). We are conditioned to extricate Western society from diversity of nature and in doing so, we fail to understand the role of "brown issues" in the broader environment (see chapter six). An awareness of the social construction of environmental issues facilitates the deconstruction of dominant ideologies, thus exposing the hidden agendas of powerful actors, and creating a negotiating space for the needs of less powerful groups in the environmental discourse (see chapter seven). In a contested and constantly changing understanding of the world, we cannot exclude human activity and the urban habitats which sustain our lives, from our perceptions of "nature".

While wrestling with the relations between nature and society, authors have failed to suggest a practical approach to an integrated agenda, that not only identifies the inherent structural causes of environmental problems, but also addresses the vulnerability of marginalised groups in society. Emerging from a neo-liberal critique, political ecology offers a dialectical understanding of nature and society through a multidisciplinary approach, while exploring the influences of external structures on local decision-makers (Peet and Watts, 1993). Although it has been criticised as reductionistic[112] (Peet and Watts, 1993), the "Chain of Explanation"[113] facilitates a

[112] The Chain of Explanation was subsequently remodelled (Blaikie, 1995b:17).
[113] The theoretical background and principles of the Chain of Explanation, (explained by Blaikie (1995b)) are discussed in chapter five where various theoretical attempts to understand the interactions between urban and natural issues are examined.

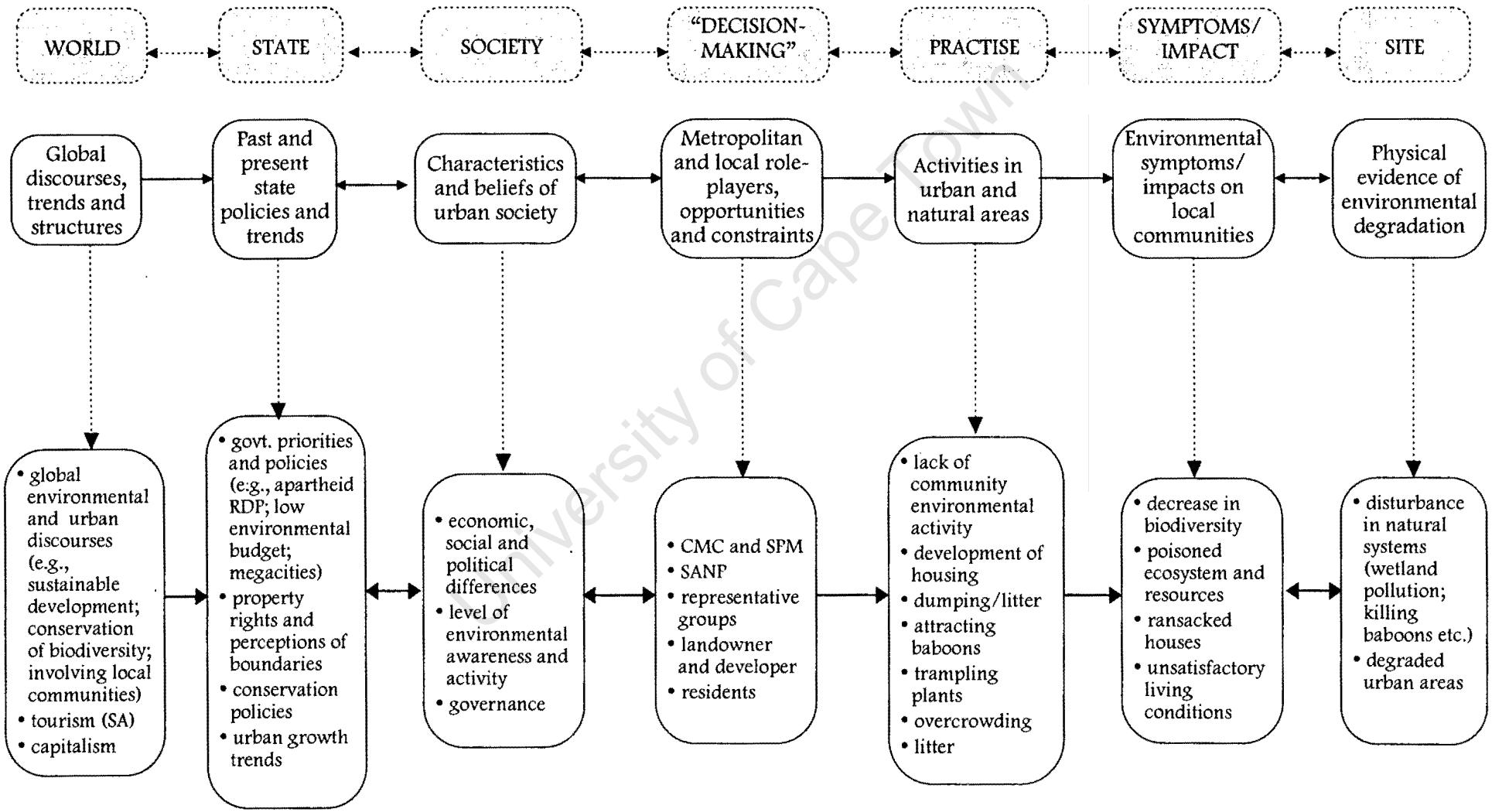
practical understanding of the links between ecological and political economic factors across temporal and spatial scales of analysis (see chapter five, Figure 5.1). A chain of explanation, based on the model described in Blaikie (1995b), is used as an analytical framework to expose the interactions between urban and natural areas (see Figure 8.1), using results from research carried out in Kommetjie and Ocean View, presented in chapters six and seven. In doing so, political ecology and the "Chain of Explanation", which have largely been used in rural research, are tested in an urban context.

A POLITICAL ECOLOGICAL ANALYSIS OF INTERACTIONS BETWEEN URBAN AND NATURAL AREAS

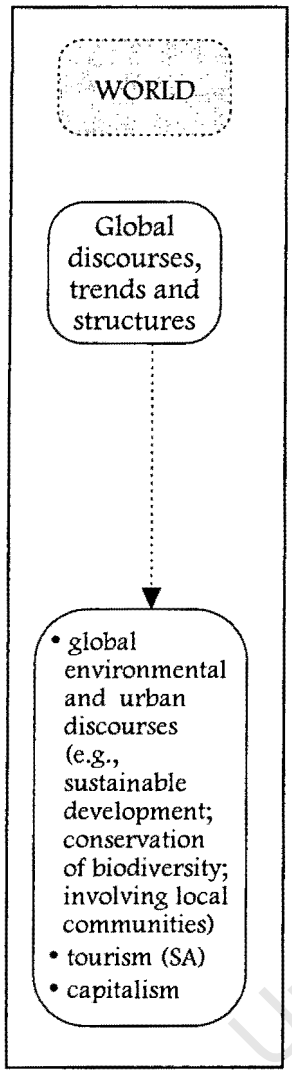
In the absence of a practical and integrative urban-based framework for addressing the interplay between societal and natural forces, Blaikie's (1995b) "Chain of Explanation", developed in response to rural issues, is utilised to expose and explain these interactions. While the "Chain of Explanation" was developed as a framework for understanding environmental change induced through (rural) land degradation, negative interactions between urban and adjacent natural areas contribute significantly towards environmental degradation and environmental change. Illustrating this connection in the following analysis, reference is made to two local examples of disturbance brought about from urban impacts in natural systems (the pollution of a wetland system and the threat of extinction facing a baboon population).

Using the Chain of Explanation to understand land degradation, Blaikie (1995b) begins with the lowest level on the chain: the site of environmental change where physical evidence of degradation is found. He then follows the links to the global level where the role of global forces in land degradation is examined. In contrast to this, beginning the analysis of my research at the global level provides the context for the development of the chain (see Figure 8.1). Further, theoretical issues, which were examined in part II of the thesis, inform decisions in the global environmental arena, which consequently influence the state and society. The chain of explanation for understanding environmental degradation associated with urban and natural interactions is illustrated in Figure 8.1 and discussed in response to each link for the remainder of the chapter. Examples and issues from Kommetjie and Ocean View are introduced and discussed at each level of analysis, as are any policy implications,

Figure 8.1: The Chain of Explanation(based on Blaikie (1995b))
UNDERSTANDING SOCIETAL AND NATURAL INTERACTIONS
with reference to Kommetjie and Ocean View



illustrating the relevance and potential of political ecological approach in explaining issues at the urban/natural interface.



LEVEL 1: Global discourses, structures and trends

Policies and discourses at the global level have a direct influence on events and actions at the levels of state and civil society. The global environmental agenda is thus the ideal arena for encouraging an integrated environmental debate, however there remain distinct "green" and "brown" global discourses. A prominent discourse on the green agenda is the need to conserve biological diversity at a global level, which was the theme of the 1992 Earth Summit (see Table 4.1). A widely publicised example of the loss of biodiversity includes the destruction of the tropical rain forests -- global biodiversity hot-spots which are the earth's 'lungs" (Wilson, 1987). Not only do these forests absorb atmospheric carbon dioxide and other "greenhouse gases" in the atmosphere, but they contain plant resources and are also home to indigenous groups whose cultures have evolved in the forests over centuries, isolated from Western cultures. The threat posed to global cultural and biological diversity by the destruction of tropical rain forests for example, has been recognised at a global level and integrated into mainstream conservation practises.

Similar arguments apply to the Cape Peninsula, renowned for its phenomenal level of biodiversity, which is under increasing threat from the invasion of alien vegetation and the encroachment of urban areas (Richardson, *et al.*, 1996). The Cape Floristic Region has already seen the extinction of many species and vegetation types which once flourished on lower-lying areas now transformed by agriculture and urban growth (Richardson, *et al.*, 1996). In chapter six, analysis of botanical data revealed a decline in species diversity associated with urban influences. The conservation of the rich diversity of the Peninsula is thus supported by global discourse and facilitated by the support of global financial institutions. For example, the World Bank-administered Global Environment Facility has recently made more than R60 million available for the management of the

CPNP[114], while alien clearing activities in land around Kommetjie and Ocean View are supported by the South African branch of the World Wide Fund for Nature (WWF-SA). The threat to the Cape Peninsula's biodiversity provides strong motivation for the urgent need to integrate urban issues into "green" global environmental agendas. CPNP management policies (e.g., the Draft Development Framework (CPNP, 1998) and economic empowerment projects) are reflecting the demand at the local level to integrate conservation with urban issues.

A growing trend in international conservation has been incorporating the needs and lifestyles of local communities in the development of protected areas. Conservation tools such as biosphere reserves and ICDPs have been used to enable the integration of local communities in conservation (Ghimire, 1994; Neumann, 1997). Two South African examples where protected areas have been designed around the needs of local communities in response to international trends and pressures include the Richtersveld National Park (discussed in chapter three) and locally, the CPNP, which is examined in more detail below.

Largely distinct from "green" environmental discourses, global urban agendas are dominated by the promotion of sustainable urban development, reflected in the theme of recent international conferences (see Table 4.1). Urban environmental issues, overlooked at the 1992 Rio Earth Summit, were the focus of Global Forum '94 (Walmsley and Botten, 1994) which gave renewed support for Chapter 28 of Agenda 21[115] and the development of local, participatory urban environmental action plans (Local Agenda 21). Providing an ideal opportunity for integrating the urban and natural agendas, Local Agenda 21 promoted a simultaneous focus on upgrading urban areas through local involvement and the broader environmental impact of urban areas. However Local Agenda 21 initiatives have failed to gain prominence in local (urban) environmental agendas. Although the Ward 21 Strategic Plan in Kommetjie and Ocean View was not intended as a Local Agenda 21 plan, there are tentative links with Local Agenda 21 and global urban discourses. The planning process had the potential to fulfil this function with the involvement of local role-players in the planning and management of the urban and surrounding natural environment[116].

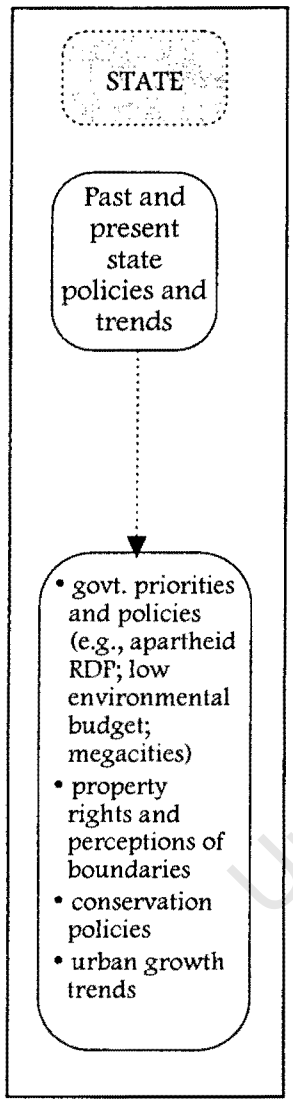
[114] Yeld, J., 1998a: Cape Peninsula National Park soon a reality, in *Cape Argus*, 8 April.
[115] produced following the Earth Summit
[116] Dowling, pers. comm., 13 April 1998

International trends in tourism and the role of capitalist economic relations are important in shaping local conditions, particularly in Kommetjie and Ocean View and the surrounding environment. South Africa's reintroduction into the international arena has attracted a growing number of foreign tourists. Although the number of tourists visiting South Africa has fluctuated in relation to the political condition of the country, the number of visitors has increased dramatically since the early 1990s and a growth of around 50 percent is expected between the years 2000 and 2010 (CPNP, 1998:10-12). The contribution of tourism to the economy of the Western Cape has increased to around 9 percent and is expected to continue growing (CPNP, 1998:10). While offering opportunities to local communities, the growth in tourism will place increasing pressure on the natural resources of the Cape. The industry will thus have to be carefully managed to ensure that these resources are not overwhelmed by tourism, and also that there are equitable benefits to local communities. While Kommetjie is becoming an important component of tourism on the Peninsula, the impacts on the natural resources and role of the Ocean View community must be addressed (see chapter seven). Tourism is an important developmental tool that depends equally on natural resources and urban conditions and has the potential to play an important role in the social and economic development of local communities.

Underpinned by capitalism and the creation of profit, global economic relations are driving the commodification of the natural landscape around Kommetjie. Chapter seven showed that natural land is rapidly being converted into high income housing estates which are sold for high prices on their exclusive natural setting and panoramic beauty. This is a direct point of interaction between the urban and natural realms and depends on strong and innovative mechanisms to ensure sustainable development in the region. In order for this land and the natural habitats to be conserved, the (short term) economic value of conservation will have to exceed that of subdividing the land to develop housing estates and golf courses (Wilkinson and MacDonald, 1998), as proposed by Kommetjie Estates[117]. However, because of factors at the state level, such as ineffective and dated planning and environmental legislation, constitutionally entrenched property rights and a low national environmental budget[118], urban

[117] Planning meeting, 18 June 1998; Gosling, M., 1998: Loss of vital Cape park link feared, in *Cape Times*, 17 June; van der Horst, pers. comm., 3 April 1998
[118] Weaver, T., 1998: Paving the tourism paradise, in *Cape Times*, 18 March.

development on valuable natural land and the disturbance of ecosystems will continue unabated. Mechanisms (e.g., financial, contractual and other incentives) must be developed to balance urban growth and conservation, and innovative thinking and compromises are required to resist the powers of global economic relations and commercial transformation of the natural landscape.



LEVEL 2: Past and present state policies and trends

The history of apartheid in South Africa has drastically altered the landscape and socio-economic relations in the country[119]. Apartheid policies changed the lives of many South Africans who were forcibly removed from communities and homes their families had lived in for generations, to newly built townships like Ocean View, isolated from places of work and social interaction. The social and physical landscape of Ocean View still bears the scars from this iniquitous form of governance (see chapter two). While the village is economically underdeveloped and desperately short of affordable housing, many residents live in miserable conditions, compounded by costs of living that exceed their low incomes (Maralack and Kriel, 1984; MLH, 1996). The immediate threats facing the Ocean View community are thus economic and many residents find it hard to identify the ostensibly tenuous relationship between environmental issues and their living conditions (see chapter seven).

In order to redress historical imbalances, the democratically-elected South African government has focused their initiatives on promoting economic growth, thus empowering previously disadvantaged groups. Financial budgets have been structured to address the urgent basic needs of many South Africans, requiring that budgets in other sectors (e.g., environmental affairs) are reduced, thus placing pressure on these activities to become financially self-sufficient. The CPNP Draft Development Framework (CPNP, 1998) is an example a conservation

[119] The devastating effect of apartheid policies on the urban and natural environment are well recorded in Ellis (1994), Khan, 1994; Ramphele (1991) and Smith (1994).

development policy targeted at achieving financial self-sufficiency. However it has been widely criticised as over-commercialising and over-developing the park[120], thus violating the scenic integrity of the Cape Peninsula, effectively killing "the goose that lay the golden egg".[121]

In a crucial undertaking that promotes the integration of nature and society, the new government has also realised the potential for conservation schemes that promote economic empowerment, as seen in the Department of Water Affairs and Forestry's "Working for Water" Programme[122]. This project is a state initiative that employs members of low income communities in catchment management programmes focused on alien vegetation clearing. Similar alien clearing projects are run by the managers of the CPNP and KEAG, simultaneously alleviating the threat of alien vegetation in the CPNP and assisting in the economic development of surrounding low income communities, thus enabling residents to improve their living conditions[123]. The social ecology and economic empowerment departments of the CPNP are focused on the economic and social development of (low income) local communities, specifically those bordering the park[124]. Members of the communities are trained in alien clearing and project management with a focus on developing entrepreneurial skills to enable them to gain employment in other fields[125].

Land ownership and land tenure represent the core of the relationship between people and the environment (Fuggle and Rabie, 1983:435). Entrenched at a global level and reinforced by the state, the rights given to property owners instil perceptions and expectations in society and affect the management of and access to resources. Inherited from Roman Law and reinforced by capitalist economic relations, South African systems of land tenure and property rights are based on the principle of absolute ownership (Fuggle and Rabie, 1983; Glazewski, 1986). However, while focused on the rights of the individual, these principles are not suitable in a society that promotes equal rights (Fuggle and Rabie, 1983). Absolute ownership does not

[120] Gosling, M., 1998: Peninsula Park aims to be self-sufficient, in *Cape Times*, 15 July 1998; Editorial, 1998: Don't desecrate Table Mountain, in *Cape Times*, 20 July; Malan, P., 1998: Tough choice for Table Mountain: tourism plans may jeopardise park's World Heritage Site status, in *Weekend Argus*, 18/19 July.
[121] van der Spuy, P., 1998: Letters: Draft plans for mountain detrimental, in *Cape Times*, 22 July.
[122] "Working for Water" Open Day, 26 March 1998
[123] Petersen, pers. comm., 21 April 1998; "Working for Water" Open Day, 26 March 1998
[124] Selekowitz, pers. comm., 19 March 1998
[125] de Kock, pers. comm., 1 April 1998; "Working for Water" Open Day, 26 March 1998

encourage a sense of community where a moral obligation exists to manage the land in the long term interests of the community (e.g., conserving the land or developing environmentally-appropriate affordable housing).

In South Africa, the dispossession of property owned by blacks under apartheid policies (e.g., the Group Areas legislation) resulted in severe environmental degradation and devastating impacts on society (Ramphele and McDowell, 1991). The lack of access to land is a major cause of land degradation (see chapter four), while access to land empowers people and provides opportunities to upgrade living conditions. Property rights and the freedom to chose where to live were some of the rights denied the majority of (black) South Africans under apartheid who were forced into barren and underserviced townships, and the need to redress past injustices is an important task of the new South African government. Land redistribution and financial compensation are some of the tools facilitating the land reform process (Smith, 1994). The "Back to Simon's Town" Committee in Ocean View is appealing to the Land Claims Court to allow claimants access to land in Simon's Town or to receive compensation for the loss of land[126]. Although a successful application will not solve the overcrowding and housing shortage in Ocean View, it will reduce the problem and create economic and social opportunities for residents to improve their living conditions.

Partially related to capitalist systems of land ownership which entrench notions of absolute property rights, is the perception and management of boundaries. Boundaries are constructed as rigid and inflexible lines which represent divisions of power. Land on either side of a boundary is thus managed by separate parties, despite the obvious needs in many cases to co-ordinate management across boundaries (see chapter six). This is well illustrated in the management of conservation areas, particularly those which abut urban areas (e.g., the CPNP and the proximity of the CMA) where the interactions across boundaries (e.g., pollution, fires, fauna, humans etc.) are prominent and consequential (Richardson, *et al.*, 1992). An example of urban impacts across boundaries in natural systems is the pollution (e.g., untreated stormwater, herbicides, etc.) which flows into Wildevoëlvlei (see Figure 7.1) near Kommetjie and Ocean View and has affected the functioning of the broader ecosystem, poisoning marine- and birdlife (Harding *et al.*, 1998). Co-ordinated

[126] Thomas, pers. comm., 7 September 1998

management across these boundaries (employing tools such as co-management strategies and the buffer concept), thus integrating urban and natural issues, is needed to mitigate negative interactions between urban and natural areas.

Urban policies, as well as patterns of urban movement and growth are national factors which affect the local conditions in Kommetjie and Ocean View. Following the democratic elections in 1994, urban areas in South Africa went through a process of boundary restructuring to reallocate resources, tax bases and electoral constituencies for the local government elections in 1996 (South Africa, 1993). The result was that wealthy, previously white areas were coupled with poorer, debt-ridden (previously black[127]) areas. For example, the wealthy southern suburbs of Cape Town and the central business district are included in the central substructure with the poorer black townships such as Crossroads and Langa (see Figure 1.2)[128]. The needs of small white communities were previously well-represented by local municipal councils, however with the shifting balance in the new and larger municipalities, the needs of the majority gained precedence on the political agenda. Property rates and the costs of municipal services were adjusted to compensate for the imbalances in the past where "white services" were heavily subsidised by the state. Previously, Kommetjie and Ocean View were separate municipal areas, each represented by their own local council (CMC, 1997). Following the process of urban restructuring, both communities fell within the same municipal ward and the Kommetjie community, for example, now had to take cognisance of the needs and interests of a poorer but a larger and politically powerful community[129].

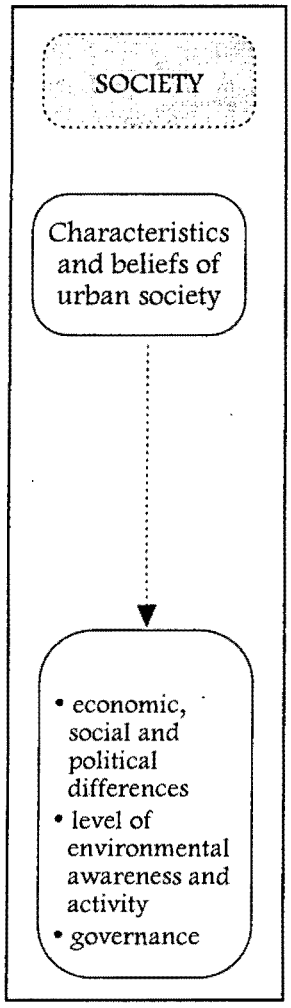
The national government has recently proposed that metropolitan areas become a "megacity" managed by a single authority, thus doing away with the (restructured) local municipalities[130]. The implications for small and insular communities like Ocean View and Kommetjie would be great, as they would no longer be managed by a local municipal council, but their needs would fall along-side those of larger and poorer communities to be addressed by a single metropolitan authority. Although the megacity proposal has not yet been adopted, its effects (both positive and negative) on local (isolated) communities, such as those in this study, are important factors to

[127] including African, coloured and Asian groups
[128] Dennehy, P. 1996: Boundaries of voting drawn, in *Cape Times*, 29 February.
[129] Ibid.
[130] Mfeketo, N., and Uys, P. 1998: The Great Megacity Debate, in *False Bay Echo*, 2 April.

consider in the management of urban fringe areas[131] (e.g., city-wide spatial integration, the promotion of social justice and affordable and efficient services[132] versus a financial burden on ratepayers, a decline in the standard of services, diluted democracy and a remote and less accountable local government[133]).

National patterns of urban movement and growth are causing increasing pressure on coastal areas, particularly in the Cape[134]. Crime and the desire for a higher quality of life are motivating factors for a growing number of people living in interior provinces of South Africa, particularly Gauteng, to relocate to the Cape[135]. This has caused accelerated urban growth around the Cape Peninsula, as well as sprawling (affluent) ribbon development along the west coast from Milnerton to Langebaan[136]. An increasing number of foreigners are also looking towards South Africa and the Western Cape for property. The threat of urban growth to the scenic beauty and natural resources of the region is compounded by inappropriate and uncontrolled development[137]. The evidence and effects of this demand for coastal property are seen in Kommetjie, as affluent urban housing developments encroach into the natural landscape (see chapter seven). Unless controls are imposed from a national level on sprawling urban developments, particularly on privately-owned land, the threat to the scenic beauty and disturbance of ecosystems will escalate.

131 Ibid.
132 Mfeketo, N. 1998: Let's phase in new model, in *False Bay Echo*, 2 April.
133 Uys, P. 1998: Two disasters to chose from..., in *False Bay Echo*, 2 April.
134 Weiss, A. 1997b: We're set to be the Cape of good growth, in *Cape Argus*, 23 January; Weiss, A. 1997a: The Great Trek to the South, in *Cape Argus*, 23 January.
135 Weiss, A. 1997a: The Great Trek to the South, in *Cape Argus*, 23 January; Commercial feature, 1998: Property news: it's boom time in the bayl, in *False Bay Echo*, 26 March; Yeld, J., and Craig, J. 1998: Building in Cape 'out of control', in *Cape Argus*, 29 April.
136 Weiss, A. 1997b: We're set to be the Cape of good growth, in *Cape Argus*, 23 January.
137 Yeld, J., and Craig, J. 1998: Building in Cape 'out of control' in *Cape Argus*, 29 April; Commercial feature, 1998: Property news: it's boom time down on the bayl, in *False Bay Echo*, 26 March.



LEVEL 3: Characteristics and beliefs of urban society

South African society is characterised by social, political and economic stratification, largely due to forty years of apartheid development policies which created a privileged white minority at the expense of the poor black majority. South African cities are broadly structured with wealthy (white) inner city areas, segregated from surrounding undeveloped, poverty-stricken black townships which lack the social and physical infrastructure to satisfy basic needs. In Ocean View, for example, affordable housing, social facilities, and economic opportunities are inadequate (see chapter seven). These immediate needs of the community must be addressed and the potential created to allow the community to develop socially and economically, thus overcoming its dependence on surrounding areas for employment, resources and social facilities. The community will then be able to address the environmental degradation caused by low levels of economic development. It is crucial however, that economic development is balanced with environmental and conservation issues and tools such as tourism and activities related to conservation must be utilised in this regard.

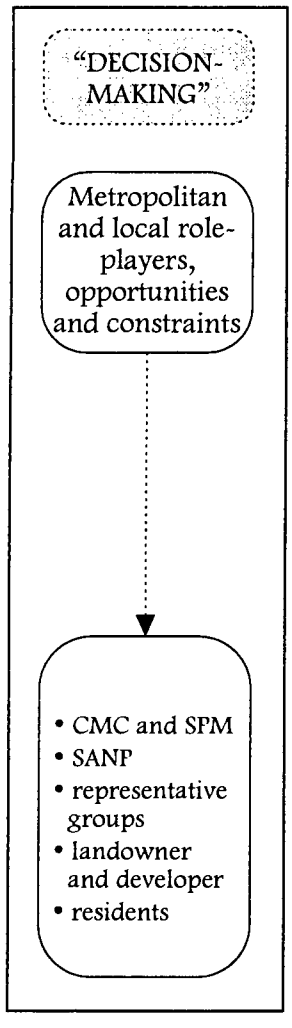
The needs and interests of a society are affected by their level of economic and social development. The economic and social conditions of many black people did not leave room for environmental issues (as defined by the mainstream green agenda), which were seen as "white interests". As a result, black involvement and interest in environmental issues (e.g., conservation) was minimal, despite the strong relationship between environmental factors (e.g., green open spaces) and a higher quality of life. However, when surrounding biophysical resources provide basic needs to a poor community (e.g., wood for shelter and sale, water and food), an environmental awareness is less a choice than a matter of survival. Through efforts to link economic development with conservation (e.g., "Working for Water" projects), particularly in low income communities, the importance of environmental issues are gradually being accepted more widely in society.

As indicated in chapter seven, the environmental debate is also open to misuse or misinterpretation, depending on the construction of the discourse. Conservation may be seen as restricting options and choices for some groups, while furthering the political interests of others. These issues are particularly relevant in Ocean View where, although a level of environmental awareness is present in the community, socio-economic needs are prioritised above conservation (see Figure 7.2) which is often seen to restrict the provision of affordable housing, well-illustrated with reference to the Bokramspruit site (Figure 7.1). Amongst the Kommetjie community, whose socio-economic needs are largely satisfied, conservation is the top priority (see Figure 7.2), either because of a belief in the real need for conservation in the area, or because it is seen as protecting the interests of Kommetjie from external factors (e.g., the growth of Ocean View in the direction of Kommetjie)[138].

The nature of local government, while regulated at a state level, has a profound effect on society. The living conditions and opportunities of communities are affected by the efficiency and equity of local government which structures access to resources, the provision and cost of services and the representation and prioritisation of local needs. In Kommetjie and Ocean View, issues of concern to the communities are being addressed in the Ward 21 Strategic Plan which was commissioned by the local municipality[139]. However, the implementation of recommendations regarding these concerns (and other regulations), depends on the strength of the municipality. The approval of environmentally inappropriate development plans by the local authority is often seen to cause negative impacts in surrounding natural areas, as well as local communities and access to resources. For example, developing high income housing estates in Kommetjie pushes the boundaries of urban development further into natural areas, disturbing natural systems and reducing the access of local communities to these resources[140].

[138] Community meeting, 22 April 1998
[139] Kommetjie Residents Association Annual General Meeting, 11 March 1998; Planning meeting, 15 April 1998.
[140] Weaver, T. 1998: Paving the tourism paradise, in *Cape Times*, 18 March.

LEVEL 4: Metropolitan and local role-players and opportunities and constraints



Metropolitan and local decision-makers, who are a part of broader civil society, are fundamental in determining local management policies, structuring the provision of services, and infrastructure and access to resources. Decisions, which affect local management policies and the living conditions, opportunities and constraints of local communities, are negotiated with different role-players over a variety of issues. The decisions are also influenced by the representivity of residents by local groups and role-players and their prioritisation of issues. As the interests and priorities of these role-players are discussed in detail in chapter seven, the specific parties and power relations between them are briefly identified here.

The governmental role-players in the case study include the metropolitan (CMC) and local authorities (SPM) who regulate land use, funds and services in Kommetjie and Ocean View. The CMC is responsible for large-scale service provision (e.g., water and electricity) and the budget allocation of the local municipalities, while the municipality (SPM) provides local services (e.g., park and road management) and decides on the prioritisation of local issues (e.g., commissioning a strategic plan for Ward 21 instead of a Kommetjie Structure Plan) (CMC, 1997). The local municipality is informed of the needs and interests of the local communities by their elected councillor who represents the communities in the ward[141]. Ward 21 (including Kommetjie, Ocean View and Imhoff's Gift) is represented by a member of the Ocean View community which is expected, since Ocean View has a larger population than Kommetjie.

Within Kommetjie and Ocean View the residents are represented by local groups, in particular the Kommetjie Residents' Association (KRA) and the Ocean View RDP Forum (the umbrella organisation for other groups in the community). A further

[141] Johnson, pers. comm., 3 April 1998

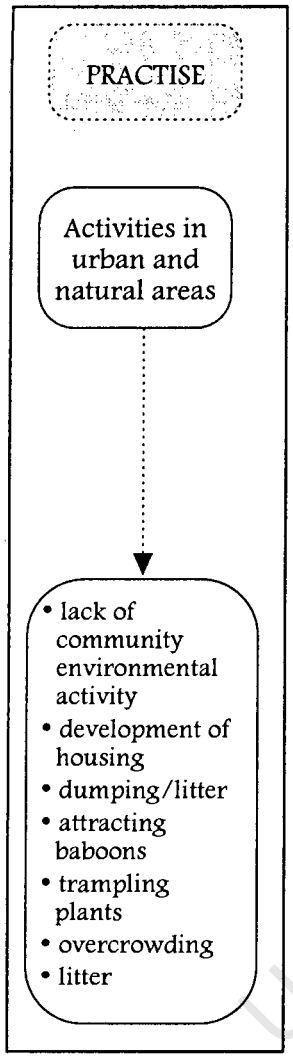
powerful role-player in the area is Kommetjie Estates, the company that owns the land around Kommetjie and Ocean View, and thus controls access to and use of this resource. Kommetjie Estates is represented by a member of the Kommetjie community whose family have owned land and lived in the area for most of the century (Midgely, 1984). Although both communities are fairly represented by their local groups (KRA and OVRDP), a considerable amount of power lies with Kommetjie Estates because of their large landholdings around Kommetjie and Ocean View. The development plans of Kommetjie Estates will decide the future of Kommetjie and Ocean View: whether the villages will remain unobtrusive and isolated or become engulfed in the monotonous suburban sprawl of the Fish Hoek/Noordhoek valley. Kommetjie Estates is also in the position to determine the impact on natural systems. Urban development provides a critical opportunity to either integrate or neglect natural factors. However, while developers might talk of planning according to "natural boundaries"[142], it is important to deconstruct this discourse and critically examine the impact of proposed developments on natural systems.

In an individual as well as a community capacity, the role of residents as decision-makers in the area is important to consider. The residents are the immediate owners and users of the land and thus determine activities and practises at a particular site. The cumulative impact of individual decisions made by the residents of Kommetjie and Ocean View, as well as the power of residents to elect their representatives are important factors which have direct implications in the environment. The recent slaughter of baboons in Kommetjie, threatening the troop with extinction[143], is an example of decisions taken by individuals that have a cumulative impact on the environment.

From this level, focusing on role-players and decision-makers, the environmental manifestation of structural and social relations becomes apparent through the activities and practises of local land-users. Applying policies to regulate land use is a key point at which to integrate theory and practise, as well as societal and natural issues. However the integration is seldom carried through in the management of local authorities or the activities of local land-users. For example, while the Ward 21

[142] van der Horst, pers. comm., 3 April 1998
[143] Friedman, R. and Gool, B., 1998: Fears for troops' survival as male baboon shot dead, in *Cape Times*, 14 July; Barnes, L., 1998 Baboons found hanging in plantation, in *Cape Argus*, 24 July.

Strategic Plan (and others) have the potential to propose an integrated management approach to urban and natural areas, it is ultimately up to the managers and land-users to follow this through.



LEVEL 5: Activities in urban and natural areas

This link in the chain indicates specific activities or (land use) practises in the area, which are the result of decisions made by role-players in the community, and in turn result in specific impacts on the environment or the community (next link). It is at this level therefore, that the political, economic and social forces (discussed in the first four stages) engage with the physical environment through specific land use and activities. This is thus a key point of integration between theory and practise and nature and society. It is important to ensure that integration is equitable and not dominated by a particular discourse. The impacts and effects of this interaction become the focus of the following three levels of analysis. It is also from this level that the links operate in both directions between the levels, not merely from the upper to the lower level, as with the preceding stages (see Figure 8.1). The focus in this stage is however on the basic practices associated with environmental and societal impacts.

At this level there appear to be both direct and indirect activities that impact on the environment -- the direct activities being those that are actually carried out by the community, such as trampling natural vegetation, flower-picking, dumping and littering, the development of housing and overburning. Indirect activities or practises include those that have "knock-on" effects which create an environmental impact. These include practises that attract baboons to the villages (e.g., leaving refuse and food available), overcrowding in Ocean View and the lack of environmental activity in the community. Direct activities are examined first, using social and biophysical data gathered in Kommetjie and Ocean View during the research and presented in chapter six and seven. The examples given below are important illustrations of negative

interactions between urban and natural areas that require intervention in an integrative management approach.

Referring to the environmental evaluation matrix (Figure 6.7), trampling appears to be a primary causal factor in the symptoms of environmental degradation in land around Kommetjie and Ocean View. Trampling is related to the invasion of alien vegetation species, the creation of bare ground and the causes of damage to indigenous flora (Richardson *et al.*, 1996). It is one of the main causes of land degradation around Kommetjie (on Slangkop) which is used largely for walking, but also for flower-picking by Mountain View[144] residents (Grindly and Raimondo, 1996). Although trampling of indigenous vegetation was less easily detected around Ocean View due to the severe degradation of the land, evidence of unmanaged pathways and damaged vegetation were seen at various sites (see Plate 6.2). The severity of trampling is related to the lack of formal access points and management of pathways on the land around Kommetjie and Ocean View. However, now that the Cape Peninsula is under the management of the SANP (and with the involvement of local groups such as KEAG), causes of trampling should be alleviated.

Habitation and squatting on land around the Kommetjie and Ocean View, contributes to environmental degradation, not only through trampling, but through littering, fires and other factors. Evidence of habitation is seen mainly around Ocean View where lean-to shacks are easily concealed under the dense alien vegetation. While this is a symptom of the lack of affordable housing and economic opportunities in Ocean View and surrounding areas, squatting on this land has extensive environmental consequences, particularly those associated with urban sprawl (see chapter four) and encroachment into natural areas. Associated with habitation is the trampled vegetation leading to and around the site. The danger of losing control of cooking fires under the dense vegetation, poses hazards to both the squatters and surrounding communities, as well as to the natural vegetation. Litter and other forms of pollution associated with informal dwellings create further environmental impacts in natural systems, polluting rivers and endangering fauna (see Plate 2.18).

[144] see Figure 7.1

Already mentioned is the problem of overburning. Although a natural, seasonal requirement for fynbos vegetation (in the Cape Floristic Region) (Cowling and Homes, 1992), many of the fires do not originate from natural factors (e.g., lightening), but from human negligence (Grindly and Raimondo, 1996). Land around Kommetjie and Ocean View is prone to overburning and the majority of fires originate from Ocean View (see Plate 1.2: note burnt ground south of Ocean View) (Grindly and Raimondo, 1996:25). Bushfires from uncontrolled cooking fires and litter (e.g., cigarette buts and smouldering ash) threaten surrounding communities and animals, and also disrupt the natural fire regimes of fynbos vegetation (Richardson, *et al.*, 1996). Bareground after fires causes widespread soil erosion and siltation in rivers and wetlands after rainfall. Overburning also facilitates the rapid invasion of alien vegetation as several exotic species are stimulated by fire (Richardson, *et al.*, 1992). Alien vegetation is a further factor which complicates fire management and threatens the regrowth of indigenous vegetation.

Concealed under dense alien plants, dumping and littering are particularly severe on Klienberg behind Ocean View (see Plate 2.18), while only moderate evidence of littering is found on the mountains and beaches around Kommetjie. The dumping of builders' rubble behind Ocean View and Kommetjie is unsightly and causes pollution. Dumping of garden refuse was also evident on Slangkop, adding exotic garden plants to the threat of alien vegetation in the natural areas. The Bokramspruit which flows through Ocean View and Kommetjie and into the sea at Long beach is heavily polluted with debris. On the beaches, litter is blown from rubbish bins or dropped by those using the beaches, creating serious hazards for marine and sealife, as well as reducing the aesthetic appeal of the beaches.

The development of both high income and affordable housing contributes to many of the problems mentioned above, and is an activity that has environmental consequences which must be carefully considered. Besides reducing species' habitats and transforming the natural landscape into a growing urban area, enlarging the population of the area will increase pollution, stormwater run-off and the strain on existing physical and social infrastructures (e.g., roads, clinics, water supply etc.) in the area. While it was difficult to draw statistically significant conclusions regarding urban impact from the botanical transects (see chapter six), there were trends at the impact sites that indicated a decline in species richness towards the urban areas (see

Figure 6.4). Whether this decline is caused by disturbance to the species habitats due to the presence of a "hard edge" (the urban area), or whether the decline is due to other impacts (e.g., walking, burning etc.), it is probable that factors associated with urban areas create disturbance in the natural systems on the land abutting the urban area (see chapter 6).

Examining the other side of the housing debate, failing to provide affordable housing and thus perpetuating conditions of overcrowding and low levels of economic development has significant environmental implications. While affluent urban residents are able to choose where to live and do not depend on the development of housing estates to meet basic needs of shelter, low income families are not in this position. During apartheid many families were moved to Ocean View from other areas and forced to live in the barren township equipped with inadequate social and physical facilities (Innes, 1975; Maralack and Kriel, 1984). The small size of the state housing and the large size of many families, as well as low financial resources, forced many people to live in overcrowded and unhealthy conditions as well as to squat in the surrounding land (Maralack and Kriel, 1984). The effect on the well-being, quality of life and the ability to improve one's living conditions is severe and compounded by the lack of economic opportunities in Ocean View. Low wages are consumed by high transport costs and other expenses, leaving many people with little money and time to afford environmental concerns[145]. The cost of domestic refuse bags equals the price of a meal for a family whose needs are more urgent than the effects of litter that blows from the streets of Ocean View into the Bokramspruit.

While poverty in Ocean View contributes to environmental degradation, the affluence of lifestyles in Kommetjie also impacts on the natural systems. Baboons have become regular visitors to urban areas on the edges of natural areas, aware that refuse bins and open houses provide easy meals compared with arduously scrounging for seeds and fruit on the mountains (Anon, 1998). While both communities are equally accessible from surrounding mountains for baboons, it is only the Kommetjie community that has attracted regular visits[146]. Residents feel vulnerable when confronted in their gardens or houses by baboons which have overcome their natural fear of humans. The problem has intensified recently as several baboons have been

[145] da Costa, pers. comm., 23 April 1998
[146] Edwards, pers. comm., 13 April 1998

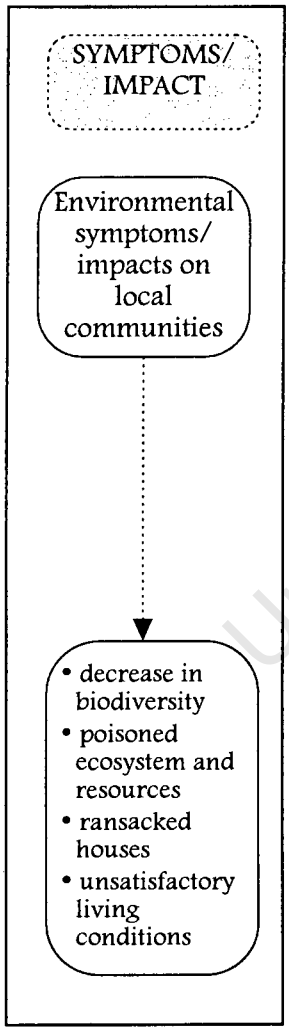
brutally slaughtered and attacked by residents in an attempt to scare them from the village[147]. As a result, these creatures, which represent the last free-roaming large mammals on the peninsula, where they have co-existed for centuries with humans, are in grave danger of extinction (Anon, 1998).

One of the underlying factors driving the negative interactions (e.g., killing baboons) between society and surrounding natural areas is the lack of local community involvement in environmental activities. However, involvement in environmental activities needs to be preceded with an appreciation and awareness of environmental issues. Differences in the level of environmental awareness between the Kommetjie and Ocean View communities, appears to be based largely on their level of economic development. In Ocean View, an awareness and understanding of environmental issues, as well as the ability to act on these issues is constrained by poor financial resources[148]. In Kommetjie however, while an appreciation of the environment is a motivating factor for many to live in the village, and environmental issues are seriously considered by the residents, few go beyond debating the issues to act on them[149]. Emerging from the questionnaire, reasons for the lack of environmental activity were the fact that many residents are not aware of formally organised environmental events, while others do not have the time to participate in organised activities but collect litter while they walk in the natural areas. In response to the first reason, participation and interest in community organised events is notoriously low amongst the Kommetjie community and environmental activities that have been organised by KEAG have been poorly attended[150]. A means of addressing this problem would be an extensive environmental awareness campaign to raise the interest of residents to issues. Gaining the participation of a few dedicated residents is one way to encourage others to participate in future events.

One of the main functions of KEAG is to promote environmental awareness and environmental education in the local communities[151]. There is a community recycling centre on Imhoff's Gift Farm, and members of KEAG are regularly asked to present environmental-oriented slide shows to local groups. KEAG is also actively involved in

[147] Friedman, R. and Gool, B., 1998: Fears for troops' survival as male baboon shot dead, in *Cape Times*, 14 July; Barnes, L., 1998 Baboons found hanging in plantation, in *Cape Argus*, 24 July.
[148] da Costa, pers. comm., 23 April 1998; Johnson, pers. comm., 3 April, 1998
[149] as revealed in the questionnaire results
[150] Petersen, pers. comm., 21 April 1998
[151] Ibid.

alien clearing programs on Slangkop and other mountains in the area, employing people in clearing and follow-up operations from the Ocean View and Mountain View communities[152]. The Mountain View Action Committee also organises regular clean-ups of the land surrounding the settlement behind Ocean View[153]. Environmental awareness forms an important component of pupils' curricula in Ocean View (particularly Kleinberg Primary School) and regular alien clearing activities and litter clean-ups in and around Ocean View are organised on weekends and after class[154]. In the absence of suitable structures and examples for integrating urban and natural issues from local authorities and management bodies, it is up to residents and environmental groups who are aware of and affected by local environmental conditions to take the initiative and promote an integrated environmental outlook.



LEVEL 6: Environmental symptoms and impacts on local communities

The environmental symptoms and impacts on local communities are identified at this level which connects the practises and activities of local communities that contribute to environmental degradation, to physical evidence of the degradation in the following stage, thus integrating societal actions and environmental responses. While the symptoms of degradation may be physical, social or economic, the identification of the problem and acknowledgement by role-players (local communities, the society and higher-level decision-makers) is crucial before the issues are accepted into the environmental agenda (Hannigan, 1995). The environmental manifestation of interactions between society and nature which becomes apparent at this stage in the explanation, is explained using observational data.

Symptoms of environmental degradation caused by interactions between urban and natural areas, include the conflict between humans and other species (e.g., baboons),

[152] Ibid.
[153] Isachs, pers. comm., 3 April 1998
[154] da Costa, pers. comm., 23 April 1998

threatened natural resources, decreasing biodiversity, and the unsatisfactory living conditions experienced by poorer members of the communities (particularly in Ocean View). While the existence of these issues is not debated by role-players, the cause and management of the symptoms of environmental degradation are disputed issues.

Conflictual relations between humans and other species are poignantly illustrated in the "baboon problem". While many residents of peri-urban areas consider guinea fowl to be a pest because they disturb neatly tended gardens, the problem with baboons has reached extreme proportions. Human settlements are seen as comparatively easy food sources, compared to scrounging for food on the mountains, and increasing contact with people has caused baboons to lose their fear of humans. Baboons have become aggressive when confronted and boldly enter and ransack houses in search of food. There have been cases where dogs have been mauled by baboons, and also where dogs have mauled baboons.

The problem has been addressed by the local authority who have commissioned a study on the nature of the conflict between humans and baboons, and implementing one of the early recommendations from the study, the local authority has appointed an officer to follow the baboon troop and chase them out of villages. However, residents have not had the patience to wait for formal preventative measures to take effect and in an effort to protect themselves and their property, Kommetjie residents have taken it upon themselves to frighten the baboons out of the village by killing and brutally assaulting members of the troop.

Following media reports of the baboons killings, the issue has been debated in newspapers with letters of outrage from members of the public (generally living in urban areas where baboons do not visit) and letters of defence (from people living in areas where baboons are frequently seen). The main point raised by those defending the acts against baboons is that, while a study has been commissioned, no authority[155] is taking action that is alleviating this problem[156]. This is a common theme regarding interactions of any kind between urban and natural areas, where the problem crosses

[155] Cape Nature Conservation, SANP, local police and local municipalities were all asked for help by a member of the public (Scholefield, M., van der Linden, R., 1998: Letters: We sought aid about baboon menace, in *Cape Argus*, 4 August.)

[156] Scholefield, M., van der Linden, R., 1998: Letters: We sought aid about baboon menace, in *Cape Argus*, 4 August.

an administrative boundary or fence. It is a direct manifestation of dated attitudes towards nature and conservation which consistently separate "society" from "nature" (see chapter three), thus creating management problems when "nature" and "society" becomes intermingled. Solutions have also always been targeted at the symptoms of the problem and seldom focus on underlying causes. While immediate preventative action is necessary to prevent further killings, a long term approach must be adopted, thus applying theory regarding the need to integrate societal and natural issues, and addressing the problem at its source. What method this should follow will no doubt emerge from the baboon study, but at the same time, the problem needs to be extensively workshopped with local residents who both defend the baboons but also attack them. It is necessary to gain residents' co-operation and understanding regarding the situation, but also to give them advice about how to handle the baboon problem without killing baboons and endangering others.

A similar problem indicative of nature/society relations is the impact on natural resources by the increasing spread of urban development around Kommetjie and Ocean View and the resultant disturbances to the natural systems. The problems of dumping, litter and pollution associated with urban development have been discussed, however the impact of these problems on natural elements as a *resource* to human society, needs attention. While there are many examples to illustrate the problem, the recent pollution of the wetlands around Kommetjie and Ocean View is a local example that clearly illustrates the complexity and severity of this issue, as well as the impact on natural resources used by society.

While the toxic algal bloom, caused by pollution in the wetlands near Ocean View and Kommetjie, has not charged emotions as highly as the "baboon problem", the implications of polluted wetlands for human well-being are severe as they affect the majority of residents in one way or another. However this is seen as an issue that falls under the responsibility of the local and metropolitan authorities and requires a scientific management solution. The toxicity of the vleis is attributed to pollutants introduced by all local land-users (e.g., herbicides, untreated stormwater and effluent from the sewage treatment works) which flow into the wetland system, killing off natural stabilising mechanisms and thus allowing the bloom of toxic algae which

covers the vlei and cuts off sunlight and oxygen[157] (Harding *et al.*, 1998). Many organisms in the wetlands are killed and a rotting odour is emitted from the water. The algae not only threatens human health, but also poisons other animals, creating a ripple effect in the ecosystem. For example, marine life near the vlei outlet are poisoned, thus affecting people, who might depend on these resources for survival or a small source of income. The toxicity of the vleis is a symptom of land degradation caused by increasing urbanisation and human activity in the valley which is exceeding the capacity of existing infrastructure and ecosystems, and is disturbing the natural systems that encircle our lives (see Plate 8.1, page 115). This is a further justification of the need to address a problem which results from nature/society interactions, in an integrated and holistic manner.

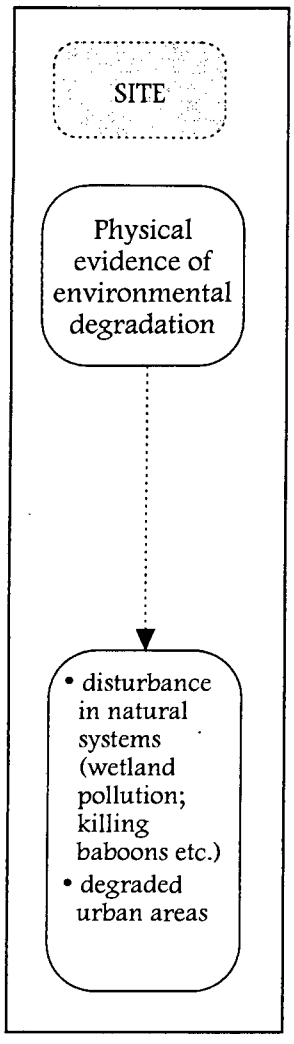
The poisoning of the wetlands represents an example of a broader problem caused by increasing urban development and disturbance to natural habitats: the loss of biodiversity. Biodiversity is a global resource, the loss of which impacts either directly or indirectly on society. The direct effect of decreasing biodiversity is the malfunctioning of natural support systems such as wetlands, which can no longer cope with the strain exerted on them. Moreover, the incredible levels of biodiversity are one of the strongest motivating factors for the conservation of the Peninsula, thus drawing international financial support[158]. Without conservation, impacts on the scenic beauty and natural habitats on the peninsula from urban growth and alien infestation will negatively affect the tourist market which contributes significantly to the economy in terms of foreign exchange and employment opportunities (CPNP, 1998). It is therefore in our interests, particularly considering our dependence on tourism to boost the economy, to understand the relation between biodiversity and society and to explain this connection to those (at all levels) whose activities might contribute to environmental degradation.

A further symptom of environmental degradation caused by interactions between urban and natural areas is the unsatisfactory living conditions experienced in lower income communities (see chapter seven). The factors contributing to poor living conditions (e.g., overcrowding, litter, dumping) relate directly to problems in the

[157] Dennis, 1998: Herbicidal pollutant pumped into vlei could lead to toxic, ecological disaster, in *False Bay Echo*, 22 January.
[158] Yeld, J., 1998b: Mountain to climb ... then the dream, in *Cape Argus*, 8 April.

biophysical environment. Overcrowding, litter and dumping are symptoms of low levels of economic development which impact on the environment, creating disturbance in natural systems (e.g., fire and lack of aesthetic appeal) and further reduces quality of life and living conditions. These examples clearly indicate the complex relationship between urban problems and natural problems. Direct impacts from these problems include the hazards created by litter in natural systems, while indirect impacts include the loss of potential economic growth from wasted tourism opportunities due to a degraded and unattractive environment.

The relationship thus provides strong evidence of the need to address urban and natural problems through an integrated approach that is able to identify the root causes of these problems, particularly low levels of economic development. While this is a long term solution, it is essential that environmental factors are integrated into economic development initiatives to prevent environmental problems of more affluent communities replacing those in lower income areas. At this level, symptoms of the conceptual separation of nature and society become evident in environmental degradation, and the case for an integrated environmental approach to natural and urban areas is strengthened.



LEVEL 7: Physical evidence of environmental degradation

The physical evidence of environmental degradation in the study areas includes both degraded natural systems and degraded urban areas. While urban and natural areas are separated in this context, it is important to realise, particularly when addressing environmental problems, that there is an interactive and dynamic relationship between problems in urban areas and those in natural areas. Management solutions must overcome this separation of the built and non-built environments to address the root causes of environmental degradation associated with urban and natural interactions.

The physical evidence of degradation in natural areas includes the trends of disturbance that were evident from sampling in the botanical transects, specifically the loss of species diversity and an increase in alien vegetation towards the urban areas at the impact sites (see Figures 6.4 and 6.5). This claim was validated by the results of the control transects where no decline in indigenous species diversity or increase in alien vegetation was recorded. Observational indicators of disturbance, which were generally associated with the proximity of the urban area, were also evaluated to test the results from the botanical sampling. These indicators, examined in the environmental evaluation matrix (table 6.7), revealed high levels of disturbance around Ocean View and moderate levels of disturbance around Kommetjie, while no observational signs of disturbance were recorded in the control plots.

Evidence of degradation in the urban areas was based largely on observation and information on the living conditions in the areas. Obvious signs of degradation, including litter and dumping in and around the urban areas, which were compounded by conditions of overcrowding and low levels of economic development, were particularly severe in Ocean View. Less obvious factors contributing to environmental degradation in the urban areas included the lack of environmental awareness or activity among the majority of the Kommetjie and Ocean View

communities. Although there are dedicated groups and individuals whose actions contribute towards alleviating degradation, the majority of Kommetjie and Ocean View residents are largely unaware of the nature and extent of environmental problems.

Environmental degradation is manifested in polluted rivers, windblown litter from urban areas and dumping on the mountainside. These problems are merely evidence of broader imbalances between communities and their immediate environment. While activities such as litter clean-ups are important components of an environmental campaign, they are poorly attended. An awareness of the reciprocal relationship between urban and surrounding areas is needed to inform an environmental campaign rooted in economic empowerment, which is thus underpinned by and promotes an environmental ethic in the community. In this way, the root causes of the severe degradation in and around Ocean View are addressed, as well as apathy in the Kommetjie community. Cases such as the wetland pollution and the conflict with baboons, as well as local economic opportunities such as tourism, that are pertinent for Kommetjie and Ocean View residents, provide a suitable basis on which to initiate such a campaign.

CONCLUDING REMARKS

A political ecological analysis of the interactions between urban and adjacent natural areas has exposed the influence of global and national factors on local level environmental degradation, as well as the need for a multidisciplinary approach on environmental problems that incorporates an understanding of social and natural issues. The analysis has shown that while solutions to environmental problems should ideally focus on long term prospects such as changing ideologies and theories which underpin global policies and discourses, the role of powerful groups which dominate political economic relations and global discourses are appreciable constraints to such integrative efforts.

In the short term therefore, environmental campaigns must begin at the local levels and exert pressure on society and decision-makers to recognise and accept the intrinsic relations between natural and urban areas, as well as the iniquitous impact of contemporary environmental "solutions" on marginalised groups. Environmental agendas need to address the needs and concerns of lower income groups, while

simultaneously raising awareness to the extensive environmental problems associated with the lifestyles and ethics of affluent groups. A shared negotiating and action space must therefore be found between the green and brown agendas that identifies the issues of social justice inherent in both debates.

A political ecological analysis that approaches environmental issues from multiple angles, scales and disciplines provides the platform from which we can formulate policy that effectively addresses integrated natural and social issues. Although it was not the intent of this thesis to formulate policy, implications that could enhance environmental and urban management include the need to:

- promote environmental education to expose the connections between nature and society in such a way that the relevance of the environment is explicit in the lives of urban residents, planners, conservationists and politicians;
- utilise local opportunities (e.g., tourism; conservation practices) to equitably address the needs of local communities alongside environmental objectives;
- initiate meaningful dialogue between role-players and groups in different sectors (e.g., environment, development etc.) and at different levels in society;
- develop the capacity of local environmental organisations;
- encourage involvement and participation in environmental activities for all residents through appropriate incentives.

Through embracing natural and social issues, and linking global forces to local conditions, political ecology exposes the complex role of political, economic and social factors in the environment. Local communities are in a central position to either enhance or threaten conservation efforts. The development of policy, that simultaneously addresses the needs and priorities of local groups, with natural environmental issues, is thus an essential component of future conservation strategies.

- CHAPTER NINE -

CONCLUSION

> When any environmental problem is probed to its origin, it reveals an inescapable truth -- that the root cause is to be found in how [people] interact with each other; that the debt to nature ... cannot be paid person by person, in recycled bottles or ecologically sound habits, but in the ancient coin of social justice.
> (Commoner cited in Harvey, 1996:397)

The Cape Peninsula is indicative of global pressures and forces facing the environment, epitomising the problems facing environmentalists as we enter the new millennium. The Cape Peninsula represents a microcosm of issues, particularly experienced in conservation and urban management, across the North-South spectrum. These issues are captured and poignantly depicted in the contrasts and similarities between Kommetjie and Ocean View.

Despite the panoramic beauty of the landscape, which creates a unique sense of place and character in its communities, the Cape Peninsula and the settlements of Kommetjie and Ocean View portray many international trends in urban and conservation management. These include patterns of rapid urbanisation, escalating urban pressures and threats on natural resources, as well as trends to incorporate local communities in conservation programs and a growing social awareness in conservation practises. For this reason, the Cape Peninsula, in a study of the interactions between urban and natural areas, yields insight into these issues and contributes significantly to South African and international environmental discourse, justifying the need for different perceptions and a fresh outlook on society and nature.

Together with the awe-inspiring landscape, the world renowned and unparalleled floral diversity of the Cape Peninsula are strong motivating factors to bestow the status of World Heritage Site on the recently-declared Cape Peninsula National Park. Beyond the boundaries of the national park lies the CMA, in itself a sought after destination for holiday-makers and those in search of a richer quality of life. However, while gaining its place alongside international holiday resorts, exclusive residential areas and global cities, there is another face to Cape Town. Located in the urban fringe, the impoverished, disadvantaged, degraded and sprawling townships

reveal characteristics that could be found in any other developing and rapidly urbanising country, and contrast with the ostensibly first world façade sold to millions of international visitors.

These contrasts between natural and urban areas and the characteristics of developing and developed countries are captured on a smaller scale in Kommetjie and Ocean View. The scale of urban growth and disparate living conditions in the CMA are threatening to topple the unsteady balance between nature and society on the Cape Peninsula. In this respect, we need to find new ways to manage urban and natural areas which does not mean simply creating another management committee, but rather taking a step backwards, returning to theory and examining the origins of contemporary approaches to the environment. We need new intellectual roots to inform environmental policies, thus helping us understand the interactions between urban and natural environments.

Historical perceptions of nature and society, which continue to influence and inform decision-makers and policies, cast nature and society as separate, distinct and isolated realms. Nature is defined by national park or nature reserve boundaries which protect indigenous species and natural habitats from symptoms of environmental degradation emanating from distant urban areas. Conservationists manage what occurs within those boundaries according to scientific principles rooted in Western perceptions of the world, and fail to address interactions between human society and nature. Indigenous communities that are incorporated into national parks become part of nature, distinct from Western society but integrated into a Western concept of nature and managed according to Western ideas. While labelling the world around us according to natural, rural, urban and other categories, we fail to observe the connections and often strong relations between these distinct realms. In particular, urban settlements stand out, isolated from other realms, perhaps because they are the principal environment of Western society. Living in and dependent upon urban areas, we are unable to attain the critical distance needed to observe their relations with and impacts on the surrounding environment, particularly on nature, from which Western society has for so long been removed.

By virtue of the proximity of urban and natural areas and their aesthetic unity in the landscape, the Cape Peninsula provides fresh insight into the connections between

urban and natural environments. However, we need to delve deeper, beneath the aesthetic surface appeal and expose the unseen, but dynamic relations between these environments that manifest upon society and nature. Urban problems of pollution, overcrowding, sprawl and sanitation cannot be isolated from the biophysical environment. Mainstream urban theoretical and policy approaches have grappled with these problems and their impacts, and superficially attempted to locate the urban settlements within the broader environment. However, they have failed to suggest effective approaches to managing the environment that embrace the interactions between urban society and nature, and also to situate local conditions within a broader context, as the outcome of global political relations and environmental discourses.

Integrative approaches to society and nature, while critiquing standard environmental practises, have remained largely theoretical, unable to suggest a realistic and practical methodology to underpin an holistic environmental agenda. The need to understand the relationship between urban degradation, the surrounding biophysical environment and the vulnerability of the poor is an important tenet in this literature. The failure to address socio-economic disparities is attributed to the dominance of Western ideologies in mainstream environmental management. In this thesis I have argued that political ecology, which emerged "out of a sense of bewilderment of our own age, as stepping stones intended to assist in a reformulation and reconstruction of not only our social worlds, but of relations between the social and natural worlds", offers the tools to facilitate integrated environmental strategies that are rooted in the principles of equity and social justice (Atkinson, 1991:3).

As a body of theory, political ecology embraces disciplines and methods across the nature/society interface and explores the links between local examples of environmental degradation and national and global discourses, ideologies and policies. Political ecology thus gives local cases international relevance, not only identifying the underlying causes of a problem, but drawing the attention of governments and international organisations to the physical manifestation of unbalanced social and political-economic relations. In the absence of an applied urban-based approach, the "Chain of Explanation", an analytical political ecological tool developed by Blaikie (1995b), was adapted and utilised to expose the interactions

between urban and natural areas on the Cape Peninsula which manifest in impacts on society and the biophysical environment.

Key issues which emerge from a political ecological analysis of the case study in Kommetjie and Ocean View support the need to integrate our understanding and management of nature and society. There are important biophysical issues which result from the interactions between urban and adjacent natural areas (examined in chapter six). The urban areas, or activities associated with the urban area, create disturbance in surrounding natural areas, and similarly, "natural" elements create impacts in urban areas. Examples include the decline in species diversity towards the urban edge, the pollution of a wetland system near Kommetjie and Ocean View, and the conflict between baboons and humans in Kommetjie and other peri-urban communities on the Cape Peninsula. These examples point to the need to broaden the management of natural (and urban) areas. Managers need to account for factors that do not originate within the natural (or urban) boundary, but create significant consequences within those boundaries and which cannot be effectively addressed through the fragmented, *a priori* approach that has traditionally been adopted in managing the environment.

Further, the severity of environmental degradation in natural areas around Kommetjie and Ocean View seemed to differ according to the level of economic development of the community. However, a social assessment of the relationship between urban and natural areas from the perspective of residents and key role-players in Kommetjie and Ocean View (in chapter seven) drew attention to the connections between local symptoms of environmental degradation and the influence of external pressures and forces. It emerged that the severity of environmental degradation cannot be solely attributed to the characteristics of a particular community, but must be viewed in a wider socio-economic and biophysical context, thus exposing the links with processes and patterns operating at different scales, as well as with the surrounding natural environment.

An integrative political ecological analysis of the case studies explored the complex relations between symptoms of environmental degradation caused by local-level urban and natural interactions, and broader forces and trends. Environmental problems cannot be addressed in isolation from broader processes, which must be

incorporated into an understanding of the underlying causes of environmental degradation caused by interactions between urban and natural areas. However, although many of the structural causes of degradation are found in unbalanced global political and economic power relations, effective management depends on strategies which empower the immediate land-users to make informed decisions, underpinned by an awareness of environmental issues, regarding development and land management practises.

> By focusing on environmental issues in a manner which place[s] these issues within a socio-economic and political context, these issues [are] made relevant to the lives of the poor.
> (Khan, 1994:516)

What is urgently needed to facilitate effective management of abutting urban and natural areas, and thus fulfilling a call in the literature to integrate conservation into the landscape and other land-uses, is to involve parties across the urban/natural interface in integrated and equitable management practises. While it might seem pragmatic to have urban managers for urban areas, and conservation managers for natural areas, this is no longer sufficient as the world becomes a tighter and increasingly interdependent web of communities, each ultimately affected by the others' activities. However, this cannot mean simply incorporating local communities into conservation according to prescribed formulae that might involve redrawing boundaries or stipulating a set of land-use guidelines. In a society like South Africa, where absolute property rights are constitutionally entrenched and urgent needs displace the desire for aesthetic green spaces and preserving biodiversity, involving urban communities in joint management practises with conservation managers means negotiating agreements and compromises to suit both parties. This is crucial for a case like the CPNP, where the park is part of a composite metropolitan area -- the CMA.

The case of Kommetjie and Ocean View demonstrates that it is not possible simply to look to a structure plan for the answers to managing urban and natural areas. As important as an environmentally-sound planning document, is the commitment from all levels to take heed of its guidelines, and even to expose its flaws. While the Ward 21 Strategic Planning process has brought the different role-players in Kommetjie and Ocean View together, slowly shedding decades of racially-based categorisation and separation, it is vital that the needs of the local communities are heard, and not suppressed in hidden political agendas and imbalanced power relations. Moreover, if

conservation continues to be dependent on subsidies, loans and charity, it will become a burden rather than an asset to a country which is struggling to house and employ an ever-growing number of people. Addressing the socio-economic needs of local communities in ways that contribute towards conservation objectives is simultaneously a short and long term approach to improving living conditions and enhancing the quality of the (natural and urban) environment. The unsteady balance between urban growth and conservation is thus stabilised, and the natural environment becomes an integral component of the lives of all urban residents.

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Appendix A:

Plans and policies relevant to the CPNP:

Metropolitan reports and plans

- Metropolitan Spatial Development Framework (1996)
  - ◊ generally to promote amenity and recreation, to provide species habitats and to protect biodiversity through creation of Metropolitan Open Space System (MOSS) and the definition of the urban edge
- South Peninsula Sub-Regional Plan (1997)
  - ◊ to address urban and conservation issues in the South Peninsula
- Urban Edge Study -- study in progress
  - ◊ to define the urban edge for the CMA in three areas: The Peninsula, Blaawberg and Tygerberg
  - ◊ to suggest management policies for the edge and land on either side
- CMA Environmental Management Policy -- study in progress
  - ◊ to determine an metropolitan environmental policy for the CMA

CPNP Policy Statements:

- Draft Policy for the Multipurpose Use of the Cape Peninsula (1994)
  - ◊ zoning of Peninsula into graded functional areas with different intensities of use
- Table Mountain National Park Use Zone Map (1996)
  - ◊ looks at the human use of the park in relation to ecological sustainability and recreational issues
  - ◊ zoning of use areas
- Draft Development Framework for the Cape Peninsula National Park (1998)
  - ◊ channeling visitors to the park
  - ◊ achieving financial self-sustainability

Plans and policies relevant to Kommetjie/Ocean View and the Noordhoek valley:

Structure plans, planning reports or management plans

- Imhoff's Gift Local Structure Plan (1984)
  - ◊ development of private land south of Wildevoëlvlei system while land to the north reserved for conservation; the use of Imhoff's Gift farm house for recreation, tourism and community use;
- Ocean View Strategic Plan (1996)
  - ◊ opportunities in Ocean View particularly job creation and local business development (e.g., tourism) and the establishment of a multipurpose community facility
- Proposed Slangkop Reserve Management Plan (1996)
  - ◊ promoting and balancing conservation objectives with human use of the area;
  - ◊ developing facilities such as walking trails, signage and information center
- Ecological Survey and Conservation Proposals for Slangkop and surrounds (1993)
  - ◊ development of facilities (visitor center/amenity, trails and information) and regulation of use and protection of the area
- Ward 21 Strategic Plan (1998)
  - ◊ growth management plan for Ward 21 (including Kommetjie, Ocean View and half the Noordhoek Valley/Wetlands)
  - ◊ integrating the urban system into the natural system so that the natural system is dominant
  - ◊ defining the growth of the area
- Noordhoek Wetlands Management Plan -- study in progress
  - ◊ scoping report looks at the effects of urban growth and development on natural systems as well as socio-economic pressures in the valley

Appendix B: Sampling data

KOMMETJIE:	TRANSECT 1			TRANSECT 2			TRANSECT 3		
Distance from urban edge	100m	30m	0m	100m	50m	2m	100m	50m	10m
Families	*No. indigenous species*			*No. indigenous species*			*No. indigenous species*		
Anacardiaceae	1		2		1				1
Asteraceae	7	4	2	4	5	3	6	5	6
Brunaceae									1
Campanulaceae						1		2	
Caryophyllaceae				1					
Convulvulaceae				1	1	1	1	1	
Ebenaceae							1	1	
Ericaceae	3	2	1	2	2	1	2	3	2
Euphorbiaceae	1	1					1	1	1
Fabaceae	1			1		1	1	1	1
Gereniaceae	3	1			1			1	1
Hyacinthaceae				1					
Iridaceae	1	2				2	2	1	2
Lamiaceae			1	1		1	1		1
Lobeliaceae		1						1	1
Mesembryanthemaceae	1		3		2		1	1	1
Oleaceae							1		
Orchidaceae								1	
Poaceae	1		2	1			1	1	
Polygalaceae	2	2	1			2		1	1
Proteaceae				2	1		4		
Restios	5	3	1	2	3	2	5	3	1
Rutaceae	1	2		1	2	1	1	1	1
Santalaceae	1	1					1	2	1
Scrophulareaceae							1	1	
Sedges	5	4	2	2	2	3	5	4	4
Thymelaeaceae	2	2	1	1	3			1	1
Unknown	1	4	3	2		1			
Total Species	36	29	19	21	23	19	35	33	27
Aliens (% of total)	2	20	3	0	0	16	17	13	20
Total veg. cover (%)	70	60	60	80	60	80	65	40	50

OCEAN VIEW:	TRANSECT 1			TRANSECT 2			TRANSECT 3		
Distance from urban edge	100m	50m	10m	100m	50m	20m	100m	50m	2m
Families	*No. indigenous species*			*No. indigenous species*			*No. indigenous species*		
Anacardiaceae	1			2				2	
Asteraceae	4	2		8	4	2	4	4	2
Brunaceae							1		
Campanulaceae	1	1		1	1		1	1	
Caryophyllaceae									
Convulvulaceae									
Ebenaceae	1			1	1			1	
Ericaceae	2	1		1	1		4	1	
Euphorbiaceae									
Fabaceae		1			1	1			

Gereniaceae							1		1
Hyacinthaceae					1				
Iridaceae	2			3			2	1	
Lamiaceae	1								
Lobeliaceae	1			1					
Mesembryanthemaceae	1			2	1	1		1	1
Oleaceae									
Orchidaceae									
Poaceae				1			1	1	
Polygalaceae				2	1	1	1		
Proteaceae	3				1		2	1	
Restios	4			3	2		5	3	
Rutaceae	2			2	1			1	
Santalaceae				1					
Scrophulareaceae					1				
Sedges	3	1		2	1	1	2	2	
Thymelaeaceae	1	1		1	1	1	3	1	
Salaginaceae	1			1					
Asparagaceae				1					
Renosterbos					1	1	1	1	
Myrtaceae					1				
Penaceae							1		
Rhamnaceae							1	1	
Brassiaceae									1
Unknown	2								
Total Species	30	7	0	33	20	8	30	22	5
Aliens (% of total)	70	90	100	50	70	90	10	50	95
Total veg. cover (%)	90	100	90	60	80	90	85	50	60

CONTROL SITE (WITSANDS):	TRANSECT 1			TRANSECT 2			TRANSECT 3		
Distance from base of transect	50m	25m	2m	70m	55m	35m	75m	60m	30m
Families	*No. indigenous species*			*No. indigenous species*			*No. indigenous species*		
Anacardiaceae	3	3	3	1	2	2	3	2	2
Asparagaceae								1	1
Asteraceae	11	13	11	11	8	11	10	9	9
Brassiaceae									
Brunaceae									
Campanulaceae									
Caryophyllaceae									
Convulvulaceae									
Ebenaceae	1		3	2	2	1	2	2	2
Ericaceae	2	5	1	1		1	2	2	1
Euphorbiaceae	1		1		1				2
Fabaceae	2	2	1		1	1	1	1	1
Gereniaceae	4	1	5	2		1		1	
Hyacinthaceae	1								
Iridaceae	2	2	2						
Lamiaceae	4	4	2	1	1				1
Lobeliaceae									
Mesembryanthemaceae	1		2		1		1		2

Myrtaceae									
Oleaceae				1		2	1	1	1
Orchidaceae									
Penaceae		1						1	1
Poaceae	1	1	1	1	1	1	3	3	1
Polygalaceae	2	2	1	1	1	1	1	1	2
Proteaceae	2	1	2	2		1		1	1
Renosterbos	1	1							
Restios	3	2		1	3		1		
Rhamnaceae									
Rutaceae	2	2	2	2	2	2	1	2	
Salaginaceae							1	1	
Santalaceae		1	1	1		1			
Scrophulareaceae	1	1	1		1				1
Sedges	2	4	6	2	2	4	2	2	1
Thymelaeaceae	3	1	2	2	1	2	2		2
Sapotaceae	1								
Roseaceae	1						1	1	1
Boraginaceae	1	1	1	1	1		1		1
Crassulaceae	1								1
Rhamnaceae	1	1							
Succulent - unknown - crassula or mesemb?	1	1	1						
Linaceae	1	1							
Oleaceae	1	1	3						
Amarylaceae		1							
Asparagus??		1							
Celastraceae			1			1			
Ranunculaceae						1			
Unknown	1	3	3	1	2	1		1	1
Total Species	58	57	56	33	30	34	33	32	35
Aliens (% of total)	0	2	4	1	1	0.5	2	1	0
Total veg. cover (%)	95	95	100	85	75	90	85	95	95

Appendix C: Results of Statistical Analyses

STAT. GENERAL MANOVA	Summary of all Effects (Type III SS); 1 - SITE; 2 - QUAD					
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	2*	1274.333	18*	87.96296*	14.48716*	.000178*
2	2	312.444	18	87.96296	3.55200	.050092
12‡	4	145.778	18	87.96296	87.96296	1.65726

Table C.1: Total species data
(‡12 -- site/level interaction term)

STAT. GENERAL MANOVA	Summary of all Effects (Type III SS); 1 - SITE; 2 - QUAD					
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	2*	125.0581	18*	2.515856*	49.70798*	.000000*
2	2	6.9127	18	2.515856	2.74767	.090911
12	4	2.2654	18	2.515856	.90046	.484270

Table C.2: √Alien vegetation data

STAT. GENERAL MANOVA	Summary of all Effects (Type III SS); 1 - SITE; 2 - QUAD					
Effect	df Effect	MS Effect	df Error	MS Error	F	p-level
1	2*	1744.444*	18*	200.9259*	8.682028*	.002293*
2	2	133.333	18	200.9259	.663594	.527150
12	4	86.111	18	200.9259	.428571	.786102

Table C.3: Total vegetation cover data

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Dear Resident,

RE: QUESTIONNAIRE SURVEY IN KOMMETJIE AND OCEAN VIEW

This questionnaire has been randomly dropped at houses in Kommetjie and Ocean View. It forms part of the research for a Masters degree study at the University of Cape Town. The aim of the study is to find ways of managing the interactions (such as fire, animals and pollution) between built and adjacent natural areas in a way that is simple, yet effective, to implement. I hope to offer solutions for improving the conservation of the Cape Peninsula National Park that also enhance the living environments of local communities by addressing and integrating their needs into the management of the national park.

This questionnaire is voluntary and all information will be regarded as confidential. Once the study has been completed, key findings will be presented to local authorities, conservation organisations, NGOs and the communities who have participated in the research. I would be grateful if you would please take the time to complete the attached questionnaire and then return it to me using the stamped and self-addressed envelope. Please return the completed forms by the last week of May. If you would like to be sent further information from the study, please indicate your contact details on the question form. If you have further questions about this survey or the research I will be at Ocean View library between 9h00 and 11h00 and at Kommetjie library between 11h15 and 13h00 on Saturday 9 May. Alternatively I can be contacted at 650 2863 during the day.

Thank you for your time.

Yours sincerely

Anthea Stephens
Dept of Environmental and Geographical Science
University of Cape Town

-- QUESTIONNAIRE --

If you would like to be sent results from the study, please indicate your contact details (information pamphlets will also be available from the library): .....
.....
.....

Please indicate whether you live in:

Ocean View ☐ *(please tick relevant box)*
or Kommetjie ☐

and whether you:

own property ☐
rent property ☐
subrent property ☐

How long have you lived in Kommetjie/Ocean View? (years) _____

Are the following important for you in Kommetjie/Ocean View:

SCALE: 1 2 3 4 5
not important at all very important

	Please circle:				
• economic growth:					
(a) job creation	1	2	3	4	5
(b) tourism developments	1	2	3	4	5
(c) industrial developments	1	2	3	4	5
(d) commercial developments	1	2	3	4	5
• development of upmarket housing	1	2	3	4	5
• provision of affordable housing	1	2	3	4	5
• conserving natural areas	1	2	3	4	5
• removing non-indigenous plants:					
(a) from your garden	1	2	3	4	5
(b) around Kommetjie/Ocean View	1	2	3	4	5
• preventing urban growth	1	2	3	4	5
• linking Kommetjie/Ocean View	1	2	3	4	5
• a "strategic plan" for the area (Ward 21)	1	2	3	4	5
• other (please indicate and rank)					
.....	1	2	3	4	5

Are you affected by factors in the surrounding natural areas?

Please circle and explain:

- fires Y / N _____
- animals (e.g., snakes; baboons) Y / N _____
- tourism Y / N _____
- squatters Y / N _____
- other (please indicate and explain) _____

Do you use the mountains or beaches near Kommetjie/Ocean View?

Y / N *(circle)*

If so, which areas do you use and what for?

_____

_____

Do you agree that the following are problems in the natural areas around Ocean View or Kommetjie?

SCALE:	1	2	3	4	5
	strongly agree	....	neutral	....	strongly disagree
• erosion	1	2	3	4	5
• litter	1	2	3	4	5
• trampling plants	1	2	3	4	5
• dumping	1	2	3	4	5
• alien vegetation	1	2	3	4	5
• other (please indicate and rank)					
.....	1	2	3	4	5

Who should take responsibility for these problems?

the local authority	☐	Kommetjie Residents Assoc.	☐
South African National Parks	☐	Ocean View RDP Forum	☐
NGOs (e.g., KEAG)	☐	local residents	☐

other _____

Do you know about the establishment of the Cape Peninsula National Park (CPNP)?

Y / N *(circle)*

Do you think the CPNP will affect you in a positive or negative way?

Please explain: _____

_____

_____

_____

In your opinion, what are the important issues and/or priorities in Kommetjie/Ocean View at the moment?

_____

_____

_____

_____

_____

Do you have any other comments? _____

_____

_____

PLEASE RETURN THIS FORM BY POSTING IT IN THE STAMPED AND SELF-ADDRESSED ENVELOPES OR PLACE IT IN THE BOXES IN THE KOMMETJIE OR OCEAN VIEW LIBRARIES

Thank you for participating in this questionnaire