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**IDEAL INTEGRATED NATIONAL ENVIRONMENTAL
MANAGEMENT SYSTEM FOR SOUTH AFRICA**

A thesis submitted in partial fulfilment of the requirements for the
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by

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Source: The Economist, (1994).

The great red hills stand desolate, and the earth has torn away like flesh. The lightning flashes over them, the clouds pour down upon them, the dead streams come to life, full of red blood of the earth. Down in the valleys women scratch the soil that is left, and the maize hardly reaches the height of a man. They are valleys of old men and old women, of mothers and children. The men are away, the young men and the girls are away. The soil cannot keep them any more.

Alan Paton

Abstract

The South African environmental management system has been characterised by fragmentation and the lack of effective legislation. The number of statutes concerned with conservation issues is an associated problem. The implementation of the Environmental Conservation Act 1989 has been viewed as inefficient because of the lack of enforcement and control of environmental management issues. The Act has not provided opportunities for public participation, particularly from black communities, in decision-making about environmental matters.

The South African environmental management system has not recognised and integrated indigenous peoples resource management systems into the country's legal framework. This is illustrated by the impacts of conservation programmes which have resulted in black communities being uprooted from their lands for the establishment of national parks and tourism facilities, without compensation to traditional owners.

Research has identified the need for a revision of environmental impact assessment (EIA) practices in South Africa. There is also an associated need to integrate environmental impact assessment (EIA) into the planning process to achieve sustainability. Studies carried out in South Africa have identified the lack of effective regulations for enforcing the provisions with regard to the status of the coastal zone.

The criticisms of the White Paper delivered by participants at the Conference held at Megawatt Park, Sandton, 10 June, 1993, highlight the need for a comprehensive environmental management system to ensure the sustainable management of natural and physical resources. An ideal system would improve the quality of life in the South African community, while maintaining the integrity of the natural resource base. Even though the criticisms have been valid, they fall short of suggesting ideas for the formulation of a new integrated environmental management system for South Africa.

Research carried out in South Africa has also identified the inadequacies of the proposed Integrated Environmental Management procedure referred to in the White Paper. This procedure has been perceived as inadequate to achieve the universal principles of sustainable development.

This project evaluates the White Paper, the submissions criticising the White Paper and the proposed Integrated Environmental Management system in South Africa. A matrix is used as a method to examine both the New Zealand Resource Management Act 1991 and the South African environmental management provisions against the recommended national actions in the IUCN/UNEP/WWF (1991) and Agenda 21. Research from a number of disciplines concerned with integrated environmental management, are used

to recommend changes to the South African environmental management system. Criteria derived from the IUCN/UNEP/WWF (1991) strategy and Agenda 21 are used in the thesis to evaluate the White Paper, submissions criticising the White Paper, and the proposed Integrated Environmental Management system. Finally, An ideal National Integrated Environmental Management System for South Africa is proposed.

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Glossary

Biological diversity: The variety and variability among living organisms and the ecological complexes in which they occur.

Biological Resource: Living natural resources, including plants, animals, and microorganisms, plus the environmental resources to which species contribute.

Carrying capacity: The maximum number of organisms, that can use a given area of habitat without degrading the habitat and without causing social stress that may result in the population being reduced.

Coastal marine area: Is the foreshore, seabed, and coastal water, and the air space above the water, between the outer limits of the territorial sea and the line of mean high water springs (MHWS).

Conservation: The management of the human use of the biosphere so that it may yield the greatest sustainable benefits to present generations, while maintaining its potential to meet the needs and aspirations of future generations.

Ecosystem: The totality of factors of all kinds that make up a particular environment; the complex of biotic community and its abiotic, physical environment functioning as an ecological unit in nature.

Environmental: All physical, chemical, and biological factor impinging on a living organism.

Environmental Resources: Resource such as clean air, clean water, and scenic values that are not considered assets; as a result, most interest is on activities involved in using these resources and to the ways in which the actions of some users affect the well-being of others.

Externality: A economic concept covering those costs and benefits attributable to an economic activity that are not reflected in the price of the goods or services produced. Thus damage to the environment may not be counted as a cost or benefit in production. It is an aim of the 'polluter pays' principle to require polluters to meet the cost of avoiding pollution or remedying its effects, so internalizing the externalities.

Homeland: The term used by the previous South African government, after 1948, to describe the reserves established under the native Land Act of 1913 and 1936.

Fauna: The total animal life of an area; usually the total number of the species; the natural failure to adapt to environmental change.

Flora: The total plant of life of an area; usually the total number of plant species in a specified period, geological stream, geographical region, ecosystem, habitat, or community.

Genetic Resources: A genetic resource is inheritable characteristics of a plant or animal of real or potential benefit to people.

Incentive: An incentive is that which incites or motivates desired behaviour;

in this context; an incentive is that which incites or motivates government, local people, and international organisations to conserve biological diversity.

Influx control: South African administrative system abolished in 1986, which prevented those living in the "homelands" from settling in White urban areas, and under which all adult blacks were required to carry passes.

Indigenous: Having originated in and being produced, growing, or living naturally in a particular region or environment, native. Life-support system: A ecological process that sustains the productivity, adaptability and capacity for renewal of lands, waters, and /or the biosphere as a whole.

Natural Resource: Includes renewable (forests, water, wildlife, soils, etc.) and non-renewable (oil, coal, iron, ore, etc.) resources that are natural assets.

Res nullius: open access for resource use.

Res publica: state property.

Res commune: common property.

Sustainability: A characteristic of a process or state that can be maintained indefinitely.

Species: A group of actually or potentially inter breeding living organisms more or less isolated from other such groups; in simple terms, a "kind" of plant or animal.

Sustainable use: Use of an organism, ecosystem or other renewable resources at a rate within its capacity for renewal. Sustainable development: A pattern of social and structural economic transformations (i.e., "development") that optimizes the economic and other societal benefits available in the present without jeopardizing the likely potential for similar benefits in the future.

Ultra vires: Beyond one's (legal) power or authority.

Vleiland: The term used in South Africa to describe a swamp.

Wetland: Temporarily or permanently inundated territorial system bordering an aquatic systems and including shallow systems such as estuaries, salt marshes, bogs, sponges, mires, swamp, floodplain, and many coastal lakes and lagoons, systems that essentially are driven by littoral processes.

List of Acronyms

ANC: African National Congress

CORD: Centre for Community Organisation and Research

CWIU: Chemical Workers Industrial Union

DEA: Department of Environment Affairs

DMEA: Department of Mineral and Energy Affairs

DMEA: Department of Mining and Energy Affairs

EA: Environmental Assessment

SEA: Strategic environmental Assessment

SIA: Social Impact Assessment

TEM: Total Environmental Management

UNEP: United Nations Environmental Programme

WP: White Paper

WWF: World Wide Fund

EIA: Environmental Impact Assessment

ETH: Eastern Transvaal Highveld

ETL: Eastern Transvaal Lowveld

EMPR: Environmental Management Programme Report

IUCN: International Union for the Conservation of Nature and Natural
Resources

IEM: Integrated Environmental Management (EIA framework in South Africa)

KBNR: KwaZulu Bureau of Natural Resources

NEPA: National Environmental Policy Act

PPP: Plans, Policies and Programmes

RMA: Resource Management Act 1991

SANF: South African Nature Foundation

CHAPTER ONE

INTRODUCTION

When the South African National Party came into power in 1948, it introduced a number of discriminatory acts such as the Group Areas Act, the Population Registration Act, Land Act of 1913 and 1936, Separate Amenities Act etc.

"The Group Areas Act provided for racially separate residential areas in the urban core. Pass laws restricted the movement of black South Africans; up to late 1970's blacks had (with rare exceptions) no freehold or leasehold rights to land outside the homelands. These restrictions had an impact on the pattern of development in black townships regarding settlement and housing types" (de Beer et al, 1994: 145).

Apartheid was then institutionalised and reinforced by discriminatory laws against the majority of the black population. Simultaneously, there had been a growing resistance to apartheid amongst the majority of black South Africans. The result of growing resistance to apartheid ultimately led to the banning of the African National Congress (ANC) and Pan Africanist Congress (PAC) after the Sharpeville shootings in the 1960s. In addition, it also resulted in the imprisonment of President Nelson Mandela in 1962. This has been followed by the effective implementation of Apartheid policies, further reinforced by the establishment of "homelands", forced removal of black South Africans from their lands, introduction of inferior education for blacks and the introduction of influx control measures (see Glossary). However, the majority of black South Africans continued to resist against apartheid policies. After years of struggle by the majority of black South Africans, a new and non-racial, democratic South Africa

is now in its embryonic stage, because de Klerk, under pressure from both internal and external pressures, was forced to recognise formally banned political organisations and begin the negotiation process (Ramphela, 1991).

Millions of South Africans of all races participated in the historic April 1994 general elections to cast their votes for the first time. Box 1.1 shows the results of the historic April 1994 general elections. The 1994 general elections ushered in freedom, and the demise of apartheid. The new democratic government is now faced with a daunting task of building the economy and addressing the high expectations of the majority of black South Africans.

Box 1.2 April 1994 Election Results

Party	Votes	% of the vote	Seats
African National Congress	12,237,655	62.6	252
National Party	3,983,690	20.4	81
Inkatha Freedom Party	2,058,294	10.5	43
Freedom Front	424,555	2.2	9
Democratic Party	338,426	1.7	7
Pan Africanist Congress	243,478	1.2	5
Total votes counted 19,726,579; rejected papers: 193,081			

Source: Commonwealth Currents, (1994).

"South Africa presents a paradox. On the other hand it is a relatively large country with low population density, abundant natural resources, a well developed infrastructure and, by comparison with the rest of Africa, a high income per capita (\$2560 compared with a sub-saharan average of \$350). That is the good news. The bad news is that South Africa has number of the most pronounced income equalities of any country in the world, there is serious overcrowding in the townships, squatter camps and environmentally degraded homelands, the economy remains heavily dependent on the export of non-renewable minerals with little beneficiation and a country with a rich racial and cultural mix has been bitterly divided by institutionalised racial segregation. Raising the challenge of sustainable development can help the South African policy debate go forward in new directions. At the heart of the problem is how to move from separate development to sustainable development" (Muslow et al, 1994:227).

In the past, South Africa economy depended on cheap black labour and employment segregation, concentrating skills in white hands. Thus, the majority of black workers are not well equipped to take their place in the global economic system.

"The ability to compete industrially on the global market has for some time ceased to depend on cheap labour and raw materials, but rests rather on the development of appropriate skills. This is why raising the basic educational and skills level of the population is vitally important and represents the central sustainable development policy challenge for South Africa" (Muslow et al, 1994:231-232).

THE STATUS OF ENVIRONMENTAL MANAGEMENT IN SOUTH AFRICA

Research undertaken by Olivier (1993) indicates that the management of the environment in South Africa has also been fragmented and compartmentalised. In addition, the lack of effective legislation has limited the development of a comprehensive, coherent, and integrated approach to achieving sustainable management of the country's natural and physical resources. Olivier (1993)

criticises the White Paper with regard to the fragmentation and divergent legislative framework for environmental management in South Africa. Management of the environment has been characterised by a number of widespread statutes which have been directly and indirectly concerned with conservation issues. Furthermore, the South African environmental management system has not provided opportunities for communities, particularly black communities, to participate in decision-making about the environment. Sowman et al (1994) asserts that the traditional highly centralised, deeply authoritarian and secretive South African style of government presents very little opportunity for public participation in decisions taken on matters affecting the environment and quality of life. In the past, administration of the environment has been focused on the establishment and maintenance of game reserves and protection of wildlife at the expense of black communities who have traditionally relied on such resources for sustenance.

Conservation bodies in South Africa have been also less concerned about the negative effects of conservation programmes on rural communities. Sowman et al (1994) maintains that the apartheid system was designed to exclude the majority of South Africans from political participation, and necessitated the development of administrative, legal and social structures which prevented people from effectively participating in matters which affect their day-to-day lives. Thus, the majority of black South Africans have developed apathetic and hostile attitudes towards environmental issues, an attitude which stems from their powerlessness.

"From the mid-seventeenth century onwards, black farmers and pastoralists were gradually dispossessed of most of their land through armed conquest, spurious treaties and economic pressure. This pattern was formalised in the land Act of 1913, which restricted African land ownership to just 7% of the total; in 1936 the allocation was extended to 13% (as a "compensation" for the loss of parliamentary voting rights). The land set aside for Africans consisted of fragments scattered throughout the country and was, with few exceptions, barred and unproductive.

In 1948 the Nationalist government instituted its policy apartheid a cornerstone of which was the creation of "bantustans" or self governing "homelands" for the African population. In reality this continued to be labour reserves for the white minority's farms and mines. Massive force removals took place over the next three decades. Stable communities were uprooted and compelled to settle in unsuitable areas. It has been estimated that between 1960 and 1985 more than 3.5 million people were forcibly removed from one place to another" (Ramphela et al, 1991:3).

The South African environmental legislation has not recognised and reinforced indigenous resource management systems. The struggle of the Richtersveld community against the establishment of the national park is a classical example, illustrating the lack of legislation to protect the rights of indigenous peoples in their management of natural resources. The Richtersvelders (whose livelihood was threatened by plans to create a game park) applied to the Supreme Court and were granted a temporary interdict to stop the signing of the contract on the park. Ultimately, it was the court order which forced the National Park Board and various government departments to the negotiation table (Glazeswki et al, 1991:150).

The New Zealand experience of developing the Resource Management Act 1991 and its recognition of Maori's iwi management plans provides a model for preparing legislation which could recognise and enforce indigenous resource

management systems in South Africa. In addition, the Canadian experience of regional agreements is another approach which South Africa could consider in the establishment of strategies that would put the interests of indigenous peoples within a stronger legal framework. Avis (1994) has also criticised the lack of regulation with respect to the management of the coastal zone in South Africa.

The research carried out by Quinlan (1993) identifies the need to redefine the use of environmental impact assessment (EIA) in South Africa. Environmental Impact Assessment will need to be integrated into planning in South Africa.

"The application of environmental assessment (EA) to decision-making is being developed and promoted internationally as one tool for implementing the international agreements from Rio Earth Summit as set out in Agenda 21. A critical need to move from the traditional project-specific approaches of environmental impact assessment (EIA) toward more integrated models of environmental-economic analyses if progress is to be made on implementing the sustainability requirements of Agenda 21" (Dixon, 1994:1).

The submissions criticising the White paper illustrate the need for the establishment of an effective system of environmental management system in South Africa. However, the comments made by participants at the Conference held at Megawatt Park, Sandton, 10 June, 1993 have not progressed far enough to provide the government with adequate suggestions for the establishment of a more effective integrated environmental management system. The participants at the Conference on the White Paper are as follows:

- * KwaZulu Bureau of Natural Resources;
- * Southern Africa Nature Foundation;
- * Mining and Industry;
- * Department of Roman Law and Legal Pluralism (University of Potchefstroom);
- * Industry and Commerce Sector; and

* Department of Geography and Environmental Studies (University of Potchefstroom).

Research undertaken in South Africa highlights the inadequacy of current proposals for Integrated Environmental Management (IEM) procedures. Quinlan (1993) maintains that communities and interest groups have not been allowed to participate fully during the appraisal of a project proposal.

In addition, Nel (1993) believes that the Integrated Environmental Management system referred to in the White Paper is an inadequate tool to achieve sustainability in South Africa. Furthermore, Nel (1993) perceived Integrated Environmental Management as unsuitable tool in a comprehensive environmental management system.

THESIS AIM, OBJECTIVES AND CRITERIA

The overall aims of this thesis are to:

Box 1.2 aims of the thesis

- (1) Derive criteria by which the White Paper, criticisms of the White Paper and Integrated Environmental Management procedure may be evaluated.
- (2) Recommend additional suggestions for integrated environmental management in South Africa.

By using the principles of the IUCN/UNEP/WWF (1991), Agenda 21, the New Zealand Resource Management Act 1991 and the views of theorists, the following

objectives will be achieved:

Objective One: Use a matrix to examine the New Zealand and South African environmental management systems against the recommended national actions in the Caring for the Earth Strategy (IUCN/UNEP/WWF 1991), and Agenda 21. This matrix (see Appendix A5.5.1) will also be used to provide criteria by which the White Paper, and the proposed Integrated Environmental Management procedure in South Africa may be evaluated.

Objective Two: Recommend changes to the current proposals for a new South African environmental management system.

LIMITATIONS

There are a number of limitations associated with this study. This study concentrates on the evaluation of the White Paper, criticisms of the White Paper and the proposed Integrated Environmental Management procedure in South Africa. The study focuses on the five selected goals or programmes of the White Paper relevant to this thesis. This means that the research has not focused on a total evaluation of the White Paper (see Appendix 3). A summary of the five selected goals of the White Paper are:

- * Compilation of the national guiding plans, integrating the application of Environmental Impact Studies;
- * Conservation of cultural resources as an integrated part of environmental management;

- * The development of an inventory of conservation areas, provision of land for conservation and the implementation of a national nature conservation plan;
- * Development of legislation to ensure the effective implementation of environmental management;
- * Development of measures in respect of land use planning to ensure the conservation of ecologically sensitive areas such as grasslands, vleilands, the coastal zone;
- * Planning of forestry, mining, industrial and transportation projects to minimize negative impacts on the environment and improve rehabilitation, by applying the holistic principles of IEM (Integrated Environmental Management).

In addition, the study provides an evaluation of a selected number of criticisms on the White Paper delivered by participants at the Conference held at Megawatt Park, Sandton, 10 June, 1993. The criticisms are those which have been submitted in written form by key groups involved in South Africa environmental management. There may be other submissions which have not been sent to New Zealand.

The status of the South African environmental management system is discussed as a background for the evaluation of the White Paper. Submissions criticising the White Paper, and the proposed Integrated Environmental Management procedure. The evaluation will be based on criteria derived from the IUCN/UNEP/WWF (1991) strategy , Agenda 21, the New Zealand Resource Management Act 1991 and a range of theorists concerned with the development of integrated environmental management systems.

METHODOLOGY AND OUTLINE OF CHAPTERS

Chapter Two presents the approach used in this thesis. It identifies the place

of the thesis in relation to the literature on integrated environmental management system. The suggestions drawn from Chapter Two are used to inform the evaluation throughout the rest of the thesis. The chapter also outlines the criteria derived from the IUCN/UNEP/WWF (1991) strategy, Agenda 21, the New Zealand Resource Management Act 1991 and the views of theorists to evaluate the White Paper, criticisms of the White Paper and the proposed Integrated Environmental Management procedure.

Chapter Three presents an overview of the South African environmental management system and the White Paper. The chapter includes a review of the White Paper's criticisms, delivered by participants at the Conference held at Megawatt Park, Sandton, 10 June, 1993. This follows a discussion describing the proposed Integrated Environmental Management procedure.

Chapter Four contains an evaluation of the White Paper, the criticisms of the White Paper and the proposed Integrated Environmental Management procedures. Criteria derived from Chapter Two form the basics of this evaluation. The chapter also shows that the White Paper and the comments of critiques from industry and conservation bodies fall short of providing sufficient progress towards a comprehensive, coherent and integrated environmental management system for South Africa.

Chapter Five draws on the suggestions, recommended by the IUCN/UNEP/WWF (1991), Agenda 21, the New Zealand Resource Management

Act 1991 and theorists, to develop the ideal integrated environmental management system for South Africa. The chapter shows that the development of an ideal integrated environmental system would be necessary because of the inadequacy of the White Paper and non-governmental participants in developing such a system.

Chapter Six develops a number of recommendations drawn from the literature review and contains a preferred integrated environmental management system for the future sustainable management of South African natural and physical resources. The following chapter will present the recommended national actions from the Caring for Earth Strategy (IUCN/UNEP/WWF 1991), Agenda 21, the New Zealand Resource Management Act and theorists that will later be used to evaluate the White Paper, the criticisms of the White Paper and the proposed Integrated Environmental Management procedure in South Africa. Chapter Seven draws the overall discussions of the chapters together. The aim of the thesis is revisited, and the chapter makes some suggestions for future research.

CHAPTER TWO

LITERATURE REVIEW

INTRODUCTION

This chapter positions the thesis within the principles of the IUCN/UNEP/WWF (1991), Agenda 21, the New Zealand Resource Management Act 1991 and current research about integrated environmental management systems. This is important in providing the reader with an understanding of the research approaches that shape the design of this study. In the discussion that follows, an argument is developed to show the need for effective integrated environmental management of natural and physical resources in South Africa for achieving sustainable development.

The chapter is divided into seven sections. Each section is based on the the criteria derived from the IUCN/UNEP/WWF (1991), and supporting criteria in Agenda 21, and from the New Zealand Resource Management Act 1991. The suggestions drawn from this chapter will be used in subsequent chapters to evaluate the South African environmental management system, the White Paper, submissions on criticisms of the White Paper and the proposed Integrated Environmental Management (IEM) procedure in South Africa. In addition, the suggestions will later be used in Chapter Five to develop an ideal integrated environmental management system.

Action 8.1 "Adopt an integrated approach to environmental policy with sustainability as an overall goal".

Source: IUCN/UNEP/WWF 1991.

The IUCN/UNEP/WWF (1991) suggests that nations develop an integrated approach towards environmental policy for achieving sustainable development. In order to achieve the goal of sustainability, government departments and resource development sectors need to consider the environmental impacts of various activities which utilize natural and physical resources. Thus, the following arguments offer support for IUCN/UNEP/WWF (1991) in urging nations to adopt integrated environmental policies to achieve the goal of sustainability.

There are considerable social, technical, economic and political problems associated with implementing the concept of sustainable resource management. Faulkner, (1986) maintains that increasing demand for resources has highlighted different perceptions and values about the utility of natural resource, conflicts over their use, and concern for the effects of development on people, their communities and the environment. Lang (1986) argues that as we experience greater intensity of resource use and increasing resource scarcity, there is an urgent need to get more use out of each

resource, hence the emergence of concepts such as "sustained yield" and practices such as "resource conservation".

A major problem associated with developing effective environmental policy is the lack of integration across sectors of development and levels of government, and management. Drawing from the experience of the United States concerning integrated environmental management, Mitchell (1986) argues that Conservation Authorities attempt to be integrative within the areas of their mandates. However, fragmentation of responsibility for resources across many agencies, and the lack of powerful coordinating mechanisms have precluded effective integration across areas managed by other agencies. According to Mithcell (1986) government agencies have had a tendency to proceed within their narrow single objectives for natural resources management. However, today there is a widespread need for natural resource utilization to be based on planning that addresses a full spectrum of ends and expectations. Many of the environment and development problems that confront us have their roots in this sectoral fragmentation of responsibility. Sustainable development requires that such fragmentation be overcome (WCED, 1987).

According to Kok (1993) an integrated, comprehensive and cohesive approach constitutes a central role in the quest to achieve sustainable development. Thus, the basic approach is to achieve an effective integration of environmental and other relevant policies through the participation of the

members of society that is, administrators, entrepreneurs and the general public. According to Kok (1993) legal changes represent a move away from dealing with environmental issues on an individual basis, (i.e. air, water, noise, waste, etc) to the integrated handling of issues across various sectors, and on a regional basis involving local communities and local and national governments, (see Action 8.1).

An integrated approach is also needed to achieve an acceptable level of general environmental quality across the whole country, and to attain a better environmental quality in some severely polluted areas (Bouwer, 1994).

Box 2.1 Ideal Characteristics of integrated approach to environmental policy

- * create a powerful coordination mechanism for effective integration of natural resource management;
- * share, incorporate and coordinate different resource sectors in the management of natural resources;
- * integrate conflicting values of various natural resource users;
- * coordinates action to resolve environmental issues require: planners to consult with stakeholders, implementors, regulators, beneficiaries, victims and interest parties;
- * undertake a creative and concerted approach incorporating different resource sectors and employ a multi-faceted approach to achieve sustainable development;
- * establish collaborative policy forums between government representatives, business, industry, interested parties, communities and indigenous peoples to formulate a strategy, design programs and implement of development and conservation plans.

In New Zealand, integrated environmental policy has been achieved through the enactment of several pieces of enabling legislation (e.g., the Resource Management Act 1991 and the Conservation Act 1987). Legislation sets the framework for national, regional and local plans and policy statements each with individual functions.

Strategic planning is a hierarchical system of responsibilities with central government being primarily responsible for allocation of public resources and the establishment of overall resource management objectives and policies, based on norms arrived at through public consultation and consensus, and ongoing reviews (Grilinton, 1994), (Appendix A1.1.1).

**Action 8.2 "Develop strategies for sustainability,
and implement them directly and through
regional and local planning"**

Source: IUCN/UNEP/WWF, 1991.

The IUCN/UNE/PWWF(1991) in its Caring for the Earth Strategy suggests that in order to achieve sustainable development nations should develop national strategies for sustainability. The strategies should be designed to achieve sustainable development, reflect the values of long-term ideals, desired futures, priorities and objectives of the people who live in the country. In addition, nations should develop national and regional strategies plans

which emphasise the need to integrate conservation and development.

According to the Caring for Earth Strategy, conservation implies the management of human use of organisms or ecosystems to ensure such use is sustainable. Besides sustainable use, conservation includes protection, maintenance, rehabilitation, protection, and enhancement of populations and ecosystems. The Caring for Earth Strategy defines development as increasing the capacity to meet human needs and improve the quality of human life. The development of natural resources should not exceed the capacity of the ecosystem to regenerate. That requires a creative, participatory and integrated approach for preparation of strategic plans and program design and implementation.

Jacobs (1985) is concerned with the development of a regional strategy for sustainable development and conservation in the Kativik region of Northern Quebec. The strategy needs are consistent with the principles and objectives of the Caring for the Earth Strategy and of those contained in the resolutions of the Inuit Circumpolar Conferences on sustainable rights, environmental policy and economic development. Jacobs (1985) identifies the key features of that strategy based on the following framework:

- * Management of information and knowledge in a manner consistent with the principles developed in the on-going Inuit Harvest Research project.
- * Conservation and harvesting of wildlife in a manner consistent with the wildlife management principles established by Anguivigag Wildlife Commission.
- * Protection of fragile ecosystems in a manner consistent with the principles of the World Conservation Strategy and the Inuit Circumpolar Conference.
- * Provision of opportunities for economic growth in a manner consistent with

the principles of large scale development adopted by the Makivik Corporation.

- * Organisation of the community and improvement of the quality of life in a manner consistent with all the principles outlined above.
- * Consistency with the principles and objectives of the 1980 World Conservation Strategy, and those of the Inuit Circumpolar Conferences.

Jacobs (1985) also contributes general comments about the characteristics of the Kativik regional strategy in relation to sustainable development of natural resources for Inuit people.

- * The Inuit are an indigenous people with a unique ancestry, culture and homeland;
- * The Inuit homeland and its resources are of critical importance to the international community;
- * Renewable and non-renewable resources of the Inuit homeland are essential to the present state and future development of Inuit economic and cultural identity;
- * International and national policies and practices should give due consideration to protection of the arctic and sub-arctic environment and to the preservation and evolution of Inuit culture and societies;
- * The right of self-determination must be confirmed, and Inuit participation in policies and activities affecting our homeland assumed.

Furthermore, it has been realised that for a regional strategic development framework to be successful in achieving the goal of sustainability, the key issues of environment, settlement and development must be viewed as a whole and not as separate competing entities.

Box 2.2 Ideal Characteristics of national and subnational strategies

- * management of environmental information consistent with the knowledge of the people in the region;
- * conservation and management of natural resources consistent with the values and needs of the people in the region;
- * protect ecosystems;
- * improvement of the quality of life for people in the region;
- * consideration of renewable and non-renewable natural resources in present and future development;
- * protection of the environment as part of national policies and practices;
- * participation of people in the region in the formulation of policies and management plans;
- * integration of conservation and development strategies with priority given to traditional practices of indigenous peoples in the region;
- * consideration of population growth;

In New Zealand, the government requires regional councils be responsible for preparation of develop integrated policies and plans for, land, water, air, management of resources, and pollution control including the management of hazardous substances (Appendix 4). Territorial authorities have responsibility for land use management, including the adverse effects of mining operations and petroleum development, noise and local pollution control (Appendix 4).

Action 8.3/7 "Subject proposed development project programmes and policies to environmental impact assessment and to economic appraisal"

Source: IUCN/UNEP/WWF, 1991.

In the past, negative environmental consequences of major development projects such as construction of highways, construction of dams, industrial plants, shopping centres, housing development, mining etc, have usually been ignored during the preparation phase of plans which influence individual projects. Recognising this problem, the United States established the National Environmental Policy Act (NEPA) in 1969. Bregman, (1992) argues the purpose of this Act was to ensure that environmental impacts are considered before plans for the project were finalised. Thus, the IUCN/UNEP/WWF (1991) recommends that governments should subject proposed development programmes and policies to environmental impact assessment before individual projects are initiated.

Environmental protection has generally been viewed as a desirable, but distinctly secondary objective, in resource management (Smith, 1993). In this context, environmental planning has often been viewed as a separate entity, independent of development activities. Development, extraction and exploitation of natural resources has generally taken precedence over the

assurance of long-term environmental sustainability. The goal of sustainable resource management is aimed at redressing this imbalance (Smith,1993).

Environmental impact assessment (EIA) symbolises the new commitment to environmental protection. Smith (1993) points out that environmental impact assessment (EIA) is an 'enduring legacy' not only in symbolising a new commitment to environmental protection, but as an 'affirmation of faith' in the use of science for planning and decision- making in the U.S. In this respect, NEPA reflects a society mesmerised by the benefits of economic growth and dominated by a technocratic perspective to problem solving.

Finally, it is realised that environmental impact assessment (EIA) should be integrated in environmental planning and decision-making. That is, it must provide for full participation between government agencies, development proponents, interested parties and communities that might be affected by the activities within individual projects, (see Action 8.3). Environmental impact assessment should be viewed as a process of environmental planning providing a basis for natural resource planning in attaining the goal of sustainable development. Smith (1993) argues that, throughout the 1970's and 1980's, resource managers have adjusted to a variety of demands calling for more pluralistic, more comprehensive and more integrative approach to resource management. Smith (1993) maintains that if impact assessment is to be regarded as a process for environmental planning, the notion of impact assessment soley for project appraisal has to be discarded.

It seems to be generally accepted that the application of EIA plus social impact assessment SIA has resulted in greater protection of resource potential, community health and well-being, while economic development continues to be facilitated (Sadler 1986:104). Furthermore, Sadler (1986) asserts that the fundamental worry is that impact assessment is a pro-forma exercise which occupies a marginal place and is of peripheral influence within the development process. In the final analysis, EIA is often characterised more by a capacity to delay and frustrate, than to positively shape ~~positively~~ the course of proposed action.

Public involvement is also seen to be a critical ingredient of EIA (Sadler, 1986). It is a process by which values and interests are incorporated into analysis and decision making where the significance of impacts is determined. Involvement of the affected publics is not only a means for gauging project acceptability but also is a test of process accountability (see Action 8.3).

In an effort to prevent the adverse effects of economic and technical development on the environment, the IUCN/UNEP/WWF (1991) suggests that governments should evaluate development plans, policies, expenditure programmes, budgets and alternatives before they are approved. Therivel et al (1992) recommends the application of strategic environmental assessment (SEA) to evaluate plans, policies and programmes about their likely impacts on the environment.

Furthermore, he suggests that environmental impact assessment (EIA) should be applied earlier, more strategically, in decision-making, and formulation of policies, plans and programmes as well as to individual projects. SEA is perceived as an effective process for evaluating plans, policies, programmes and alternatives before being implemented in individual projects. SEA can be defined as the formalised, systematic and comprehensive process of evaluating the environmental impacts of a policy, plan, or programme and its alternatives, including the preparation of written reports recoding the findings of that evaluation, and their use in publicly accountable decision-making (Therival et al, 1992). Furthermore, he believes that SEA is a major means of implementing the concept of sustainability.

The Resource Management Act 1991 require the assessment of the effects on the environment and less on activities. In addition, the Fourth Schedule of the Resource Management Act 1991 require that the effects of an activity, not its impact be assessed. (see Appendix A1.1.2). The Resource Management Act 1991 has also redefined the practice of environmental impact assessment (EIA) in New Zealand and appears to be integrating it within the planning system. The application of SEA in section 32 means that plans and policy statements at all levels must be evaluated for efficiency and appropriateness under the provisions of the Resource Management Act 1991, and in accordance with community objectives.

Box 2.3 Ideal characteristics of Integrating environmental impact assessment into planning

- * EIA should be viewed as a process for environmental planning;
- * the EIA process should be integrated into planning and decision making;
- * EIA should include the following steps: scoping, prediction, significance assessment, evaluation, monitoring and mitigation;
- * EIA should be viewed as one of the basis for natural resource planning to achieve the goal of sustainability;
- * three elements should be considered in environmental planning and environmental impact assessment:
 - (a) institutional arrangements: involves culture and attitudes, legitimation, functions, administrative structures, processes and mechanisms.
 - (b) interests representation: involves stakeholders, goals and objectives, and approaches.
 - (c) impact assessment: involves normative policies, strategic programs and operational projects.
- * EIA needs to be redefined and its function within a wide range of environmental management tools, needs to be reassessed.

In New Zealand the integration of EIA and planning at both the project level, through consideration of resource consents, and in the development of policies and plans at all levels has been successful (Dixon, 1994).

Action 8.4 "Establish a commitment to the principles of sustainable society in constitutional or other fundamental statements of national policy".

Source: IUCN/UNEP/WWF, 1991.

The IUCN/UNEP/WWF (1991) suggests that to achieve the goal of sustainable development, governments should incorporate the principles of sustainable society in their constitutions. In addition, it is recommended that governments protect the rights of their citizens, safeguard the interests of the present and future generations, conserve their country's natural resources and promote full public participation in decision making processes.

Box 2.4 Ideal Characteristics of the principles of sustainable society

- * protection of natural resources to provide for socio-economic and cultural well-being of the people;
- * protect needs of present and those of future generations;
- * protect life support systems of natural resources and ecosystems.

Action 8.5/6 "Establish a comprehensive system of environmental law and provide for its implementation and enforcement".

Source: IUCN/UNEP/WWF, 1991.

The significance of establishing a comprehensive system of environmental legislation as suggested by Caring for Earth Strategy and implemented and enforced by governments provides for the regulation of the life-support systems for sustainable economic development. According to Jain (1994) there is increasing demands for the reorganisation of management, administrative and enforcement of environmental planning policies. Jain (1994) argues that investment decisions rarely take into account long-term protection of the life-support systems which belong to everyone - a common property.

The IUCN/UNEP/WWF (1991) suggests that government should use the legal system that provide for the use of incentives and disincentives for the protection and regulation of the environment. De Klemm (1985) cites different forms of incentives as follows:

- * reductions in the taxable value of land when conservation restrictions are implemented, as for instance under a management agreement,
- * reduction or exemption from capital transfer taxes for lands donated to the Conservation organisations,
- * deduction from income tax of the value of these donations, exemption from land taxes, or
- * tax credits for certain lands where the landowner has agreed to maintain them in their natural state (see action 8.5).

Regarding the use of incentives as suggested by the IUCN/UNPE/WWF (1991) for protection of natural resources, De Klemm (1985) points out that subsidies and substantial tax incentives, aiming at agricultural development, are certainly a major factor in the destruction of the natural environment on private lands. These incentives are the consequences of price supporting and agricultural structural policies, the maintenance of which is of considerable economic and political importance.

Buckely (1990) maintains that systematic environmental impact audit provides a means for the public to evaluate the competence of government in controlling the environmental impacts of development; both at the planning stage through competent assessment of EIA documents, and during operating phases through competent supervision of environmental monitoring and enforcement of environmental regulation, (see Action 8.5).

The establishment of a comprehensive policy can constitute a central role in the protection of biologically important areas through land-use regulation. De Klemm (1985) suggests the following objectives (see Box 2.5) for an integrated, comprehensive policy for the protection of biologically important areas:

Box 2.5 Protection of biologically important areas

At the national level

- * Removal of the legal and fiscal impediments that hamper genetic resource conservation;
- * Promotion of inventories and monitoring of natural and semi-natural areas and developing a methodology to measure the depletion of genetic resources and to prepare periodic reports on the state of the natural environment;
- * Development of land-use planning techniques, controls and incentives to preserve areas of particular biological significance;
- * EIA would be made applicable to agricultural and silvicultural developments;
- * Establishment of a system to equalise the financial burden of municipalities or private land owners who would have to forego development opportunities for conservation reasons.

At local level

- * Development of local rural management plans based on local detailed inventories and registration, possible on the official land register, of natural features to be preserved;
- * Provision of ecological guidelines to mitigate the effects of agricultural development on genetic resources;
- * Integration of conservation advice into rural advisory or extension services;
- * Combination of restrictions to resource uses with incentives to preserve.

On Public Lands

- * Establishment of wilderness roadless areas, where it is still possible to do so;
- * Development of multi-use management policies for public forests providing, in particular, for genetic resource reserves;
- * Development of conservation policies by means of the establishment of small conservation units within the land-managing departments themselves

The IUCN/UNEP/WWF (1991) suggests that governments should review the legal and administrative controls so as to incorporate indigenous peoples resource management systems and laws. Richardson et al (1994) offers a good example from Canada in terms of recognising the rights of indigenous peoples for the management of natural resources by linking the core objectives of regional agreements between indigenous peoples and the Canadian government (see Box 2.6).

Box 2.6 Core objectives of regional agreements between indigenous peoples and the Canadian government

- 1) Define a new legal and political relationship between themselves and the Canadian governments (the federal government and the relevant provincial governments).
- 2) Establish a framework concerning access to and use of land and resources that accommodates the needs of indigenous peoples and other interests.
- 3) Preserve and enhance the cultural and social well-being of indigenous societies.
- 4) Enable indigenous societies to develop self-governing institutions and economic bases which will assist them to participate effectively in decisions which affect their interests.

The assessment of government legal instruments and administrative controls can establish institutional structures and enforcement mechanisms for a more equal and constructive partnership between traditional societies (Richardson et al, 1994).

"The revised policy acknowledges the need for greater participation in environmental management in settlement areas. Indigenous peoples are to share in government bodies that have decision-making powers through the negotiation of new institutional frameworks for managing natural resources, in which governments and indigenous peoples are to be equally represented" (Richardson et al, 1994:327).

In New Zealand, the Resource Management Act 1991 deals with the integration of natural resource use, planning and protection within one comprehensive legislative and administrative structure. The Act also provides for consultation between the government, the private sector and the public who may be affected by plans and policy statements, or projects.

Grilinton (1994) states that legislation provides for the central government to formulate "National Policy Statements " and New Zealand Coastal Policy Statements" which are involved with national resource management and environmental protection. In addition, he maintains that the central government also provides "National Environmental Standards", setting minimum air, water and soil quality and noise emission standards and provide for enforcement (Appendix A1.1.3) (see Boxs 2.7 and 2.8).

Box 2.7 Ideal Characteristics of comprehensive environmental law

- * act as an instrument of reorganisation in management, planning, administration, enforcement of land-use, environmental protection and resolution of environmental protection;
- * provide for enforcement of the use of incentives and disincentives to prevent environmental degradation brought by agricultural activities;
- * remove legal and fiscal policies that are likely to have an impact on natural resources;
- * enforce preparation of periodic reports about the state of natural resources;
- * provide the basis for development of land-use planning methods, control mechanisms and incentives;
- * provide for undertaking of environmental impact assessment on agricultural development activities;
- * provide for the formulation of local management plans and policies for the preservation of natural resources;
- * provide for the development of ecological guidelines to assess effects of agricultural activities on the environment;
- * provide for coordination of conservation advice into regional and local advisory bodies;
- * provide for strict requirements for natural resources utilization.

- * establish institutions and economic structures for indigenous peoples to enhance their participation in decision-making processes concerning the management of natural resources.

Box 2.8 Ideal characteristics of strategic environmental assessment

- * application of strategic environmental assessment (SEA) to evaluate policies, plans and programmes about their likely impacts on the environment;
- * need to apply project EIA to strategic tiers of decision-making;
- * consider the consequences of a number of actions earlier on in the planning stage of a project.

**Action 8.8/9 "Use economic policies to
achieve sustainability".**

Source: IUCN/UNEP/WWF, 1991.

Governments should adopt and implement economic instruments to encourage environmentally positive behaviour and investment. The control-and-command tool (or comprehensive planning and regulation is viewed as cumbersome and cost-ineffective and inhibiting to industrial development.

The Caring for Earth Strategy suggests that the use of economic instruments in environmental planning and management is essential in encouraging environmentally positive behaviour. The prerequisite for efficient and effective environmental control is highly dependent on good information about the cause and the rate of the degradation of natural resources. One of the economic instruments that have been developed for environmental protection is discussed below.

One of the economic instruments developed in an effort to achieve sustainability, is the Polluter Pays Principle. The Polluter Pays Principle entails the removal of conflicting differences between private and social costs. For example, an industry can use a river to dispose of its waste products. The absence of any regulatory control will mean that the river is free and the industry can dispose of its wastes freely. According to the IUCN/UNEP/WWF

(1991) the objective of the Polluter Pays Principle require any economic activity undertaken by industry or private individuals to pay for environmental damage arising from pollution.

Meister (1990) argues that charges should be set, as discussed above, at the estimated marginal cost of human, biological and environmental damage produced by extra unit of pollution (i.e. the marginal external cost). Furthermore, Meister asserts that when used in this way, the charging scheme attempts to alter the level of pollution towards an economic and environmental optimum.

Deposit-Refund Systems are considered to be a better instrument when applied to compensate for environmental degradations resulting from mobile sources (e.g., disposal of aluminium cans). Turner et al (1994) maintains that deposit refund systems involved a deposit paid on potentially polluting products. If products are returned to some authorised collection point after use, thus avoiding pollution, a refund is paid, (see Action 8.8/9).

The objective of issuing permits to polluters is to allow them to pollute up to a certain prescribed optimal level. Tradeable permits have been viewed as incentives for industries to meet environmental standards in the most cost effective way, (see Action 8.8/9). Meister (1990) maintains that once a standard has been set and permits issued, then a market can be established in which these permits can be traded (i.e. bought and sold).

In New Zealand, economic instruments are also used as methods to achieve desirable environmental results. Examples include the use of tradeable permits and a charging or incentive scheme, or Polluter Pays Principle. Another popular economic instrument used is the "water-bubble". The water-bubble instrument implies that several users purchase the right to discharge to a specific zone within overall standards of emission. According to Rosier (1994) the problem of applying this technique is that new dischargers are disadvantaged if standards are raised without increasing penalties for existing discharges. Secondly, there is the problem of changing this practice if long term monitoring indicates that there are adverse effects (Appendix A1.1.1.4). In New Zealand, further problems arise from the dispersed nature of polluting industries throughout the country.

In addition, Rosier (1994) maintains that the Resource Management Act 1991 and the Local Government Act 1974 do not provide regional councils with the powers to implement economic instruments. Box 2.9 refers to strengthening of economic instruments.

Box 2.9 Ideal Characteristics of economic instruments for environmental protection

- * to restructure markets to induce environmentally friendly behaviour of the polluters;
- * integrate use of environmental resources into economic sphere by using price signals;
- * to encourage polluters to adjust to environmental quality standards.

Action 8.10 "Strengthen the knowledge base, and make information on environmental matters more accessible".

Source: IUCN/UNEP/WWF, 1991.

The literature on environmental information addresses the question of why industry and the government lack trust and credibility among the public. The public view the industry and the government as least trusted sources of information about environmental exposure to chemicals and pollution (Kulluru, 1993). In addition, he maintains that people view the industry and government as unwilling to share information and unwilling to allow full public participation on environmental information. Moreover, coordination between authorities is inadequate and this lack of integration has undermined public faith and confidence in the industry and the government (Kulluru, 1993).

The IUCN/UNEP/WWF (1991) suggests that governments should make information on environmental matters accessible to the public, review research institutions and inform the public about environmental risks that may affect them. Furthermore, to promote consistency in approaches, the IUCN/UNEP/WWF (1991) suggests that institutions involved in research should work in an integrated fashion to develop standards and protocols to ensure the compatibility and transferability of environmental information between databases.

One of the objectives of the IUCN/UNEP/WWF (1991) is the conservation of biological diversity. McNeely et al (1990) argues that effective action in this area must be based on accurate information. The more widely shared the information, the more likely it is that individuals and institutions will agree on the definition of problems and solutions. Developing and using information is therefore an essential part of conservation at all levels, from the local to the global community.

The importance of environmental information is that, it can assist research agencies about biological resources with the necessary knowledge about the needs and desires of the communities living in the region, it can also help to avoid conflicts when implementing incentive systems for conservation. Thus, this will enable governments to consider results of their development activities on natural resources, ensure that negative externalities of development projects on biodiversity are clearly identified.

For effective management of natural resources, governments require appropriate information about the status and trends of biodiversity in their countries. However, availability of information does not mean just carrying out surveys and publishing results. The information must be used. This may include creation of a network of centres at local, national, and international levels that know what information is available and how it can be used. McNeely et al (1990) warns that one extremely rich resource of information about resource management which is usually ignored by decision-makers and

scientists is the knowledge of local people whose livelihoods depends on their management of biological resources. Rural communities also have a detailed knowledge of the ecosystems and species with which they are in contact and have developed effective ways of ensuring they are used sustainably. That information should be collected, especially in the tropical countries.

According to McNeely et al (1990) local cooperation is essential for the long-term success of conservation efforts and it is usually advisable to undertake a socio-economic survey of the communities affected by projects that involve controlling use of resources. The survey should determine what resources are used, how they are harvested, the degree of awareness about controlling regulations, and possible alternative sources of income.

The literature on environmental information flow maintains that resource planners and policy makers should not deal with incoming information in fragmented manner. Standards for presenting and managing environmental information in an integrated should be set. Appropriate management of environmental information at the local level would assists the resources planners and managers. McNeely et al (1990) asserts that local planners need information to be integrated on a geographical basis, which enables local land-use plans to be prepared, appropriate permits to be issued, and planning restrictions to be enforced.

Action 8.10, illustrates the need for governments to establish national conservation databases that contain detailed information about natural resources. This will enable governments to have an insight of any location of natural resources and to share information on a national and international level. The national department most suitable to establish and maintain a national conservation database is a national institution already active in the data management business. Furthermore, McNeely et al (1990) argues that conservation data must be integrated with agriculture, forestry, fisheries, land use, soil, climate, human settlement, and that data sets should be of practical value to the resource planner.

The Resource Management Act 1991 requires the provision and maintenance of environmental information to enhance public awareness. For example information is also important for changing people's attitudes about the coast and the need for the public to protect the coast for the present and future generations (Rosier, 1994). Furthermore, the Resource Management Act 1991 requires information to be written in such a way that it will be accessible to New Zealand indigenous peoples (Maori). In addition, the information should be managed in an integrated manner (see Box 2.10).

"Local authorities are required to gather information to understand the "state of the environment" in the area, and to understand the effectiveness of methods in achieving desired environmental results. An additional component of information gathering process is that local authorities will be able to prioritise information demands and be selective about the type of information which is needed and the timescale for monitoring" (Rosier, 1994: 3).

Box 2.10 Ideal Characteristics of environmental information

- * establish ecological guidelines systems for resource management;
- * establish network centres of environmental information at local, national and international levels;
- * coordinate environmental information on geographical basis;
- * share and exchange information with other centres (both national and international);
- * create national databases, to identify, establish and support a national institution for information management;
- * transfer environmental information to government department and agencies for planning natural resource development;
- * integrate conservation information with agriculture, land use, soil, climate, forestry, fisheries and human settlement;
- * collect of environmental information to determine how indigenous peoples manage natural resources;
- * carry out a socio-economic survey of the people affected by development projects controlling utilization of natural resources;
- * disclose environmental information about the effects of activities involving chemicals and pollution to the public for inspection;
- * review environmental impacts of development projects;
- * monitor status of natural resources affected by development activities.

CONCLUSIONS

This chapter has illustrated the criteria derived from the IUCN/UNEP/WWF (1991), Agenda 21, the New Zealand Resource Management Act 1991 and a range of theorists. Review has considered the issue of integrated environmental management systems and information requirements. The criteria will be later used to evaluate the Paper, submissions on criticisms of the White Paper and the proposed Integrated Environmental Management procedure in South Africa.

The suggestions in boxes 2.1-2.10 will be used throughout the following chapters assist in drafting an ideal integrated environmental system for South Africa. The suggestions will also be utilized to recommend changes to the current South Africa environmental management system.

The following chapter will present an overview of the South African environmental management system with a specific focus on the White Paper, submissions on criticisms of the White Paper and the proposed Integrated Environmental Management procedure for South Africa.

CHAPTER THREE

AN ANALYSIS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT SYSTEM FOR SOUTH AFRICA

INTRODUCTION

One of the aims of this thesis is to clarify current development of a new South African environmental management system. The South African environmental management system is receiving increased attention at strategic policy levels, because the government has recognised the need to formulate an effective national environmental management system to address ecological problems in South Africa. The formulation of the 1993 White Paper as a policy statement on a National Environmental Management System for South Africa has stimulated wide debate about environmental management.

This thesis argues that the White Paper falls short in its quest to develop an integrated environmental management system to achieve sustainable management of the natural and physical resources in South Africa. The submissions criticising the White Paper also highlight its inadequacies. However, they also fail in progressing far enough to provide suggestions for the formulation of an integrated environmental management system.

Industry and conservation bodies who submitted their criticisms on the 1993

White Paper, are as follows: KwaZulu Bureau of Natural Resources, Southern African Nature Foundation, Mining and Industry, Department of Roman Law and Legal Pluralism (University of Potchefstroom), Industry and Commerce Sector, and the Department of Geography and Environmental Studies (University of Potchefstroom).

This chapter describes the previous South African environmental management system, the White Paper, submissions criticising the White Paper and the Integrated Environmental Management procedure. The criteria derived from the IUCN/UNEP/WWF (1991), Agenda 21, the New Zealand Resource Management Act 1991, and the literature about integrated environmental management system presented in Chapter Two, offer suggestions for drafting an effective integrated environmental management system. In addition, a matrix is developed to critique both the New Zealand Resource Management Act 1991 and the South African environmental management provisions (Appendix A5.5.1).

A matrix referred to in (Appendix 5.5.1) is developed by using the recommended national actions from the IUCN/UNEP/WWF (1991) and the criteria from Agenda 21 to compare the New Zealand Resource Management Act 1991 and the South African environmental management system with specific reference to the 1993 White Paper. The objective of the matrix is to examine and highlight the strength and weaknesses of the White Paper and suggestions from the New Zealand Resource Management Act 1991 that could be used for drafting the ideal integrated environmental management system for South Africa.

ENVIRONMENTAL MANAGEMENT IN SOUTH AFRICA

Historically, management of the environment in South Africa has been based on apartheid, authoritarian conservation practices. The previous government and non-governmental establishments continue to play a central role protecting and conserving nature species, wilderness areas, animals and environmentally sensitive areas. But previous governments and conservation authorities have been less concerned about the negative impacts of conservation programmes, plans, and policies on black communities living near affected areas. For example, the establishment of parks for wild animals or for tourism purposes, resulted in removal of local people from their lands, in addition with the loss of arable land and grazing land to wildlife management.

Two examples suffice to illustrate the displacement of rural communities by conservation authorities. The first surrounds the attempt by the National Parks Board to remove rural communities in the Richtersveld to establish a park for conservation. Secondly, Ramphele (1991) states that, in 1991 the KwaZulu government was locked in conflict with indigenous peoples of Kosi Bay, on the Natal coastline, over the establishment of nature park in the area (see Figure 4.1 in Chapter Four).

Furthermore, South African environmental management has been characterised by a wide range of complicated statutes concerned with managing the country's physical and natural resources. For example, Cock (1991) asserts that South

Africa has a long history of apartheid-based authoritarian conservation management. Successive governments have done a lot to protect wilderness areas and rare species of plants and animals, but often at the expense of human rights and dignity. While there has been concern for the survival of exotic and spectacular creatures like the black rhinoceros, human beings have seemed to be expendable. In addition, Ramphele (1991) comments on fragmentation and the conservative nature of environmental management in South Africa, pointing out that, historically, the approach to ecological concerns has reflected the interests of the privileged white sector of the South African society.

Conservation of the environment in South Africa is managed within a large number of statutes. These statutes have previously comprised Parliamentary Acts, ordinances, local by-laws and Ministerial regulations. There are more than 150 of these acts which may be categorised into four types:

- * those concerning the natural environment;
- * pollution;
- * built environment; and
- * cultural environment (Fabricius, 1994:24).

South African common law, which is rooted in Roman law as well as the law of seventeenth-century Holland, contains no body of environmental law (Glazewski et al, 1991). There are a large number of statutes which are directly or indirectly concerned with environmental conservation (Appendix A6.6.1).

The Environment Conservation Act (73 of 1989) is criticised by Glazewski et al

(1991) as being inefficient because its operations are entirely dependent on the Minister of the Environment, who exercises enormous powers. Moreover, the implementation of the Environment Conservation Act is hampered by the fact that the Department of Environment Affairs has not passed any regulations to guide enforcement and control as intended in the Act.

Furthermore, the Act provides for Environmental Impact Assessments (EIA). Glazewski (1991) argues that in many countries, EIA's are a compulsory component of project assessment. The Act does not make EIA's compulsory but grants the Minister discretion to demand an EIA in certain limited circumstances (Glazewski et al, 1991). For instance, the Minister of the Environment Affairs has not required an environmental impact assessment for the large scale dune mining at St Lucia.

To illustrate the limitations of the Minister in demanding EIAs, Avis (1994) asserts that, regional and local authorities seem to be of the opinion that any development they undertake is exempt from EIAs. For example, the electrification of the Council resort at Maitlands River mouth and the development of new informal settlement near East London by local regional services councils did not have EIAs done.

Glazewski et al (1991) maintains that the Environment Conservation Act has not been effective in providing for a Board of Investigation. The original idea was that the Board allowed for greater public participation in environmental disputes,

where there is increased public opposition to certain projects. However, the Board can only be convened at the discretion of the Minister, who has not taken the initiative to do so in the two years following the gazettal of the Act (Glazewski et al,1991).

Environmental problems also affect the public in addition to private individuals (Glazewski et al, 1991). However, in South Africa the legal system has protected private, individual rights at the cost of protecting public interest. Public interest rights have not been a major issue in South African courts, with the exception of Criminal Law.

South African environmental legislation does not provide greater public access to official information concerning environmental risks. Therefore, the public has developed a mistrust and lack confidence in the previous government because environmental information is in the hands of government departments and industry. For example:

"Central to the battle for a safe working environment are two crucial democratic rights: information and control. These rights are not restricted to a workplace, but are pillars of any democratic society. Workers and the public need to know the dangers to which they are exposed. They need to be party to any decisions that entail risk to society as a whole. There should be a collective choice as to what is actually a socially useful product, and the risk which are acceptable. This presupposes the right to know, and the right to act and the right to refuse to perform unsafe work" (Chemical Workers Industrial Union, 1991:80).

Environmental Management Policies in South Africa

Fabricius (1994) argues that despite the Environment Conservation Act (1989) provisions for the establishment of a statutory environmental policy, no such a policy has as yet been put into practice. Two initiatives are specifically relevant to the formulation of national environmental policy. These two initiatives are identified by Fabricius (1994) as the previous President Council's report regarding a national environmental management system published in October 1991 (Republic of South Africa, 1991) and the previous Government White Paper on a national environmental management system for South Africa (Department of Environment Affairs, 1994).

The previous President's Council Report on a national environmental management system

Fabricius (1994) maintains that the report by the President's Council was compiled after a request by the previous State President to investigate policy aspects pertaining to a National Environmental Management System and make recommendations concerning such a system. Appendix A4.4.4, contains a number of recommendations concerning the rationalization of environmental legislation as a precondition for the formulation and implementation of a National Environmental Management. The report proposes an environmental management system based at central authority level. The responsible government agency is the Department of Environment Affairs, consisting of five

branches, Pollution Control, Marine Resources, Weather Bureau, Environmental Conservation, and finally Planning and Management. Each branch will consist of between two and five directorates, all of which have a biophysical mission. The directorate most associated with changes to the human environment would be the existing Directorate: Environmental Planning.

Fabricius (1994) argues that the report employs a narrow definition of environment namely that environment is the whole of the physical, biological and cultural circumstances which influence the life of an individual or community. The state of the biophysical environment is regarded as an important determinant of the quality of life of any community, and a healthy environment is the resource base for healthy socio-economic development. This definition clearly lacks a systems approach, since the biophysical and socio-economic environments are regarded as separate entities, the quality of the latter being subordinate to the status of the first (Fabricius, 1994). Socio-economic status is simplistically accepted as being determined by the status of the physical environment, while interaction between these elements of the environmental system is ignored. In fact, the report clearly states, that the environment is the habitat of fauna and flora, and that the health of the natural communities as well as humans are dependent upon environmental conditions (Fabricius, 1994).

While the President's Council report addresses a wide variety of biophysical management aspects such as soil, water, the atmosphere, fauna and flora, waste management and general environmental management and education, the

management of socio-economic is not at all dealt with. The report recommends that high priority should be given to the declaration of an environmental policy. However, if such a policy is based on the Council's findings it could be expected that the socio-economic environment will not received high priority (Fabricius, 1994).

The White Paper: A policy on a National Environmental Management System for South Africa

The Government White Paper Policy on a National Environmental Management System for South Africa WP 13-1993 was tabled in Parliament in March 1993 by the Department of Environment Affairs. The White Paper was published in response to the President's Council Report on a National Environmental Management System that was published in November 1991 (Report of the three committees of the Presidents Council on a National Environmental Management System [PC1/1991] (Olivier, 1993).

Objectives of the White Paper relevant to this thesis

A copy of the White Paper is contained in Appendix A3.3.1. The White Paper envisaged 26 goals of which a summary of the following are significant for the purpose of this thesis:

- * Compilation of national guide plans, incorporating the application of environmental Impact studies.

- * Development of measures in respect to land use planning to ensure the conservation of ecologically sensitive areas such as grasslands, vleiland and coastal zone etc.
- * Planning of forestry, mining, industrial and transport projects to minimize negative on the impacts environment and improve rehabilitation, by applying the holistic principle of IEM (Integrated Environmental Management).
- * Conservation of cultural resources as an integral part of environmental management.
- * Development of an inventory of conservation areas, provision of land for conservation and the implementation of a national nature conservation plan, with environmental benefits.
- * Development of legislation to ensure the effective implementation of environmental management.

The Structure of the South African National Environmental Management System

In its quest to establish an effective environmental management system, the White Paper advocates the centralization of a number of environmental management functions based on, global, national, regional and local levels. The White Paper also shows that environmental management functions should be devolved to regional and provincial governments. However, norms, standards and procedures will be formulated by the central government to guide implementation by regional and local levels of governments.

Environmental functions, according to the White Paper should be based at the national, provincial or regional, and local levels.

THE CRITICISMS OF NON-GOVERNMENTAL ESTABLISHMENTS ON THE WHITE PAPER

KwaZulu Bureau of Natural Resources (KBNR)

The KwaZulu Bureau of Natural Resources (KBNR) is a local conservation body in the KwaZulu/Natal province. In its mission statement the Bureau recognises the fundamental interaction of people, resources and environment in its mission statement. The Bureau also promotes a conservation ethic that is based on community and individual responsibility and accountability for the integrity of the environment (Appendix A4.4.1).

Steel (1993) a representative of the Bureau states that the White Paper emphasises a holistic view of management of Game Reserve even though it ignores African community views and needs. Those communities do not take part in decision making concerning management of Game Reserves and that the style of conservation management practised by the White Paper has not been practical and will not work in future. However, Steel (1993) does not offer alternative guidelines or suggest actions for the development of a regional strategy for the conservation of wildlife resources that would be consistent with the needs of the African communities living in the region. In addition, Steel (1993) supports the White Paper regarding the need for the establishment of conservation regions for conservation, by suggesting a framework for regional conservation strategies.

Southern Africa Nature Foundation

The Southern African Nature Foundation (SANF) was established 1968 by Dr Anton Rupert as a professional fund-raising body to supervise the funding of highest priority conservation project on behalf of the business community (SANF, 1993) (Appendix A4.4.2). SANF is a self-financing organisation. It operates as the Southern African branch of the Swiss-based World Wide Fund for Nature (WWF), the world's leading non-governmental conservation body (SANF, 1993).

Hanks (1993) presents SANF's criticisms against the White Paper and raises confusion surrounding the issue of consultation mentioned in the document and the reality of the proposals. His argument centres on the question of lack of consultation with black communities when drafting the White Paper. However, Hanks (1993) does not offer methods to promote consultation among Black, Asian and Coloured Communities and increased participation in drafting the White Paper.

Another criticism of Hanks (1993) focuses on the issue of conservation of biological diversity. Hanks (1993) argues that the national nature conservation plan must be given a high priority for a specific year. Even though Hanks criticises the White Paper on the question of conservation of biodiversity, he does not provide the White Paper with guidelines to protect biological diversity in South Africa.

A Mining Industry View

Wagner presents the views of Mining and Industry which espouse the concept of the Environmental Management Report (EMPR) (Appendix A4.4.3). The guiding principles of the Mining Industry for environmental conservation are summarised as follows:

- * a holistic approach;
- * integrated environmental management;
- * balance between development and environmental conservation;
- * practice of self-regulation;
- * rationalization of existing environmental legislation;
- * administration of environmental legislation by a single agency;
- * BATNEEC (best (proven) available technology not entailing excessive cost);
- * need for consultation;
- * acceptance of the user pays principle;
- * rejection in increase in bureaucratic structures.

Wagner (1993) on behalf of the Mining Industry criticises the nature of public participation pointing out that, even though the Chamber accepts the principle of participation, this may result to public opposition to development projects. Furthermore, Wagner (1993) criticises the extension of the Chief Directorate of Environmental Conservation and the creation of functional components to address land and resource utilization, urban and coastal areas and the promotion of the existing town and regional planning systems. He suggests that the proposed functional components of the Act go beyond the powers of the relevant departments and the *ultra vires*.

These powers and the other relevant departments are listed by Wagner (1993) as follows:

- * agricultural land is the responsibility of the Department of Agriculture;
- * water is the responsibility of the Department of Water Affairs;
- * minerals is the responsibility of the Department of Minerals and Energy Affairs (DMEA);
- * rehabilitation of land disturbed by mining resides in the Department of Mining and Energy Affairs (DMEA);
- * land disturbed by road, rail and airport is the responsibility of the Department of Transport;
- * land disturbed by dam construction is the responsibility of the Department of Water Affairs and Forestry.

The implications for transferring these functional components to the various relevant departments, would, if the government agreed, limit the powers of the Department of Environment Affairs and places power in ministries which may be more sympathetic to industry.

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Olivier's (1993) criticism of the White Paper deal with the diversity of legislation dealing with conservation in South Africa (Appendix A4.4.4). Furthermore, Olivier (1993) asserts that integrated environmental conservation system in South Africa is needed. According to Olivier, all South African legislation pertaining to national, provincial and local levels of environmental management should be rationalised and attention has to be focused on the fragmentation of functional authorities. Olivier does not provide suggestions that can be used in the formulation a comprehensive legislative framework for conservation of the environment, implementation of programmes providing for rationalization of all South African legislation pertaining to environmental management and the

fragmentation of functional authorities.

Industry and Commerce Sector

The Industry/Commerce Sector's views on the White Paper were presented by Neethling, the President of the Packaging Council of South Africa. This body embraces a number of industries involved in packaging for example, raw material suppliers, converters, bottlers and fillers (Appendix A4.4.5).

Neethling (1993) on behalf of the Commerce/Industry Sectors criticises the White Paper on the question of incentives and penalties. Neethling (1993) maintains that the White Paper is clear on the question of penalties in the form of fees, fines and levies, but is confusing when attempts are made to link incentives to other economic measures or instruments. However, Neethling (1993) does not provide guidelines how incentives can be linked to related economic instruments for environmental protection.

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In his criticisms against the White Paper with reference to the proposed Integrated Environmental Management, Nel (1993) argues that it is better positioned as a planning and decision making tool, than an approach to comprehensive environmental management, as is also implied by its name:

'integrated environmental management'. It is suggested that these limitations are inherent to IEM, and should be explicitly addressed in a document such as the White Paper in order to prevent any misconceptions about the real potential for integration (Appendix A4.4.6).

Furthermore, Nel (1993) maintains that the explicit reference in the 1993 White Paper to IEM as the only appropriate tool to achieve sustainable management is both conceptually and substantively problematic. Sound environmental development principles and procedures, are also synonymous with comprehensive environmental management, as is implied by both the White Paper of 1993, and the name integrated environmental management.

Nel (1993) supports his criticisms against the White Paper with reference to Integrated Environmental Management (IEM) procedure as follows:

- * information feeding process;
- * White Paper opt for comprehensive environmental management system;
- * term IEM, not appropriate;
- * needs integration; and
- * the term IEM is misleading.

Nel (1993) suggests adoption of the Total Environmental Management (TEM) as a solution to address the problems of the Integrated Environmental Management (IEM).

An ideal system of Total Environmentalist management has the following characteristics (Box 3.2).

Box 3.2 Summary of the characteristics of the Total Environmentalist Management approach

- * It is **comprehensive**;
- * It is fully **integrated**;
- * It facilitates introduction of suitable **systems and programmes, measurement** of performance levels, and change in **value and belief** systems;
- * It is **holistic**;
- * It provides for identification of a variety of auxiliary systems, impact of activities on the achievement of sustainability by means of coperalational plans, strategic, programmes, procedures, and guidelines for the prevention of non-compliance;
- * It facilitates the recognition of and maintenance of an organisation's **responsibility** and **environmental ownership**;
- * It is supportive of the concept of **total quality**;
- * It is aligned with **occupational health and safety** programme.

**THE PROPOSED INTEGRATED ENVIRONMENTAL
MANAGEMENT PROCEDURE IN SOUTH AFRICA**

The concept of Integrated Environmental Management, accepted by the previous President's Council Report is a basis to achieve sustainable development. The White Paper (1993) defines Integrated Environmental Management as a procedure to ensure that environmental considerations are efficiently and adequately integrated in all the stages of the development process. According to Nel (1993) Integrated Environmental Management comprises

environmental resource allocation from conceptualization, planning and the monitoring of results. Nel (1993) asserts Integrated Environmental Management is defined as a philosophy which prescribes a code practice for ensuring that environmental considerations are fully integrated into all stages of the development process in order to achieve a desirable balance between conservation and development.

The White Paper (1993) maintains that EIA, is usually inherent to IEM procedure and is a tool to determine and evaluate provable changes to the socio-economic and physical environment which may result from a proposed or pending activity.

The Basic Principles of Integrated Environmental Management (IEM)

In brief, Integrated Environmental Management ensures that incorporating environmental considerations into decision making is achieved. A participatory approach of the public and specialist input during the stages of the development process.

Nel (1993) argues that IEM procedures contain procedural requirements which have been developed by international experience with EIA, or environmental impact assessment. The Integrated Environmental Management procedures are formulated in order to achieve the following objectives:

- * enforce compliance to the procedural elements of IEM;
- * force action by everybody having significant impacts on the environment, and to;
- * increase the accountability of decision makers by opening up the decision making processes to also include all the interested and affected parties (Nel, 1993).

The Procedure of the Integrated Environmental Management (IEM) for South Africa

The Integrated Environmental Management procedure is divided into a plan and assess proposal, decision and implementation stages (Figure 3.1).

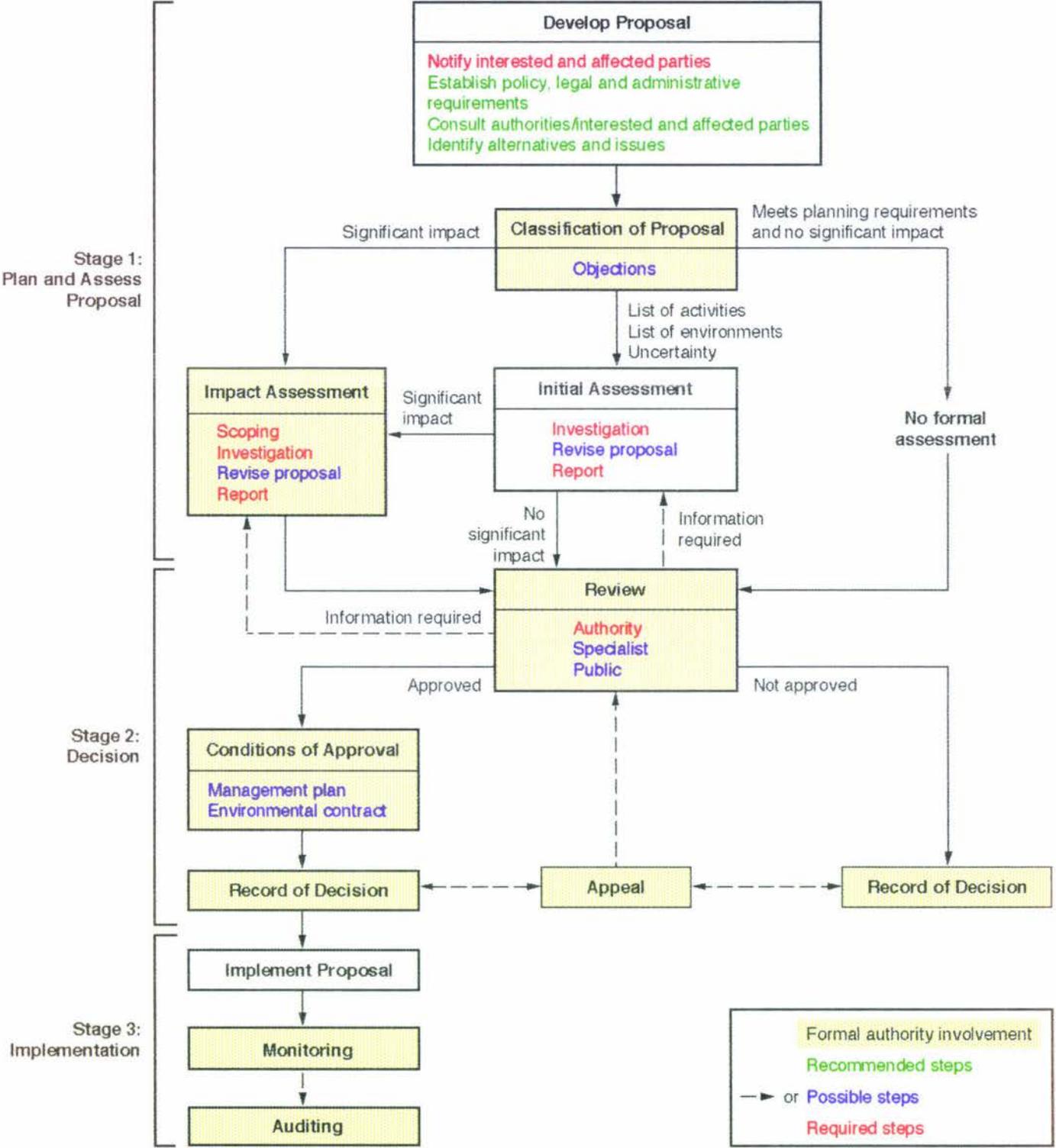


Figure 3.3 Integrated Environmental Management Procedure in South Africa
Source: S.A. Department of Environmental Affairs (1992)

The Plan and Assessment Proposal Stage

The development proposal stage starts by streamlining the decision making processes, notifying and consulting with interested and affected parties and authorities, considering alternatives and establishing policy, legal and administrative requirements.

In the proposal classification phase, a list of activities, a list of environments and summary of list of environmental characteristics are provided to aid in determining whether the proposal follows the impact assessment, initial assessment or formal assessment route. The task of classifying the proposal is undertaken by the project proponent, environmental consultants and the relevant authorities by consulting interested and affected parties. If the initial conclusion, confirms there will be significant impacts, an investigation would then be undertaken by using the principles of environmental impact assessment (EIA) which are as follows:

- * scoping: to determine the extent and approach, procedure, alternatives and matters to be investigated;
- * investigation: guided by scoping decisions provide authorities with information to make a decision;
- * report: should be based on the guidelines for report requirements established on the outcome of scoping.

The Decision Stage

The decision stage of the Integrated Environmental Management comprises a review of environmental reports which needs to be reviewed. The decision of approval may be set in accordance with requirements contained in the management plan. The authority must prepare a record of decision explaining

the involvement of environmental considerations. An opportunity for appeal to this authority or a court of law is provided (Avis, 1994).

The Implementation Stage

Finally, on approval, the develop proposa2l may be implemented. The monitoring programme includes guidelines for associated activities to be carried. Audits should allow for periodic assessments of the positive and negative impacts of proposals so reassess the activities of the projects activities are reassessed throughout, during the implementation stage.

CONCLUSIONS

The discussion in this chapter has highlights the authoritarian and conservationists practices which have characterised the previous South African environmental management system. The chapter also refer to the fragmentation of the South African environmental management system illustrated by a wide range of statutes concerned with environmental management and conservation.

Glazewski et al (1991) comments about the lack of the Environment Conservation Act 1989 with respect to its implementation to enforce regulation and control. Furthermore, he argues that the Act is limited in the sense that it does not make EIA compulsory. According to Glazewski et al (1991) the Minister of Environment only calls for the application of EIA within limited areas. For

example, the Minister did not require the application of environmental impact assessment to assess the likely adverse effects of dune mining at St Lucia (Figure 3.). In addition, Glazewski et al (1991) also believes that the Act does not provide full public participation, particularly with respect to black communities in decision-making regarding environmental matters.

The criticisms of the White Paper presented by participants at the 1993 Conference illustrate the need to formulate a comprehensive environmental management system for the sustainable and development of the natural and physical resources in South Africa. However, their criticisms fall short of providing suggestions for improving the White Paper and formulate an effective integrated environmental management system.

Nel (1993) suggests that the limitations of the Integrated Environmental Management referred to in the White Paper need to be addressed in order to prevent the misconceptions about its real potential. According to him, the integrated Environmental Management will be more appropriate to function as an information feeding process rather than as a comprehensive, coherent and integrated environmental management system. The Integrated Environmental Management has been perceived by Nel (1993) as being inappropriate to implement the universal principles of sustainable development.

The following chapter will evaluate the White Paper, submissions criticising the White Paper and the Integrated Environmental Management with the criteria

derived from Chapter Two and the range of the literature on integrated environmental management.

CHAPTER FOUR

EVALUATION OF THE WHITE PAPER, CRITICISMS OF NON-GOVERNMENTAL ESTABLISHMENTS AND THE INTEGRATED ENVIRONMENTAL MANAGEMENT

INTRODUCTION

The criteria that will form the basis of an evaluation of the White Paper include the principles of the IUCN/UNEP/WWF (1991) and Agenda 21, the New Zealand Resource Management Act 1991 and the requirements emphasised by theorists in Chapter Two.

This chapter develops the argument that there is need for an effective integrated environmental policy for the management of the natural and physical resources as a goal to achieve sustainability in South Africa. It also shows that the current White Paper and the comments from industry and conservation interests have not progressed far enough towards integrated environmental management.

This chapter has been divided into three sections. The first section evaluates the White Paper. In the second part, the criticisms of non-government organisations to the 1993 White Paper, are evaluated. Finally, the third section of the chapter evaluates the potential Integrated Environmental Management (IEM) framework for South Africa is evaluated.

The suggestions drawn from the IUCN/UNEP/WWF (1991), Agenda 21, the Resource Management Act of New Zealand and those of theorists would be

referred later in chapter five and subsequent chapters to achieve the thesis aim and objectives.

ENVIRONMENTAL LEGISLATION IN SOUTH AFRICA

Reference is made in the White Paper to the question of the development of legislation for the effective management of the environment in South Africa. It states:

"Rationalise, consolidate and promulgate specific legislation to achieve certain environmental objectives. All legislation should, as far as possible, contain economic incentive measures, be enforceable and be aimed at achieving the sustainable utilisation of resources ..."(White Paper, 1993:13)

Commenting on the fragmentation of legislation in South Africa, Olivier (1993) states that such divergent legislative frameworks for the conservation of the environment needs to be addressed urgently with a view on the rationalization of environmental legislation and the introduction of an integrated environmental management system for South Africa. Furthermore, the capacity of the previous government to fulfil its responsibility in this regard was hampered (Avis 1994) because control over the environment has been fragmented and compartmentalized.

The lack of effective integrated legislation for the management of the South African environment has also been observed by Glazewske et al (1994) who believe that the ability of the legal system to provide satisfactory answers to environmental questions constitutes the litmus test of effective environmental law.

In the case of South Africa, there have been many shortcomings which require the urgent attention of the new legislature if the country's transformation is to take place in an environmentally desirable way (Glazewske et al, 1994).

In addition, previous environmental legislation did not recognise and enforce the rights of indigenous peoples in the management of natural resources. For example, the Centre for Community Organisation Research and Development (1994) maintains that colonial administration and subsequent apartheid practices have disrupted African communities social, economic and political structures traditionally responsible for planning, managing and conserving natural resources.

Regarding the above mentioned arguments, the IUCN/UNEP/WWF (1991) strategy suggests the establishment of a comprehensive environmental legislation that integrates customary rules and conventions for management of natural resources practised by traditional societies. The strategy also suggests that implementation and enforcement of environmental legislation should be acceptable to all members of society.

It have been realised that traditional societies should take part in government agencies that have decision making powers through the negotiation of new institutional frameworks for managing natural resources, in which governments and indigenous peoples are equally represented.

In South Africa, for instance, the case of Richtersveld illustrates the lack of the previous environmental legislation in decision making processes. For example, Boonzaier (1994) points out that a national park in the Richtersveld would be the first to recognise and incorporate the local people in its management and should be heralded as a major step forward in promoting the rights of indigenous populations in managing natural areas in South Africa.

In New Zealand the Resources Management Act 1991 requires the recognition of the relationship of Maori and their culture and traditions with their ancestral lands. (Appendix A1.1.4). Such a system provides a model for drafting legislation in South Africa.

CONSERVATION OF NATURAL RESOURCES

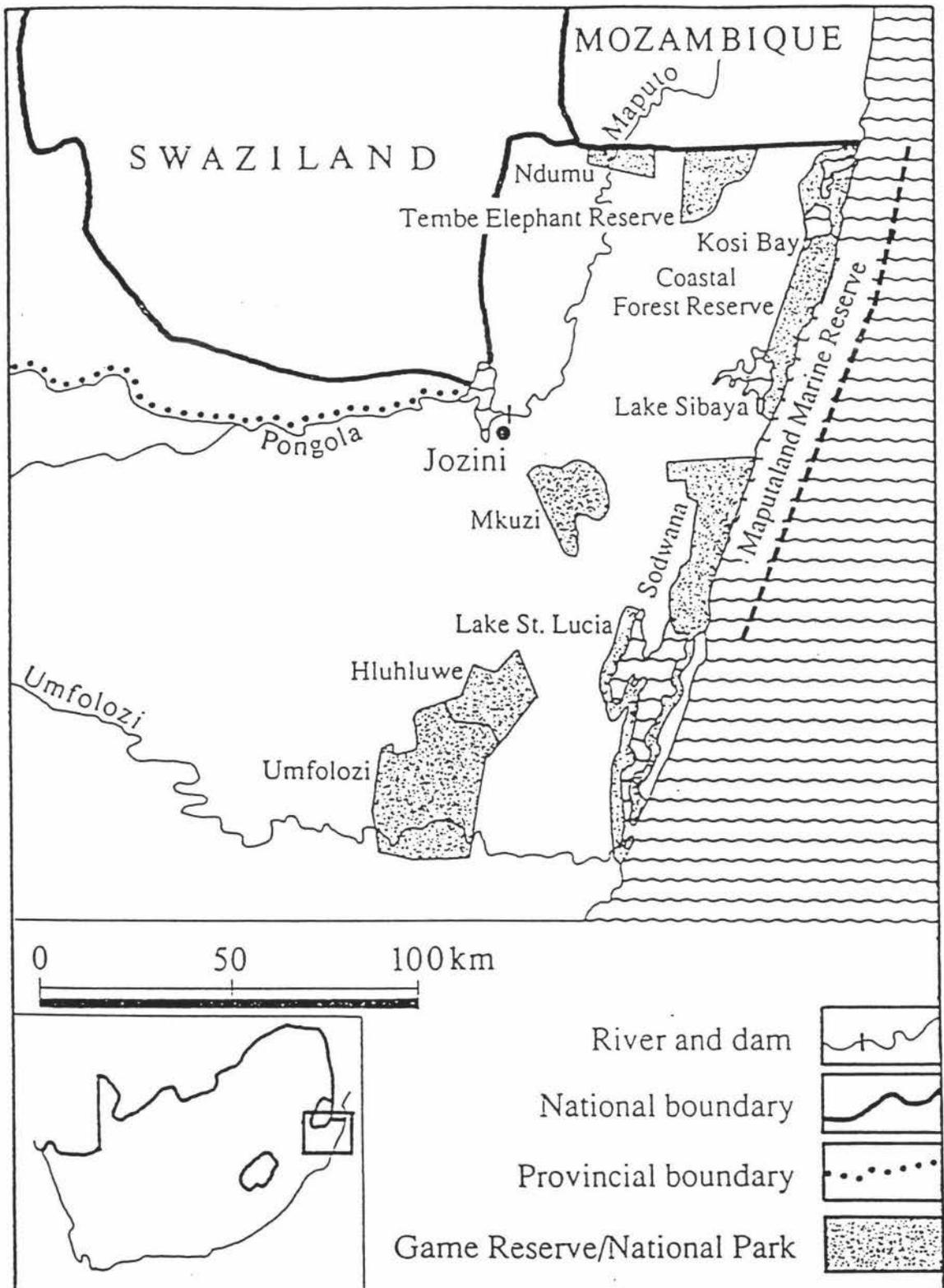
Specific reference is made in the White Paper to the management and conservation of natural resources in South Africa. It states:

"Similarly, the mutual use of national resources, particularly by local population, should be made possible within reasonable limits. Regulatory measures should be introduced to ensure the sustainable use of ecologically viable natural resources, for example, marine resources, natural veld and natural forests ..."
(White Paper, 1993:11).

However, the White Paper does not provide opportunities for incorporating common-property resource management systems practised by indigenous peoples in South Africa. The incorporation of indigenous knowledge resource management systems in the management of conservation have been non-

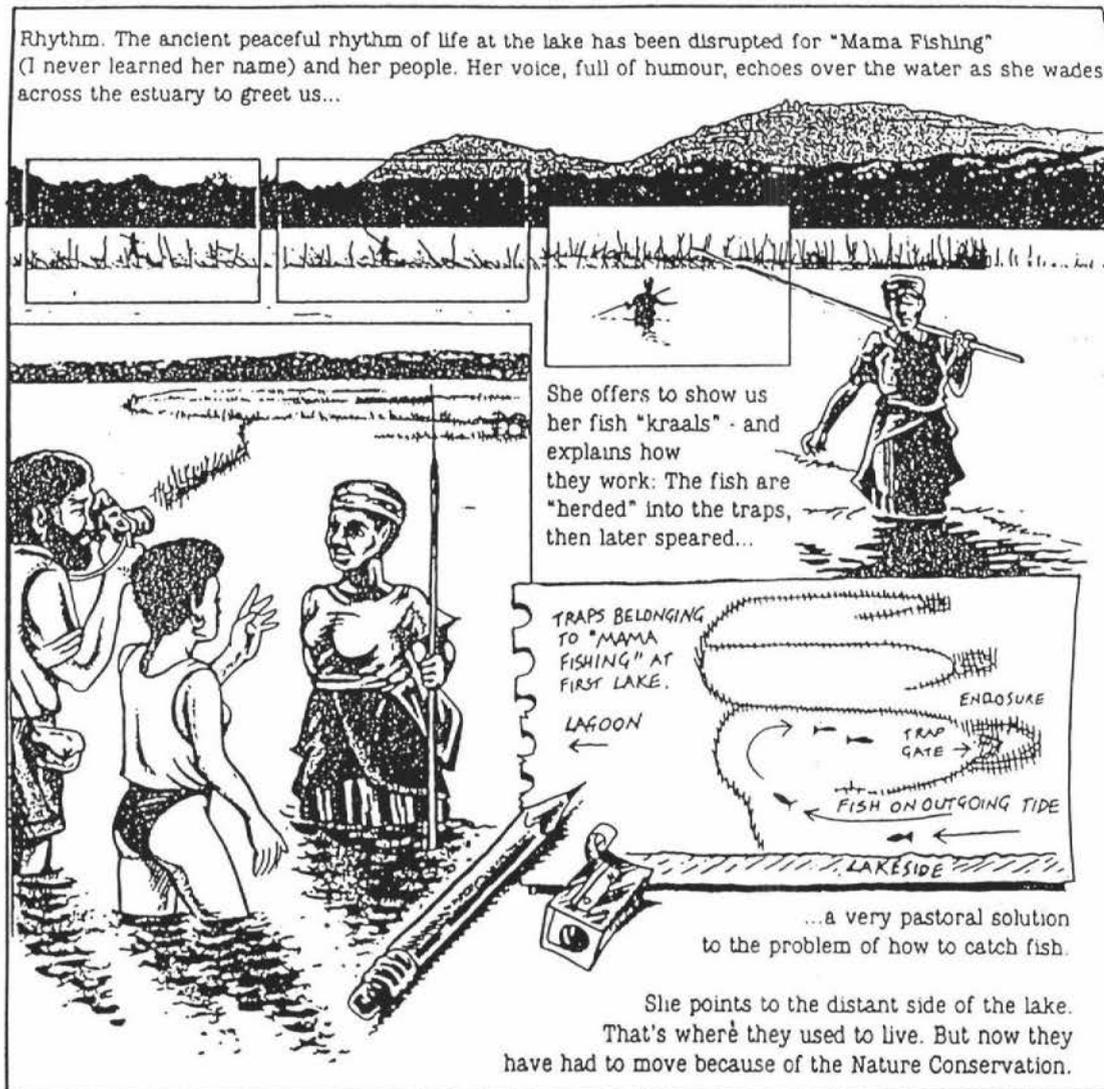
existent in South Africa. For example, the Centre for Community Organisation Research and Development (1994) asserts that local indigenous knowledge has been overlooked by the plethora of government and non-governmental organisations striving to undo each other in research, provision of services and development schemes in the region.

Maputaland, situated along the northeastern KwaZulu-Natal occupies an area of 8,000 square kilometres. It offers an example of how indigenous resource management systems have been undermined by conservation bodies in South Africa. Map 4.1 shows the area of Maputaland and its marine reserves, sharing the border with Swaziland and Mozambique in the west and north, the Indian Ocean to the east and the St Lucia Lakes to the south. However, the Centre for Community Organisation Research and Development (1994) warns that any local conservation and development plan that ignores that rich history of intricate social relationships, survival systems and ingenious management of resources is severely limited and ultimately doomed. Figure 4.1 shows



Map 4.1 showing the area of Maputaland
 Source: Ramphele et al, (1991).

Figure 4.1 Indigenous fish traps
 Source: Ramphela et al, (1991).



The story of people's fight for their rights in Maputaland is told in "New Ground", published by the Environmental and Development Agency, one of South Africa's growing number of environmental organisations.

indigenous methods for fish traps at Kosi Bay. Tabor (1994) urges that development policy that undermines or contradicts viable indigenous resource management strategies is unlikely to be sustainable.

The indigenous methods practised by the people at Kosi Bay are as follows:

"They devised ingenious methods of hunting, gathering, cultivation and animal husbandry. Various sophisticated fishing techniques are still in use. These include fonya fish drives, where people, sometimes as many as 300, form a chain across a floodplain pan, drive the fish in the direction of the shore and trap them inside woven baskets; mono-valve baskets traps (large woven traps in which a valve allows fish in but not out); and the famous Kosi fish kraals (pens) " (Centre for Community Research and Development, 1994:74).

Steel (1994) of the Bureau of Natural Resources (KBNR) notes that the White Paper ignores rural communities in terms of the management of wildlife resources. However, the Centre for Community Organisation Research and Development (1994) argues that despite its progressive environmental policy, and its claim to be working towards the integrated, multiple-use conservation areas, the KwaZulu Bureau of Natural Resources in fact perpetuates the legacy of apartheid planning, which barely acknowledges those being planned for.

Regarding the need to recognise and incorporate indigenous people in natural resource management systems, the IUCN/UNEP/WWF (1991) suggests that the following needs be recognised:

- * Aboriginal rights of indigenous peoples to their lands and resources, including the rights to harvest animals and plants on which their ways of life depends, to obtain water for their stock, to manage their resources, and to effectively participate in decisions affecting their lands and resources.
- * The timing, pace and manner of development minimizes harmful environmental, social and cultural impacts on indigenous peoples, and that indigenous peoples have an equitable share of the proceeds.
- * Policy makers, development planners, conservationists and managers

cooperate with indigenous peoples in a common approach to resource management and economic development.

Berkes (1986) asserts that renewed interest in traditional management systems stems partly from the past failures of large development projects, and the search for viable and sustainable alternatives to current models of resource use. Indigenous methods of resource management have been based on common-property systems. Such systems tend to emphasise, respect, responsibility and stewardship. Shanmugaratnam (1989) believes that traditional systems of resource management ensure the renewability of the resource base as a precondition for the economic production in the community.

It is also argued that indigenous resource management systems helps to contain the degradation of the environment within limits that prevent irreversible disruptions of restorative ecological processes.

Common-property resource management systems have been the means by which indigenous peoples throughout the world have managed their natural resources on a sustainable basis from time immemorial. In addition, native management systems have been conservative in the way natural resources have been utilized within the community. For example:

"The Tukano considers this riparian habits the property of the fish. Tribal law is also set aside broad areas of the watercourse as fish sanctuaries, where fishing is strictly forbidden; the prohibition is backed up by the belief that the ancestors of the fish will kill one Tukano child for each fish caught in a reserved stretch of the river. However, Western industrial societies view indigenous resource management systems as an obstacle to economic growth"

(Durning, 1993:92).

Table 4.1 illustrates three types of property-rights regimes used in the management of natural resources by a variety of resource users. Berkes (1986) argues that, although they have been ignored in development planning, there have been abundant evidence from detailed case studies to indicate that these institutions play a crucial role in economic development. Furthermore, Berkes (1986) maintains that in areas earmarked for development projects, local people cannot be divorced from the social structures of which they are a part. The logical approach for development planners is to deal intelligently with existing community structures, including those for handling production and resource utilization.

Institutional arrangements, which here refer to the convention that societies establish to define their member's relationships to resources, translate interests in resources into claims, and claims into property rights (Berkes, 1986). Table 4.1 shows that each type of institutional arrangement relating to property rights has different characteristics.

Table 4.1 Idealized types of property-rights regimes relevant to common-property resources. The fourth property-rights regime is 'private property'

1. Open-access (res nullius)	Free-for-all; resource-use rights are neither exclusive nor transferable; these rights are owned in common but are open-access to everyone (and therefore property to no one).
2. State property (res publica)	Ownership and management control is held by the nation state or crown; public resources to which use rights and access rights have not specified.
3. Communal property (res communes)	Use-rights for the resource are controlled by an identifiable group and are not privately owned or managed by governments; there exists rules concerning who may use the resource, who is excluded from using the resource, and how the resource should be used; community-based resource management systems; common property.

Source: Berkes (1989).

Learning from the experience of indigenous peoples in Canada Richardson et al (1994) points out that a regional agreement can be used to establish institutional structures and mechanisms for a more equal and constructive relationship between indigenous communities and the government, as well as providing the resources which enable indigenous beneficiaries to continue actively pursuing their traditional lifestyle if they wish to do so. Mohamed et al (1993) maintains that Agenda 21 make mention of the need to take into account the values and aspirations of indigenous peoples.

An evaluation of the Resource Management Act 1991 by the Waitangi Tribunal (1993) in regard to the Geothermal resource submits that even though the Act acknowledges the involvement of Maori in the management of natural resources, it falls short to fully recognising and implementing their resource rights in respect of the management of geothermal resources.

NATIONAL NATURE CONSERVATION PLAN

The White Paper refers to the question of the provision of land for conservation and the implementation of a national nature conservation plan for South Africa.

It states:

"Compilation a complete inventory of natural protected areas..., make land available in a rational way and apply a national nature conservation plan to ensure the maintenance of South Africa's biodiversity in accordance with the principles of utilization and protection..."(White Paper, 1993:11).

The issue of providing land for conservation in South Africa in the past has been problematic in the sense that black people have been uprooted from their lands to give way for the establishment of national parks for conservation and tourism purposes. Moreover, the people who have been dispossessed from their lands have not benefited from the management of game reserves. For example:

"The communities involved in the programme have been those affected by the former KwaZulu administration's plan to proclaim a massive Maputaland National Park, which would entail the removal of all resident communities in a huge "U" following the Swaziland border in the west, up along the Mozambique border in the north and down the eastern seaboard to Lake St Lucia" (CORD, 1991:73).

Private companies have also been attracted to invest in conservation and tourism, with the associated danger arising from the fact that their primary commitment is to ensure that the company receives a on return on investment (Centre for Community Organisation Research and development, 1994).

It is not surprising that one legacy of authoritarian conservation practices has been the negative environmental perceptions and attitudes of many black people ranging from apathy to hostility (Cock, 1994). Figures 4.2 and 4.3 illustrates the views of the rural communities against the of establishment of national parks on their lands. To substantiate this point Cock (1994) presents the views of the rural population in South Africa who have been against the loss of their lands for tourism and conservation as follows:

"For this game reserve large numbers of families have been uprooted and it is sowing hatred in the peoples' hearts. People are not against conservation. They are angry with the manner in which it is done. Those in charge are more interested in law enforcement than in conservation and that is way there is hatred in the hearts of the people" (Cock, 1994:13).

The implications are that black communities have developed negative environmental perceptions and attitudes because of the legacy of authoritarian conservation practised in the past. Two examples drawn from the Southern African Nature Foundation (SANF) illustrate the negative impact of conservation on black communities.

Figure 4.2 Impact of conservation policies on rural communities
Source: Ramphela et al. (1991).



Narrow conservation policies in the past sacrificed people for parks and tourism, alienating local communities and discouraging black involvement in environmental issues. (Cartoon from "New Ground".)

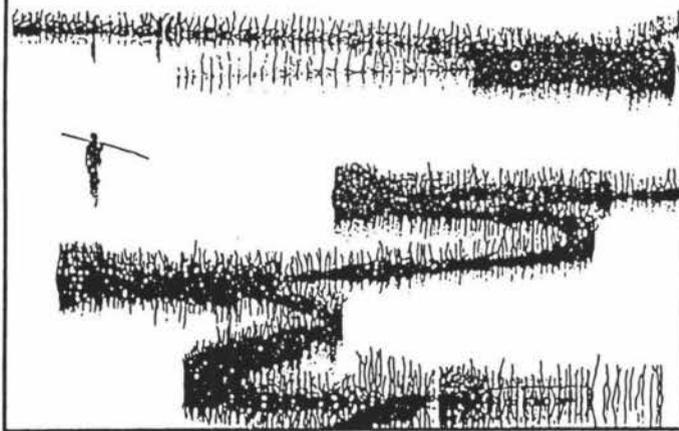
Figure 4.3 Impact of conservation policies on rural communities
Source: Ramphela et al. (1991).



"Our people do not have tractors to plough the fields. For all our planting we use our hands."

"These fields near the sea, these we have always had. But now we are told we can't plant because the place is to be given to the hippopotami."

"They have told us to move. We must abandon our fields and our homes and leave behind the graves of our forefathers... They say they want to protect the place. From whom? We have been living here all the time."



"We are made to feel that we are nothing... that animals are better than us."

Environmental issues in South Africa have long been identified with a white middle-class concern for nature conservation. The magazine "New Ground" tells the story of the people of Kosi Bay who are challenging this attitude, which has ignored their rights and taken away their livelihood.

"Rhinos are living proof of the importance of protected areas. If it has not been for the timely proclamation of the Hluhluwe and Umfolozi Game Reserves in 1895, it is almost certain that the southern white rhino would have become extinct and it is likely that the black rhino would also have disappeared from South Africa" (SANF, 1994:4).

The Southern African Nature Foundation fails to recognise the negative impacts of conservation programmes on black communities. In addition, conservation programmes in South Africa do not include any provisions to involve indigenous people in the management and control of the game reserves. (Map 4.2) indicates the twelve national parks and nature reserves under the administration of the Southern African Nature Foundation.

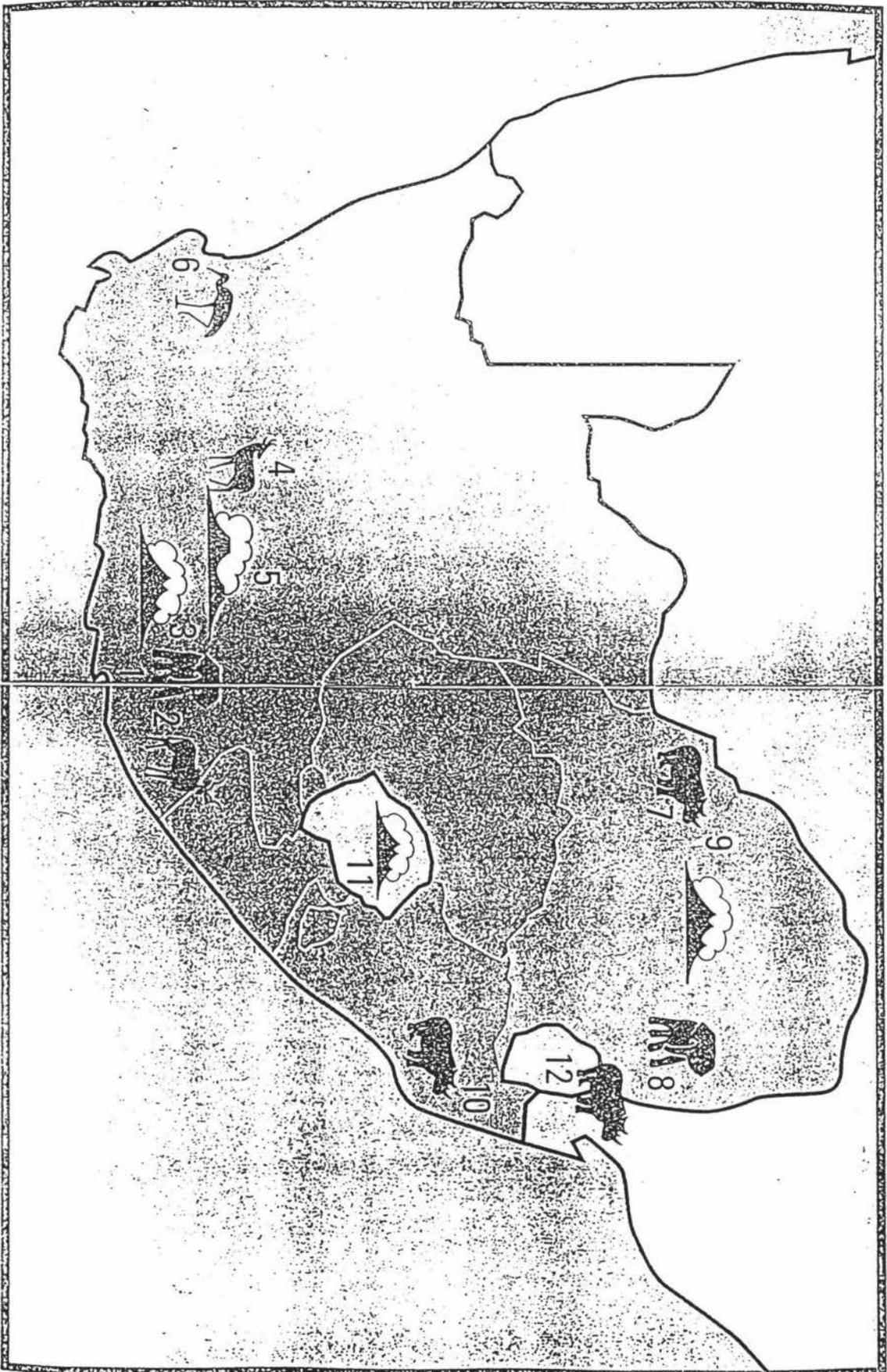
The IUCN/UNEP/WWF (1991) suggests that national and regional strategies for conservation and development should integrate long-term ideals and desire of futures of the people who live in the region. Furthermore, the IUCN/UNEP/WWF (1991) suggests that strategies for conservation of natural resources should employ opinion survey to obtain the people's views on the following issues:

- * their interpretation, in the form of attainable objectives, of the goal or strategy, and the extent to which they have attained;
- * the values of the environment and natural resources of the area, identifying those places, species of plants and animals, and uses of resources and ecosystems, that the people of the area particularly value and which they feel contribute to the quality of their lives;
- * the main resource and environmental issues, the environmental changes they have witnessed, the resource and environmental problems that concern them, and how they feel they could be solved.

Jacobs (1985) cites the following suggestions for the management of an effective conservation of wildlife systems consistent with the objectives of Inuit and those recommended by the World Conservation Strategy:

- * provide for balance between the protection of subsistence use of wildlife and protection of endangered species;
- * reflect the traditional and current levels, patterns and character of Inuit harvesting in the various areas of the region;
- * confers on Inuit the right to harvest wildlife sufficient to meet their basic needs, taking into account the increase in the Inuit population of the region;
- * provide priority to Inuit harvesting and subsistence use of wildlife and in the establishment and operation of economic ventures with respect to wildlife.

Thus, it would be imperative for any national conservation strategy in South Africa to take into account, or rather to integrate cultural and political perspectives of the indigenous populations who inhabit areas earmarked for conservation. Furthermore, indigenous peoples should actively participate in the design, evaluation and implementation of conservation programmes in South Africa.



Map 4.2 showing twelve national parks in South Africa
Source: Ramphela et al, (1991).

RESTRUCTURING OF THE DEPARTMENT OF ENVIRONMENT AFFAIRS

The White Paper makes reference to restructuring the Department of Environment Affairs with the exception of the regional and local levels. It states:

"The Government undertakes to adjust the structure of the department within affordable limits, so that it perform its functions in an effective way. The development of the details of all functional and structural adjustments will be undertaken in consultation with the Commission for Administration..." (White Paper, 1993:21).

The IUCN/UNEP/WWF (1991) suggests national governments to review and restructure their legislation to enable regional and local authorities to use devolved powers to protect local environments. The IUCN/UNEP/WWF (1994) also express the view that regional and local authorities should facilitate effective involvement of communities involvement and indigenous peoples in the formulation and implementation of environmental policy.

Local government is perceived local government as a key component of government in achieving sustainable development and integrated as relevant to achieve sustainable development and integrated environmental management (Mitchell, 1992). The central role played by local authorities for the protection of the environment has also been express by Agenda 21. For example:

"Because so many problems and solution addressed by AGENDA 21 has their6 roots in local activities, the participation and co-operation of local authorities will be essential for its success. Local authorities develop and operate the economic, social and environmental infrastructure. They also oversee planning processes, established local environmental policies and regulations, and assist in implementing national environmental policies. As the level of governess closet to people, local authorities play a vital role in educating, mobilizing and responding to the public" (Sitarz, 1993:274).

In New Zealand, the Resource Management Act 1991 resulted in major changes in planning at all levels of government (national, regional and local). The purpose of the Act is to promote the sustainable management of the country's natural and physical resources. This is achieved through a series of national policy statements and standards, regional policy statements and plans, district plans, and other methods (e.g. education), (Rosier, 1994).

According to Mitchell et al (1994) delegation of powers, functions and duties to the regional councils and territorial authorities gives local government an extremely important role in sustainable management of natural and physical resources.

Mitchell et al (1994) also asserts that the national government is responsible for policy about matters of national significance and national policy for coastal areas. National policy statements must be incorporated into regional and district schemes. Figure 4.4 shows planning responsibilities and relationships of national, regional and local planning in New Zealand. Figure 4.4 shows the hierarchy of policy statement and plans which represents an important component of the implementation of the New Zealand Resource Management Act 1991. Regional councils are required to prepare regional policy statements and plans which govern an overview of their respective responsibilities of the management of natural resources in their particular regions. Most importantly, both the regional and territorial policy statements and plans provide the policies which govern the administration of the natural resource consents covering land

subdivision, water use permits, discharge permits and coastal activities. In addition, the RM Act 1991, require regional councils to prepare the New Zealand Coastal Policy Statements and Plans.

Thus, when restructuring the Department of Environment Affairs in South Africa, it would be significant to also take into account the central role that the regional and local authorities can play in environmental management. Moreover, the regional and local policies and plans should not be inconsistent with those at the national level.

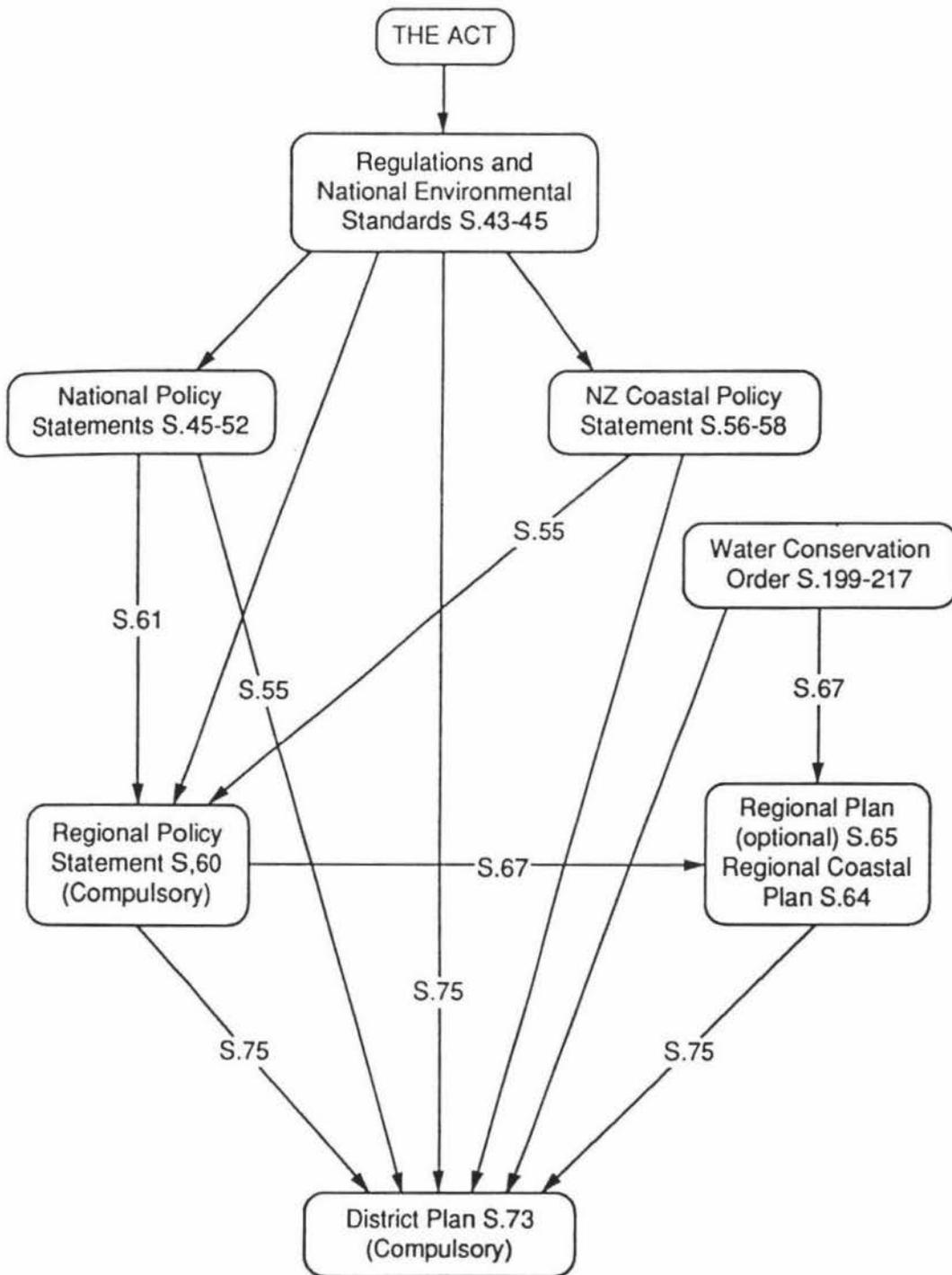


Figure 4.4 Planning Responsibilities and Relationships of National, Regional and Local Planning in New Zealand

Source: Data Services Ltd (1991)

MANAGEMENT OF THE COASTAL ZONE

The White Paper advocates the establishment of measures for the conservation of the coastal zone. It states:

"Apply appropriate measure with respect to land use to ensure the conservation (utilization and protection) of ecologically sensitive and unique areas, for example, grasslands, wetlands, islands, mountain catchment areas, indigenous forests, deserts, Antarctica and the coastal zone..." (White Paper, 1993:9).

Avis (1994) comments about the inadequacy of regulations with respect to the coastal zone management in South Africa. He points out that the new Act also fails to define any special circumstances with respect to the coastal zone and therefore raised questions as to the status of the Coastal Zone Regulation. Furthermore, Avis (1994) argues that the central problem has been a lack of regulations through which the Act can be enforced.

In South Africa, communities and indigenous peoples have not been involved in decisions making with respect to the management of the coastal zones. For example, Khan (1994) maintains that concerned environmentalists in Cape Town have failed to convince the City Council of the folly of locating a sewerage pipe in Table Bay (Map 4.3), discharging partly treated sewage into the sea. Khan (1994) argues that Earthlife Africa has been concerned that the long-term effects of sewage pollution on the coastal ecosystems have not been considered.

The lack of effective management of the coastal zone in South Africa is emphasised by Khan (1994), relying on preliminary 1990 studies about the

relationship between polluted beaches and higher symptom rates for gastrointestinal, respiratory and skin conditions, particularly among swimmers but also among non-swimmers.

Governments and citizen's groups concerned with conservation, environment and development should ensure that the conservation and sustainable use of marine ecosystems and resources feature in national programmes for planning, pollution control, management of protected areas and development control in coastal areas IUCN/UNEP/WWF(1991), (see Action 16.1).

For effective management of the coastal zone the IUCN/UNEP/WWF (1991) suggests that national policies should incorporate the following actions:

- * Establish a mechanism to coordinate the planning and allocation of uses of the coastal zone;
- * Provide a means of reviewing each sector's benefits from and impacts on the coastal zone and determining how the needs of each sector should be balanced and conservation and development combined;
- * Develop procedures for dealing with shoreline instability, including sea level rise, subsidence, saltwater intrusion, and settling of deltas during extraction of groundwater or hydrocarbons;
- * Reduce pollution of the sea from land-based sources;
- * Harmonize national marine policies and laws; and
- * Provide for cooperative action and shared use of the ocean and its resources beyond national jurisdiction (see Action 16.1).

In New Zealand, the Resource Management Act 1991 provides specifically for a hierarchy of plans and policy statements. The New Zealand framework for sustainable management also requires the Local Authorities consider a range of methods in addition to plans and policy statements to achieve sustainable management objectives. Examples of the analysis necessary to understand the implications of using each method in dealing with controversial issues of water quality. The management of the coastal zone in New Zealand is illustrated by methods analysed by Rosier (1994), (Appendix A2.2.1). Rosier (1994) argues that the application each method contributes in varying degrees to the avoidance, mitigation or remedying of the adverse effects of discharging contaminants to the

coastal waters. The methods for dealing with coastal management issues in New Zealand include "Do Nothing", education and advocacy, community action, Best Management Practise", economic techniques, public works and services, regulation, and advocacy (see Appendix A2.2.1).

ENVIRONMENTAL IMPACT ASSESSMENT

In the South African White Paper Reference is made in South African White Paper about the application of environmental impact assessment (EIA) preparing plans. It states:

"Similarly, the application of environmental impact studies is a valuable tool that may be used in all physical structure plans. A balance must, however, be maintained between environmental protection and essential development..." (White Paper, 1993:10).

In South Africa, the application of environmental impact assessment (EIA) has been problematic. For example:

"The generation of alternatives is a major drawback, since the proponent will not entertain fundamentally different alternatives if he has already invested heavily in purchasing the land. This effectively negates the "Develop Proposal Stage"... unless the land is state owned. However, if IEM is legally binding on the proponent then they will be forced to address alternatives, which is the requirement of EIA. Furthermore, IEM is intended to harmonize development and conservation needs, and solve the lack of coordinated environmental protection. However, it cannot do this in practice because it is not legally enforceable and the institutions mentioned in the Environment Conservation Act do not function as umbrella bodies to regulate conservation matters..." (Avis, 1994:239).

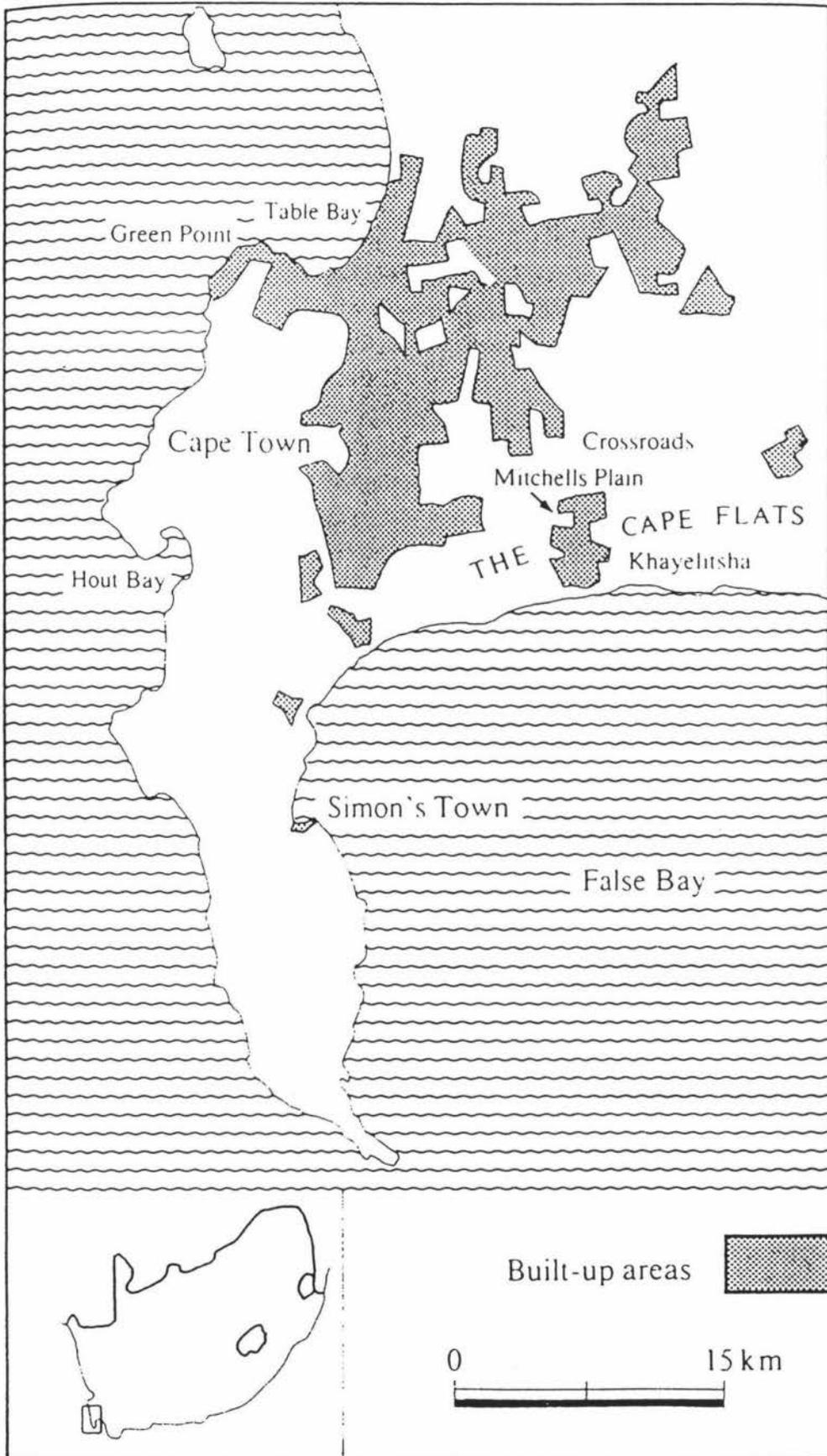
Furthermore, Quinlan (1994) comments on the need to redefine environmental impact assessment in South Africa. A re-think of the role and capabilities of

science in EIA studies is needed in South Africa, as reflected in the large scale disputes about the results of such studies (Avis, 1994).

The IUCN/UNEP/WWF (1991) suggests that assessment of environmental effects of plans, policies and programmes earlier on in plan preparation would avoid many development issues associated with the adverse effects of activities. In New Zealand, the Resource Management Act 1991 provides for evaluation of plans and policy statements in section 32. This requirement in the Resource Management Act 1991 requires that resource managers concentrate more on the "effects" of activities, and less on activities themselves. Furthermore, Dixon (1993) asserts that the Resource Management Act 1991 provides a conceptual framework for integrated resource management, of which EIA forms a central part. Dixon (1993) maintains that these changes reflect international shifts in the extension of EIA from site-specific assessments of single projects towards a more comprehensive and strategic approach which encompasses policy and plan preparation.

Smith (1992) suggests an integrative framework for sustainable resource management as a goal to achieve sustainability for impact assessment. Figure 4.5 illustrates an integrative framework for sustainable resource management. According to Smith (1992) the integrative framework starts from problem identification towards the goal of sustainability, with resource management linking them together. This framework defines roles for resource management procedures and institutions. The values and information are translated into

directives for sustainability. Impact assessment is viewed as a process for environmental planning which achieves sustainability.



Map 4.3 showing the area of Table Bay

Table 4.2 shows a summary of three elements which have been integrated within the resource management process by Smith (1992).

Table 4.2 three elements integrated within resource management process

Institutional arrangements	<ul style="list-style-type: none"> * structure the resource management process; * determine the role to be by interest representation and they establish provision for impact assessment.
Interest representation	<ul style="list-style-type: none"> * function of the stakeholder involved, their goals and objectives, and approaches used to make representation within decision making
Impact assessment	<ul style="list-style-type: none"> * a process for environmental planning

Thus, to be effective, institutional arrangements must provide an appropriate basis for the integration of various interest represented in the process of impact assessment (Smith, 1992). According to Smith there are various types of approaches to provide representation of interest groups. They are lobbying, public participation, and environmental disputes resolution. These approaches may be employed by proponents or management agencies to involve other stakeholder such as pressure groups, lay citizens and selected interests within the resource management process.

The final component of the integrative framework is that of impact assessment. Impact assessment forms part of the environmental planning process. According

to Smith (1992) iterative sequencing of these activities would involve a shifting emphasis with normative planning stressing scoping, prediction and significant assessment; strategic planning emphasizing prediction, significant assessment and evaluation, and the final operational planning focused around the activities of evaluation, monitoring and mitigation.

Project EIA lead to comprehensive protection of the environment,if applied in isolation. It reacts to development proposals rather than anticipating them. Thus it cannot steer development towards environmentally resilient locations or away from sensitive areas. It allow proposals to be accepted or rejected (Therivel et al, 1992). According to Therivel EIA does not adequately consider the cumulative impacts of more than one project. A number of cumulative impacts that can take several forms have been summarised in Table 4.3.

The consideration of cumulative impacts in project EIA is often limited by the lack of knowledge concerning other development proposals, and control over these proposals (Therivel et al, 1992). Furthermore, Therivel et al (1992) argues that EIA at a more strategic level would allow for these impacts to be better addressed because of its position at an earlier stage in decision-making and its consideration of the wider range of actions over a greater area. Dixon (1993) asserts that review and extension of procedures for EIA should undertaken in a number of countries where attempts have been underway to apply EIA more broadly to policy and plan preparation.

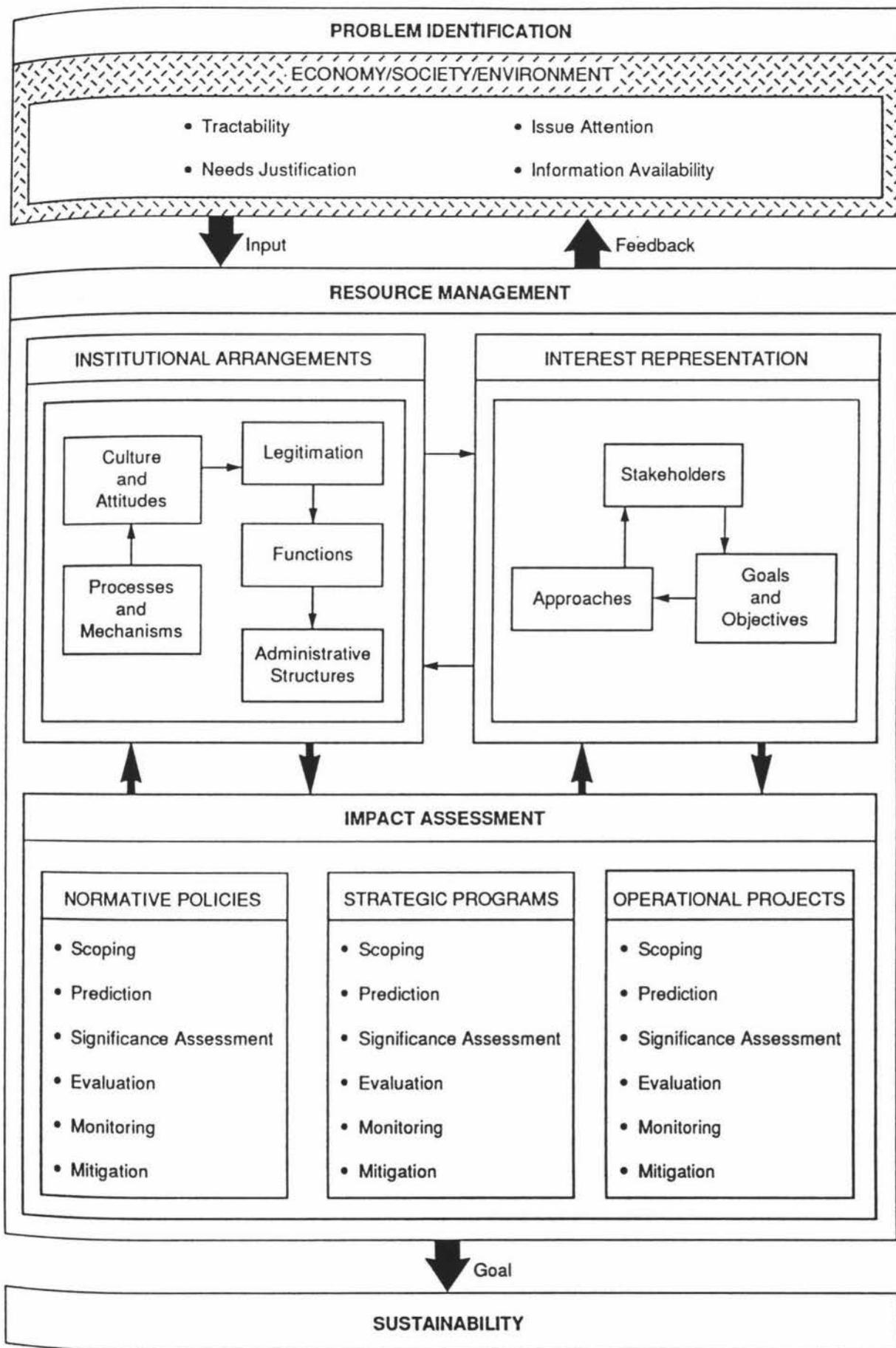


Figure 4.5 Integrative Framework for Sustainable Resource Management
 Source: Smith, (1993).

Table 4.3 Cumulative impacts

Cumulative impacts	Definition	Example
additive impacts	developments that do not require EIA according to the existing legislation.	small scale, defence-related and agricultural projects
synergist-impacts	where several projects total impacts exceed the sum of their individual impacts	in the presence of sunlight, nitrogen oxides and hydrocarbons may combine to form photochemical oxidants, which have impacts over and above those of only the nitrogen oxides and hydrocarbons
threshold/saturation impacts	where the environment may be resilient up to a certain level and then become rapidly degraded.	a stream that is self-purifying up to a given level of pollutants and then loses its self-purification ability
induced and indirect impacts	where one development project can stimulate secondary developments and infrastructure.	an airport could trigger application for hotels and car rental developments. A new motorway may provide the focus for a whole new range of developments, from hypermarkets to new towns to service stations.
time crowded or space crowded impacts	where the environment does not have the time or space to recover from one impact before it is subject to the next one	a forestry operation with an overly-rapid rotation period, which cause soil productivity to fall.

Project EIAs only address alternatives to individual proposal in a limited manner. This is partly due to the lack of guidance and emphasis generally given to the generation of alternatives in EIA legislation. Another problem is that, in many cases, individual project details have already been specified with irreversible decisions taken, by the time the EIA is prepared (Smith, 1992). In South Africa, there are concerns about the limitations of project EIA are follows;

"The main concern raised earlier include: the disparate requirements of various authorities concerning the level of detail required for an EIA; the fact that fundamentally different alternatives to the proposal are unlikely if the proponent owns the land; the lack of clear-cut, specific guidance and other studies to reference..." (Avis, 1994:239).

EVALUATION OF NON-GOVERNMENTAL ORGANISATIONS

Steel (1993) criticises the White Paper for its failure to involve regional and local communities in management of wildlife resources. But he does not provide suggestions that can be used in the to promotion of community participation in decision.

The IUCN/UNEP/WWF (1991) suggests the adoption of regional strategies that will be consistent with the values and needs of the people who live in the region. The IUCN/UNEP/WWF (1991) actions and principles for the development of the conservation management strategy involving local communities can be summarised as follows:

- * Partnership with local communities should be a priority, rather than government taking full responsibility in the management of natural resources;
- * Regional and local communities need to be involved in the formulation of policy

making, programme planning, and implementation;

- * Customary rights in law of indigenous peoples should be recognised;
- * The use of appropriate technology should be encouraged, including that in local communities;
- * Community management institutions should be established;
- * Local communities should be given responsibility to manage their natural resources; and
- * Ecosystems on which local communities resources depend, should be protected.

Hanks (1993) does not offer suggestions for promoting consultation with black communities in decision-making about environmental matters. According to Priscoli et al (1986) the demand for public consultation and decision-making reflects the crucial role the various groups in a society can play through their input to important decision-making. The decisions taken without consulting all the public can have negative implications for other members in society. For example, dune mining at St Lucia has spurred environmental pressure groups to demand participation in decision making processes.

"In decision-making models where public consultation is an integral part, the groups cooperate on the interchange of ideas, generation of alternatives and devising of compromises. These activities open up opportunities for development of a higher consciousness and a shared vision of the future. Any decision-making process incorporating public consultation, by definition, opens its circle to anyone with fresh ideas and/or alternative viewpoints.

When thorough consultation occurs with mutual integrity, education and respect, the process should result in a higher order of planning, or at least more acceptable decisions. It is the task of the professionals to ensure that this occurs" (Priscoli et al, 1986:69-70).

Furthermore, Priscoli et al (1986) argues that provision of public consultation programme offers a mechanism through which these views can be identified and points of contention or disagreement can be highlighted. Organised discussions which are conducted in an open manner, enable the various parties to work

towards a fair consideration of the issues prior to making final decisions.

Olivier (1993), in criticising the White Paper, raises the need for the establishment of a comprehensive legislative framework and integrated environmental management conservation system. In this regard, IUCN/UNEP/WWF (1991) recommends the application of a comprehensive system of environmental law in the conservation of natural resources.

Wagner (1993) of the mining industry seems to be opposed about role that public participation can play in decision-making regarding development projects. The IUCN/UNEP/WWF (1991) suggests that development projects should promote full public participation if the goal of sustainable development is to be achieved. Priscoli et al (1986) asserts that a participatory planning process results in more complete plans whose rational and content are better understood. Thus, public participation is necessary as it ensures the inclusions of various views about the use of resources. It would also ensure the setting of priorities, co-ordinated programmes and concerted action between decision makers and the public.

Even though Neethling (1993) criticises the White Paper on the issue of incentives for environmental protection, he does not offer methods for achieving pollution control using economic instruments. The IUCN/UNEP/WWF (1991) suggests that economic instruments are flexible and cost-effective mechanisms to change behaviour and promote sustainability.

EVALUATION OF THE INTEGRATED ENVIRONMENTAL MANAGEMENT (IEM) PROCEDURE

It is realised that the proposed administrative framework for Integrated Environmental Management (IEM) procedure of South Africa has a number of weaknesses. For example, much of the criticisms centre on the benefits and costs of public participation in decision making processes.

Quinlan (1993) argues early on, that the policy identifies 'two key parties' at the start of a project-"the proponent" (a private or public sector agency) and the "relevant authority" (the local, regional, provincial or central government body which has responsibility for allowing or disallowing the action. Furthermore, the enormous powers granted to authorities and the subordination of other parties with respect to decision making processes of the Integrated Environmental Management procedure are as follows:

"Presumably the responsible authority will based its decisions on its perceptions of what is the interest of the proponent, its constituency, the country as whole, and future generations, and this will include the assessment of the environmental implications of the proposal and its alternatives. In many cases other individuals or organisations with special expertise, jurisdictional responsibilities, or interest in the proposal will also be consulted, but the proponent should also be assured confidentiality where necessary to safeguard his interests and assure that he is cooperative and forthright in his dealings with the relevant authority at this sensitive stage of the development process" (Quinlan, 1993:231).

According to Quinlan (1993) the implications for the above quotation imply that communities, interest groups and indigenous peoples have not been allowed to participate fully during the appraisal of a project proposal. Avis (1994) states that

review of the environmental decision, is provided for at the decision stage of EIA. This needs to be revised if the public or the authorities feel that change to the project is justified. It is unclear who decides whether revision is required, but one hopes that the relevant authority will make a decision after considering public opinion (see Chapter Three).

"It is argued that IEM is not a suitable tool to achieve the principles of sustainable development, once the development planning and implementation phases have been completed. IEM is also not well positioned to address all the demands of a sound environmental management system during the actual construction phase of any project, because it does not cater for the entire suite of activities which need to be in place to introduce and sustain the day to day requirements of an environmentalist management approach to the various line functioning activities of an organisation" (Nel, 1993:15).

In addition, Avis (1994) asserts that the opposite extreme also exists, where a proponent has been requested to undertake exhaustive environmental studies, such as the case with dune mining on the Eastern Shores of Lake St Lucia in Natal, despite the fact that the original decision to grant a mining permit has not been seen as contingent on the findings of an EIA. It has only been due to public pressure that a comprehensive EIA was undertaken in that instance.

The IUCN/UNEP/WWF (1991) suggests that local governments, communities, business, industry, indigenous peoples and interest groups should be full partners in setting the agenda for human development. All should be full partners with the central government in decisions about preparation of policies, programmes and projects that directly affect them, their environments and the resources on which they depend.

On the other hand, Smith (1992) suggests the use of a hierarchy of planning as a useful tool for considering the design of desirable futures and not just immediate decisions necessary for project implementation as shown in Figure 4.6. Figure 4.6 shows an ideal hierarchy of planning. The hierarchy of planning enables the goal of planning to be expressed in terms of improved decision making, the incorporation of environmental variables in planning, and impact mitigation on conflict resolution as required. Application of the hierarchy of planning would enlarge and enrich understanding of planning progresses from the normative through the strategic and operational level. This assumes that planning is conducted at each level and that there is a progression from more generalized policy making at the normative planning level, through the consideration of programmes at the strategic level, to the specific of project implementation characteristics of operational level planning (Smith, 1992). Frequently, normative and/or strategic planning only occurs after public opposition to the announcement of plans for project implementation at an operational level. Characteristically, this situation arises because the affected interests have been only consulted at an operational planning level. A classical illustration, has been case of the dune mining at St Lucia in Natal mentioned above.

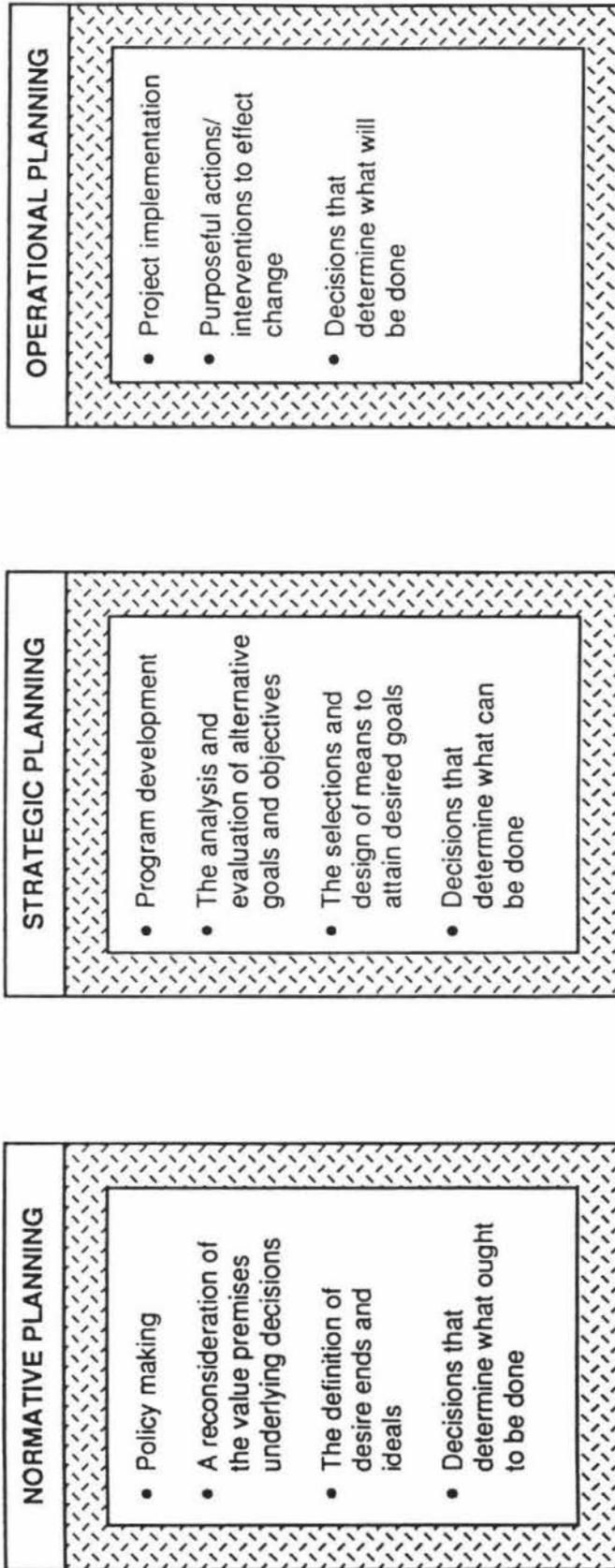


Figure 4.15 Hierarchy of Planning
Source: Smith (1993)

National, regional or provincial policies have not been sufficiently developed to permit meaningful site and project-specific evaluation of the significance of change and losses which occur as a result of development proposals (Avis, 1994). For example, Avis (1994) maintains that the regional and local authorities seem to be of the opinion that any development they undertake has been exempted from EIA. (e.g., the electrification of the Council resort at Maitlands River Mouth, and the development of the new settlement near East London by local regional services councils).

Smith (1992) asserts that it has been important that the proponent has given adequate justification for proposed projects and that the question of need has been clearly established. Public participation may assist in these determinations and the framework provides for full public input at all phases of the impact assessment. Figure 4.7 shows the scientific approach to the integration of impact assessment into planning. The first step in the assessment process is scoping. Scoping provides a preliminary scrutiny of the proposal and it requires considerations be given to:

- * The relevant groups to be involved (including various stakeholder groups, the affected publics, politicians and scientists);
- * The environmental and social components that are either publicly valued and/or scientifically relevant;
- * Any hypothesis regarding impacts on the those valued components as the basis for the impact assessment study; and
- * The spatial and temporal boundaries for the study.

Prediction is the second step in the impact assessment process. Smith (1992) defines prediction as an explicit statement about the condition of a value

component in the future. Smith (1992) asserts that prediction should be based on an appropriate methodology that addresses the prospect of the project causing changes to baseline conditions in the environment.

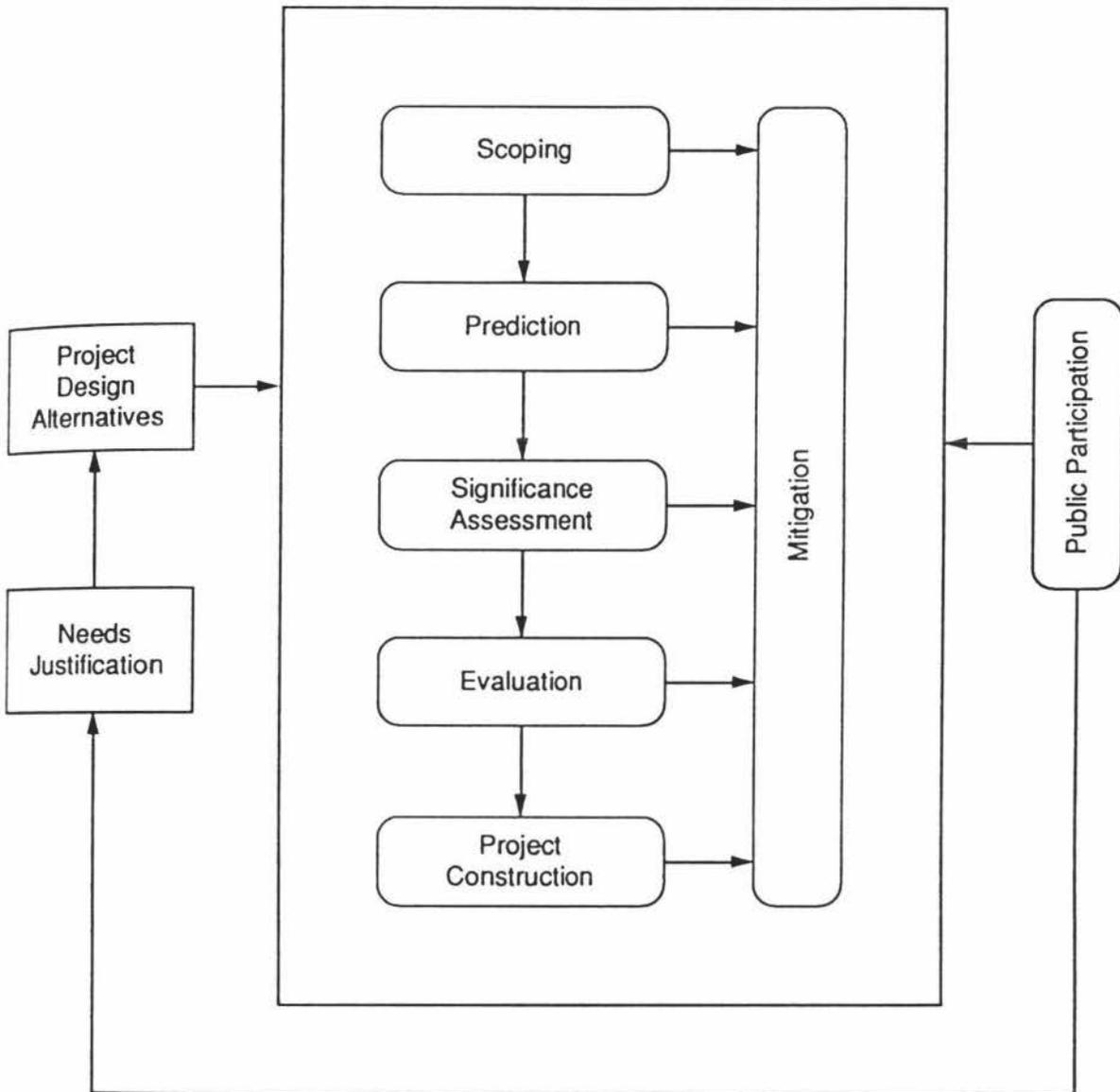


Figure 4.7 The Scientific Approach to the Integration of Impact Assessment into Planning
Source: Smith (1993)

Whatever the approach used, it is important that prediction accounts for: system interaction, dynamic change, the probabilistic nature of future events, the uncertainty of future events, and the variability of phenomena. Having predicted the changes that will affect the various value components, it is then necessary to determine their significance. Within the assessment of significant effects, the magnitude the changes forecasted for each component is assessed to determine the significance of change. It is important that the criteria used to determine significance of change include without-project comparisons, cumulative effects, impact duration, risk, the stability and resilience of the environmental components, relative magnitude, and quality standard.

Quinlan (1993) believes that the evaluation techniques used in the Integrated Environmental Management system lack clear indications of how IEM can be achieved. For, example, Quinlan warns, that one must doubt the feasibility of the policy guidelines for evaluation within the IEM process. According to Smith (1992) evaluation refers to the process whereby the positive and negative changes in all the components are considered.

On the basis of that determination, decisions are made whether or not to proceed with the development and, if so, which alternatives (s) should be adopted. A variety of tools has been developed to aid the evaluative process, including dominance analysis, weighted summations and the use of utility functions. These tools emerged as attempts to address the following issues that arise in evaluation. Issues to be considered include aggregation versus

disaggregation of impacts, the level of measurement employed, weighting procedures, the use of common measure units, ease of understanding, the number of alternatives to be evaluated, and public involvement.

The impact assessment process does not end with the implementation of development. If and when a development is approved, its actual effects must be monitored. Three kinds of monitoring can be identified:

- * compliance or surveillance monitoring to ascertain concurrence with specified mitigation measures and guidelines during project construction and operation;
- * effects monitoring to compare actual with expected impacts and to validate predictions;
- * public concerns monitoring to identify and tract the views and opinions of the public affected by the construction and operation of an undertaking (Smith, 1992).

The final step of impact assessment is that of mitigation defined by Smith (1992) as the actions undertaken to ameliorate the negative impacts of a development. Smith (1992) asserts that mitigation measures can be recommended at the scoping stage, at the significance assessment stage and during monitoring.

CONCLUSIONS

The evaluation presented in this chapter suggests that the White Paper, a policy for the preparation of a National Environmental Management System for South Africa, needs to be restructured to address the current fragmented management of the environment. Important factors contributing to the need for major change include:

- * Fragmentation of environmental legislation;
- * Lack of recognising the rights of indigenous peoples relationships to their culture and natural resources;
- * Lack of consultation with black rural communities with regard to the establishment of national parks and games reserves for conservation and management;
- * Lack of discussion between authorities and communities in decision-making about the impacts of development projects;
- * Lack of emphasis on the structuring of the proposed of regional and local levels of planning;
- * Lack of an integrated coastal zone management strategy involving communities in the protection of the coastal zone; and
- * Lack integrating environmental impact assessment into environmental planning.

The criticisms of non-governmental establishment against the White Paper have also been evaluated. This chapter has argued that even though their criticisms have been valid, they fall short of providing strategies for formulating a comprehensive, integrated, coherent environmental policy for the sustainable management of the natural and physical resources in South Africa.

Finally, there are serious concerns that application of an Integrated Environmental Management (IEM) system to address all the requirements for the assessment of development activities on the environment. When considered in

context with similar procedures elsewhere in the world, current South Africa proposals for a system of environmental impact assessment (EIA) would probably not result in sustainable management.

The suggestions presented in this chapter from the IUCN/UNEP/WWF (1991), Agenda 21, Resource Management Act of New Zealand and theorists are viewed as contributions towards the formulation of effective integrated environmental policy as means to achieve sustainable management of natural and physical resources in South Africa.

The following chapter will draw on the suggestions put forward by the IUCN/UNEP/WWF (1991), Agenda 21, the New Zealand Resource Management Act 1991 and a range of theorists to help draft an ideal integrated environmental management system for South Africa.

CHAPTER FIVE

IDEAL INTEGRATED ENVIRONMENTAL MANAGEMENT POLICY FRAMEWORK FOR SOUTH AFRICA

INTRODUCTION

"The future is no longer what it was thought to be, or what it might have been if humans had known how to use their brains and their opportunities more effectively. But the future can still become what we reasonably and realistically want" (Meadows et al, 1992:1).

This chapter complements Chapter Four, in that it draws on the suggestions put forward by the IUCN/UNEP/WWF (1991), Agenda 21, the Resource Management Act and theorists to formulate the ideal integrated environmental management policy for South Africa. White Paper has been evaluated in Chapter Four along with the comments of its critics. The formulation of an ideal comprehensive, integrated environmental policy for South Africa is necessary because of the inadequacy of the White Paper and non-governmental participants developing the current proposed integrated environmental management system. The chapter is divided into six main sections.

The framework for the integrated environmental legislation to manage natural and physical resources for South Africa is proposed in section one. It integrates previous fragmented and compartmentalised environmental legislation discussed in previous chapters. The possible comprehensive environmental legislation that

could be adopted for the effective regulation of environmental issues in South Africa is also outlined.

Second, the need to recognise and incorporate indigenous peoples in decision-making and establishment of the national conservation programmes and management issues is discussed. The establishment of new institutional arrangements is viewed as an essential component that would provide opportunities for indigenous peoples in South Africa to take an active role in management of conservation issues. The involvement of indigenous peoples in other countries (e.g., regional agreements in Canada and recognition of Maori's interests in New Zealand's Resource Management Act 1991) provide examples for South Africa to consider when establishing a strategy that would recognise and enforce the rights of indigenous peoples with respect to the management of the natural resources.

Third, the need to establish an integrated national strategy for the management of the environment in South Africa is considered, including exploration of the pivotal role played by government in environmental protection in matters of national importance. In addition, it emphasises the need for the central government and its agencies to devolve all responsibilities of the regional environmental issues to the regional and local governments.

Fourth, the role that the regional and local levels of government would play in their particular regions is discussed drawing from the experience in New Zealand

to help draft effective strategies for the regional and local levels of environmental management in South Africa. This section of the chapter indicates the central role that the regional and local levels of the management of the resources would play to improve the quality of life of the people within their regions and protecting the life-support systems so as to meet the needs of the presents and those of future generations.

Fifth, the chapter presents an ideal integrated approach for the management of coastal areas for the country from experience of the Resource Management Act 1991's coastal policy statements and plans. It also indicates the role that regional councils could play in the formulation of policies and plans for the management of coastal areas. The need to develop an effective strategy for the coastal management arises as a result of the inadequacies of the regulation of the coastal marine area discussed in Chapter Four.

Sixth, the need to redefine and integrate environmental impact assessment into planning in South Africa is discussed. This section suggests the application of SEA for the assessments of policies, plans, programmes and alternatives earlier on to assess the likely impacts of development projects.

IDEAL INTEGRATED ENVIRONMENTAL LEGISLATION

The need to establish an integrated system of environmental legislation in South Africa arises as a result of the need to reform previously fragmented

environmental legislation as discussed in Chapters Three and Four. Integrated environmental legislation is a central instrument for use by the government in redressing management, planning, administration problems including a lack of enforcement of land-use regulation and environmental protection. Most importantly, comprehensive environmental legislation would ensure that government departments and private agencies engaged in development activities would assess the environmental impacts of implementation of major programmes and actions earlier on in the planning process. Formal EIS would be required for projects which be likely to have significant effects on the quality of the human environment.

In New Zealand, the Resource Management Act 1991 provides a useful model for South Africa to adopt in order to established an effective integrated environmental legislation in that impact procedures have been integrated with planning and decision making. In addition, impact assessment procedures are implemented by both the regional councils and territorial authorities. Dixon (1994) argues that the object of the reform of environmental administration, local government, and resource law ensures that environmental policy is more comprehensive and integrated. The effectiveness of comprehensive environmental legislation needs to include consideration of the following elements:

- * Promotion of an ecological view that would ensure the significance of ecosystems and the interactions between humans and nature;
- * Provision of information about natural resources and social considerations in the planning stage of developments projects which would likely to have negative effects on the environment;
- * Enhancement of processes to ensure effective participation of communities and

indigenous peoples in decision making and monitoring phases of development projects;

- * Promotion of environmental education among communities as well as indigenous peoples role in the protection and management of the environment within their particular regions;
- * Integration of indigenous values, culture, traditions and their stewardship techniques for the protection of natural resources with modern techniques;
- * Provision of mechanisms for environmental disputes resolutions.

The integration of the current diverse legislation about environmental management in South Africa, would facilitate the establishment of broad objectives in natural resource management and priorities for natural resource utilization. It should also deal with the following elements: noise and air pollution, adverse offsite effects of soil erosion, the quality of freshwater and coastal water, offsite effects of land-use, protection of rare species and preservation of important natural habitat. In addition, the integrated legislation should ensure the integration of management of air, land and water, pollution and mining activities across levels of planning in South Africa.

The neglect of the previous environmental legislation to recognise and enforce the rights of indigenous peoples, necessitate the establishment of an effective legislative framework that would facilitate access to, and use of land and natural resources practised by indigenous peoples in South Africa. The integrated legislation would enable indigenous peoples to establish institutional structures and economic basis which would assist them to participate effectively in decision making processes which affect their interests. In New Zealand:

"Consultation is a strong feature of the Resource Management Act. While for many years, New Zealanders have enjoyed third party in respect of statutory land and water issues, this Act went further in allowing anyone rights to make submissions on applications for resource consents, proposed policy statements and plans. An important aspect is the recognition given to Maori (section 8) as a group with special interests who must be consulted as part of resource consent matters or plan preparation" (Dixon, 1994:5).

There would be a need for environmental legislation in South Africa to recognise and enforce the rights of indigenous peoples, which would prioritise their interests within a stronger legal framework. It would be essential to reinforce the rights of indigenous peoples in the legislation, so as to protect traditional management systems. For example:

"Environmental management is an essential component of the regional agreements strategy, not only because of the central role of land care in indigenous culture and the indigenous value system, but also because indigenous peoples cannot expect to determine their economic and social development without control over the forces which govern, and otherwise undermine, their natural resource base" (Richardson et al, 1994:321).

THE NEED TO INCORPORATE INDIGENOUS PEOPLES RESOURCE MANAGEMENT SYSTEMS WITHIN THE NATIONAL NATURE CONSERVATION PLAN

"Common property resource management practices incorporate a rich and varied library of traditional knowledge, knowledge that has been developed over extensive periods of time, knowledge that has sustained the living resource base upon which social communities depend (Berkes, 1989:1).

At international and national levels, the IUCN/UNEP/WWF (1991) and Agenda 21 have recommended major changes to legal systems and policy framework with important implications for the role of indigenous peoples in environmental

decision making processes and the recognition of traditional management systems. In South Africa, there is a need to establish new institutional arrangements for indigenous participation in environmental decision making and conservation management issues. South Africa may also learn from the Canadian regional arrangements, (Richardson, 1994) which involve the exchange of indeterminate native title rights for a clear legislatively-defined land tenure regime. Under this regime, indigenous peoples would enjoy a gradation of land rights, relating to land, land use and marine resources.

The conservation management strategy in South Africa should be consistent with the objectives of indigenous peoples who live within particular regions of South Africa. The strategy should also ensure a balance between the preservation of subsistence use of natural resources by indigenous peoples and protection of endangered species. Involvement of indigenous peoples in strategy preparation should reflect the traditional and current levels, patterns and the character of indigenous peoples in the utilization of natural resources within various regions of the country. The joint conservation and management of natural resources between indigenous peoples and government agencies would enable indigenous peoples to utilize resources in meeting specific basic needs. The strategy should also provide priority for indigenous peoples to harvesting traditional wildlife resources, and for establishing and operating economic ventures based on integrated management of wildlife resources.

National conservation plans in South Africa should consider the cultural and political perspectives of indigenous peoples who live within particular regions. Conservationists and managers of natural resources should co-operate with indigenous peoples in a common approach to resource management and economic development.

The experience of indigenous peoples in Canada (Richardson et al,1994) suggests that a number of principles that may be important in underpinning any proposed conservation and management strategy in South Africa:

- * A regional agreement should be negotiated on the basis of the social and economic needs of indigenous peoples, in addition, or as an alternative, to traditional associations with land. If regional agreements are negotiated simply on the basis of traditional associations, then many indigenous peoples who have long been dispossessed from their lands will continue to be disadvantaged and marginalized.
- * An agreement should recognise and affirm existing native rights, as well as allow native rights to be adequately defined and renewed over time.
- * claim negotiations should proceed according to an agreed check-list of objectives and principles.
- * Negotiations should normally involve both federal and State governments. However, the federal government has the power, and should be prepared, to negotiate solely with indigenous communities if a State government is unwilling to co-operate.
- * Regional agreement should provide for self-determination on native title lands and bi-cultural resource management institutions in the wider context, such as for regional land-use planning.
- * In areas not covered by a regional agreement but nevertheless containing specific site of importance to indigenous communities, all development activity such as pastoralism and mining exploration should be subject to the rights of the affected indigenous communities, continue access to the area and appointment of indigenous representatives to monitor the development work.

AN IDEAL NATIONAL INTEGRATED ENVIRONMENTAL STRATEGY

The South African government should play a central role in environmental protection. The government and its agencies should be responsible for formulation of integrated environmental policies, and implementation of international treaties and consistent and comprehensive regulations and other environmental controls for South Africa as whole. The above mentioned matters should not be left to local authorities, although they are incorporated and have powers delegated in statutes. Implementation of functions, may result in differences and inconsistencies between local authority areas.

Environmental problems such as hazardous wastes, toxic substances, global warming, ozone depletion and acid rain generally transcend local and national boundaries as global issues. It would be difficult for local authorities in South Africa to deal with these matters at lower policy levels consistently and effectively. However, it would not be appropriate for national environmental policies and controls imposed by the government and its agencies, to be administered centrally.

A South African national strategy for integrated resource management should set long term targets for the promotion of sustainable management of the natural and physical resources. The national strategy would ensure the sustainable management of the natural and physical resources so as to meet the needs of the current and those of future generations. The national strategy should also

promote the protection of the life-support systems as they are crucial in sustaining economic development in South Africa.

A national integrated strategy should be developed in a process characterised by the partnership between government authorities, non-governmental establishments, interest groups, indigenous peoples and communities in rural and urban areas. The effective participation of the public in the formulation of the national strategy would ensure its effective implementation at the national, regional and local levels. Possible suggestions include the right for public to make submissions about the effects of development projects which affect them and establishment of a tribunal. The strategy should be responsible for the allocation of resources and setting priority for the following matters of national importance:

- * an integrated approach for the protection of the coastal environment;
- * protection of natural features and landscape;
- * recognise the relationship between indigenous peoples and their culture and tradition to the environment;
- * sustainable use and development of natural and physical resources;
- * protection of ecologically sensitive areas;
- * maintain of environmental quality; and
- * Commitment by South Africa to global concerns.

THE ROLE OF THE REGIONAL AND LOCAL AUTHORITIES IN ENVIRONMENTAL PROTECTION

The integrated national strategy may be implemented by the establishment of the regional and local levels. The regional and local levels would operate within the national framework to protect the needs of the central government. Both the

regional and local plans should not be inconsistent with national plans and policies.

For the nature of different resources and environmental matters, there would be a need in South Africa to establish a strategy that would encourage particular functions to be developed to the regional and local levels. The devolution of these functions to the regional and local levels means that they would be accountable for their respective functions. In New Zealand:

"Regional authorities are required to publish regional policy statements which provide an overview of resource management issues in their regions. These documents set a framework within which regional and district plans are prepared by councils. The policy statements and plans provide the policies and rules which govern the administration of resource consents covering land activities, land subdivision, water use permits, discharge permits and coastal activities" (Dixon, 1994: 4-5).

Both the regional and local levels should effectively involve communities and indigenous peoples in the decision-making processes. For the regional and local authorities to function effectively and efficiently, they would need a coordinated approach to environmental management in South Africa.

THE REGIONAL LEVEL

The regional level would play a vital role in implementing the integrated national strategy by concentrating on issues of regional importance. In New Zealand, the purpose of the Resource Management Act 1991 is to enable people and communities to provide for their social, economic, and cultural well being and for

their and health and safety (Appendix A1.1.5). By establishing lines of communications, integrated national strategy would satisfy both communities and indigenous peoples and the regional government.

In New Zealand, the regional councils are responsible for the management of resources to achieve the purpose of the Act (Appendix A1.1.5). The regional level would be responsible for the management of resources such as:

- * management of soil and water;
- * natural disaster mitigation;
- * management of hazardous substances;
- * air pollution.

The experience of the responsibilities of the regional councils on the management of resources in New Zealand can help South African resource planners to draft an integrated regional strategy for resource management. Figure 4.4 in Chapter four, shows planning responsibilities and relationships between the national, regional and local levels in New Zealand.

THE LOCAL LEVEL

Local government should be responsible for planning and the recognition integrated resource management objectives within catchments. Local government should also formulate strategy for working effectively with individual tribal authorities. It should play a vital role in service delivery functions. Despite the problems faced if a local level of planning does not have water quality control functions, it should take account of the effects of any land use on the quality of nearby rivers and streams. Regarding the role of local councils in resource

management issues in New Zealand, Dixon (1994) maintains that the new districts and city councils, are still responsible for land use planning, noise and land subdivision, a traditional role for local government in New Zealand with a more comprehensive overview for integrating policies, particularly at the regional level.

Territorial Authorities at the local level should be responsible for the management of resources, for instance. Section 31 of New Zealand's the Resource Management Act 1991 states:

31. Function of territorial authorities under Act-

Every territorial authority shall have the following functions for the purpose of giving effect to this Act in its district:

- (a) The establishment, implementation, and review of objectives, policies, and methods to achieve integrated management of the effects of the use, development, or protection of land and associated natural and physical resources of the district:
- (b) The control of any actual or potential effects of the use, development, or protection of land, including the purpose of the avoidance or mitigation of natural hazards, and prevention or mitigation of any adverse effects of the storage, use, disposal, or transportation of hazardous substances:
- (c) The control of the subdivision of land:
- (d) The control of the emission of noise and the mitigation of the effects of noise:
- (e) The control of any actual or potential effects of activities in relation to the surface of water in rivers and lakes:
- (f) Any other functions specified in this Act (Resource Management Act 1991).

To achieve sustainable management of the natural and physical resources in South Africa both the regional and local levels of resource management should promote co-ordination. However, plans and policies of the regional and local levels should not be inconsistent with those at the national level.

Attention should be given by both regional and local authorities in South Africa to promote effective participation with communities and indigenous peoples in the formulation and implementation of policies and plans for environmental control in their regions. Black communities and indigenous peoples in South Africa have not been consulted with matters concerning the management resources as a result of apartheid policies.

AN IDEAL INTEGRATED COASTAL MANAGEMENT APPROACH

The formulation of the policy framework that would deal with issues which affect the coastal areas would be essential in South Africa. In addition, coastal plans should also be established to manage activities that would have irreversible adverse effects on the coastal marine areas. Coastal plans should deal with issues such as:

- * discharge of contaminants;
- * disturbance of foreshore and sea bed;
- * reclamation;
- * extraction and demolition of structures;
- * the conduct of activities on the surface of the water; and
- * the use and taking of water.

In New Zealand regional coastal policy statements and plans is one approach which the government in South Africa could consider for the establishment of new regional councils that would prepare policies and plans for the management of the coastal area in their regions. Regional councils in New Zealand must prepare a Regional Coastal Plan (or Plans) for the coastal marine area in their region. The purpose of the preparation, implementation, and administration of the plans

is to assist a Council, in conjunction with the Minister of Conservation, to achieve the purpose of the Act in relation to the coastal marine areas of the Region. It would also be necessary to apply control measures to restrict environmental effects and to collect information that would be used to formulate plans and policies for the management of coastal areas in South Africa. Minimum standards should be set to control activities in coastal marine areas and to restrict activities that would cause serious adverse environmental effects. For example, in New Zealand, the Resource Management Act 1991 sets minimum standards for activities in the coastal marine area, restricting or prohibiting many activities which cause adverse environmental effects UNLESS they are facilitated by a rule in a Regional Coastal Plan or by a resource consent (Rosier, 1994).

In South Africa, a co-ordinated coastal management approach will be needed to achieve integrated management. Moreover, effective communication between various environmental organisations and government agencies would be essential to develop coastal plans within various regions in the country. The formulation of integrated strategy for coastal management would be crucial to provide information that would increase public awareness about coastal issues in South Africa. Information should be tailored in such way, that it promotes a positive attitude about the coastal area and encourage the public to protect the coastal marine resources for present and future generations. Most importantly, information on the coastal area should be published and be disseminated in the manner that is understood, specially with regard to indigenous peoples. Information should also be provided to environmental organisations and

development agencies involved in development activities on the coastal area. The information should be managed in an integrated manner to avoid duplication.

Table 5.1 shows the ENPAT atlas flow diagram developed by the Department of Environment Affairs which offers a useful database model for integrated environmental information. The department is to extend ENPAT to eventually include all the metropolis and the coastal zone on a scale of 1:50 000, and the whole country on a broader scale, 1:1 000 000 (ENPAT News Letter, 1993, No 1). However, as it have been mentioned above, environmental information should be documented in the local language and in the form and style with which indigenous peoples in South Africa could understand.

The use of economic instruments would be an essential component to achieve environmental results and change behaviour on the coastal area. Pollution charges such as "Polluter Pays", would be useful for regulating effluent discharges on the coastal zone.

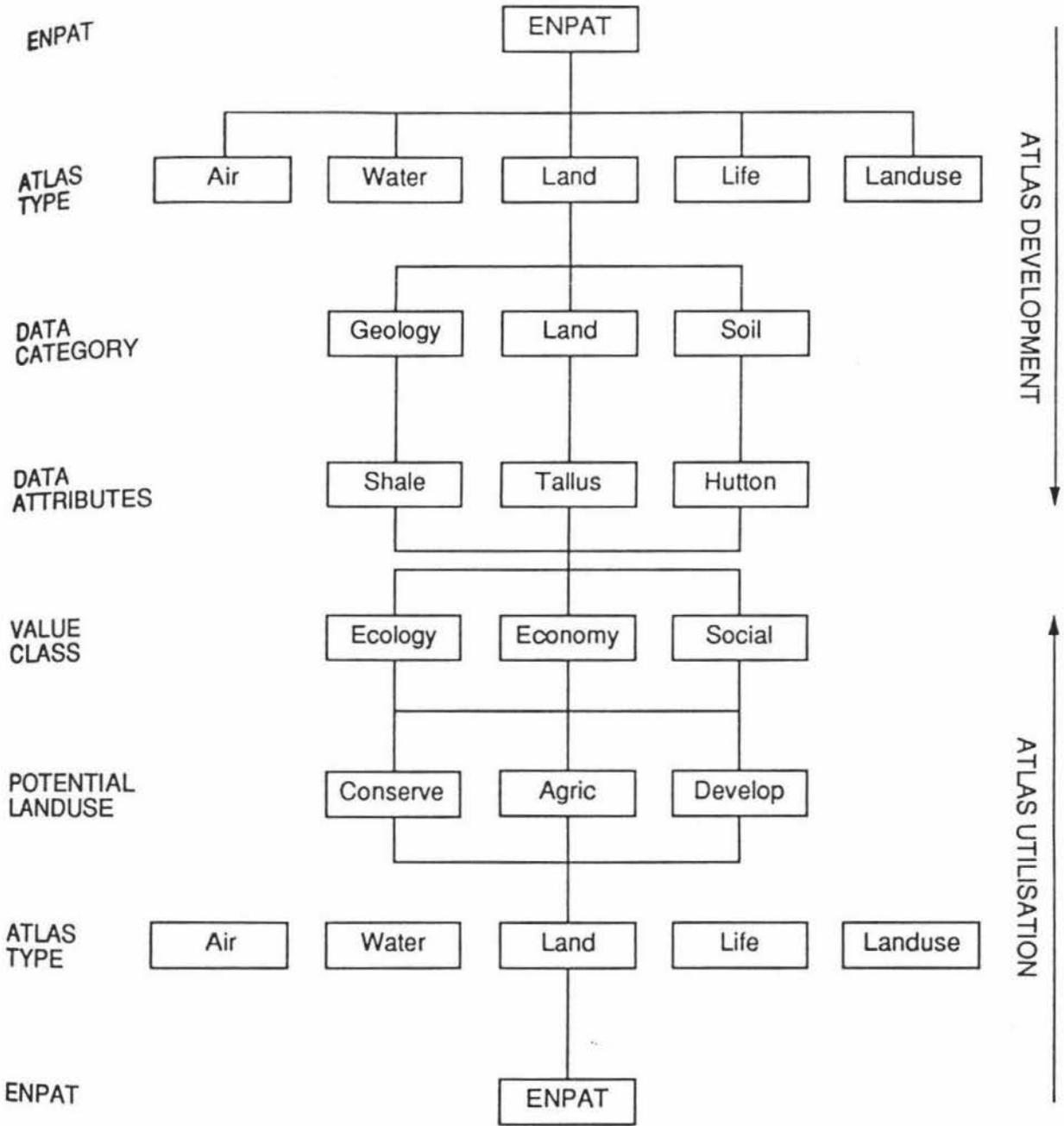


Figure 5.1 ENPAT Atlas Diagram
 Source: Enpat Newsletter 93:1 p3.

THE NEED TO INTEGRATE ENVIRONMENTAL IMPACT ASSESSMENT INTO PLANNING

The redefinition of environmental impact assessment in South Africa is crucial if we are to move towards sustainable development. The process must be more adaptive and more problem focused. EIA needs to be considered in the preparation of policies, and in evaluation of policies and strategies to address cumulative impacts. Most importantly, (EIA) process should include opportunities for interested parties to identify and articulate aspects of their socio-economic system which have been important in the preservation and enhancement of their quality of life. Dixon (1994) argues that the New Zealand's Resource Management Act (1991) significantly revised the practice of EIA in New Zealand. Whereas previously EIA was project-specific, it is now integrated within the planning system as a broader process of environmental assessment.

The identification of diverse interests and value-based conflict, and the terms in which local communities and indigenous peoples perceive development and its negative effects, would be imperative in making the process of environmental impact assessment (EIA) more integrative and responsive to human and ecological needs in South Africa.

It is essential to apply EIA in South Africa within a more comprehensive and strategic approach which encompasses assessments of policies, plans, programmes and alternatives. It has been realised EIA at a strategic level

would address environmental impacts to be address at an earlier stage in decision-making and its considerations of the wider range of actions over a greater area. However, in the context of South Africa, the application of environmental impact assessment process at the strategic level, would require institutional arrangements to be restructured so as to provide a basis for integration of interest representation.

There is a need to move away from the traditional project-specific of environmental impact assessment (EIA) towards more a integrated model of environmental-economic analysis if progress is to be made to achieve the goal of sustainability in South Africa. SEA has been viewed as a means to provide a formalised, integrative and systematic strategy to decision-making to achieve the goal of sustainability.

"SEA is in many ways a prototype of this new approach to environmental issues. It requires institutions to consider the consequences of a range of actions early on in the planning process, to choose the most appropriate action on environmental as well as socio-economic grounds, and to minimize any remaining environmental impact assessment. It is thus characterised by its strategic nature and its emphasis on preventing environmental damage" (Therivel et al, 1994:29).

SEA would play a central role as goal to achieve sustainable development in South Africa in that it covers development policies, plans, programmes and alternatives governing the conversion and degradation of the natural and physical resources.

Figure 5.2 shows the horizontal and vertical linkages involving environmental policies and development strategies. The elements of strategic environmental assessment illustrated in Figure 5.2 , involved the conduct of cumulative impact assessments at the regional as a component of an integrated resource management and requirements for environmental reports. Furthermore, Figure 5.2 shows the importance to co-ordinate other strategies and policy instruments to achieve the national, regional and local goals for sustainable development. Figure 5.2 provides a useful model for South Africa to develop a framework for integrating environmental impact assessment into policy.

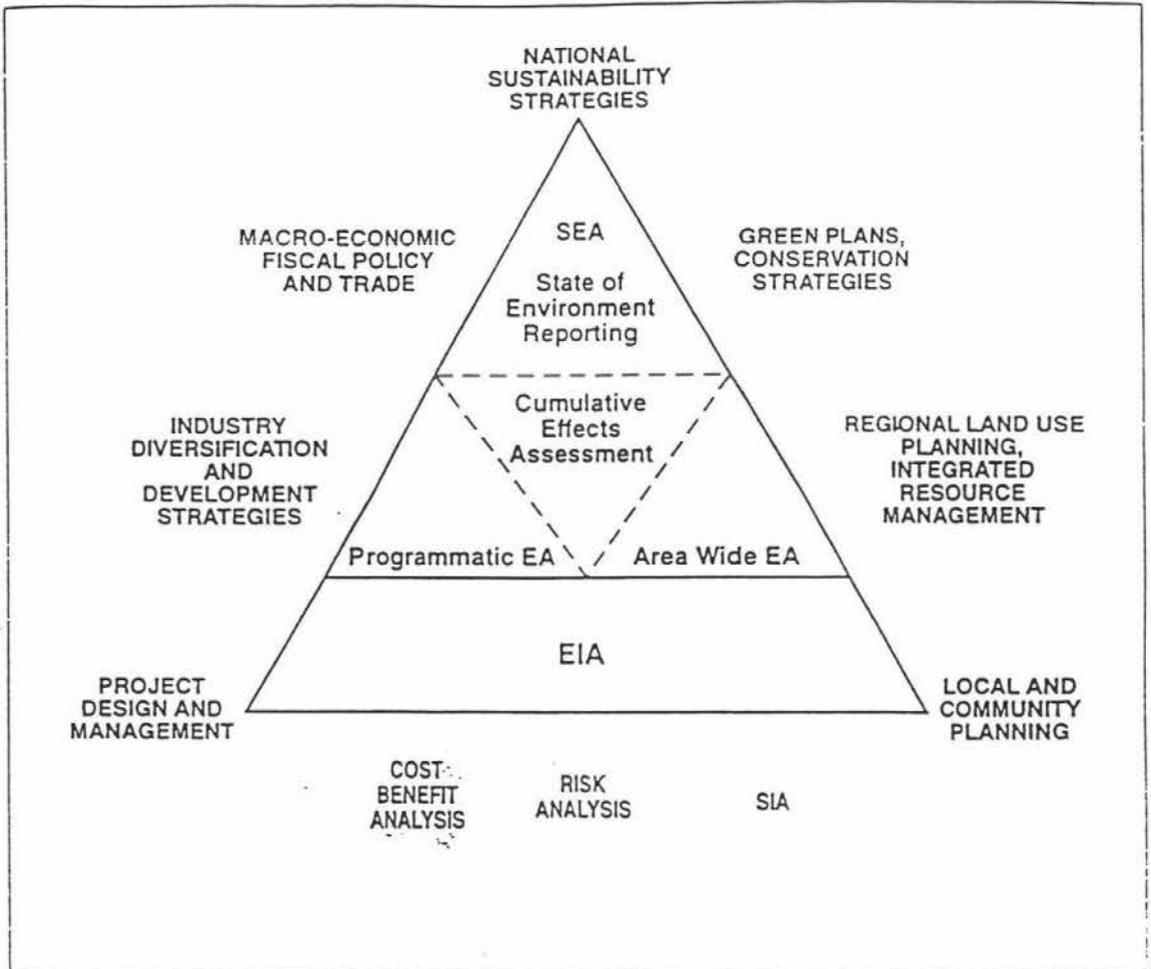


Figure 5.2 EA and Instrumental Linkages
 Source: Sadler, (1994).

Figure 5.3 represents a proposed strategic environmental assessment (SEA) system for South Africa. However, most of the elements of the SEA system drawn from Sadler (1994) can be observed. In comparing the two figures, the establishment of the South African regional and local levels of government would play a central role in the application of environmental assessment as goal to achieve sustainable development. In addition, the Figure 5.3 shows the important role that regional policies would play to influence the formulation of policies at both the regional and local levels for environmental assessment. In New Zealand section 32 sets out requirements for assessing plans and policy statements (Appendix A1.1.6).

INTEGRATED STRATEGIES
FOR SUSTAINABLE DEVELOPMENT

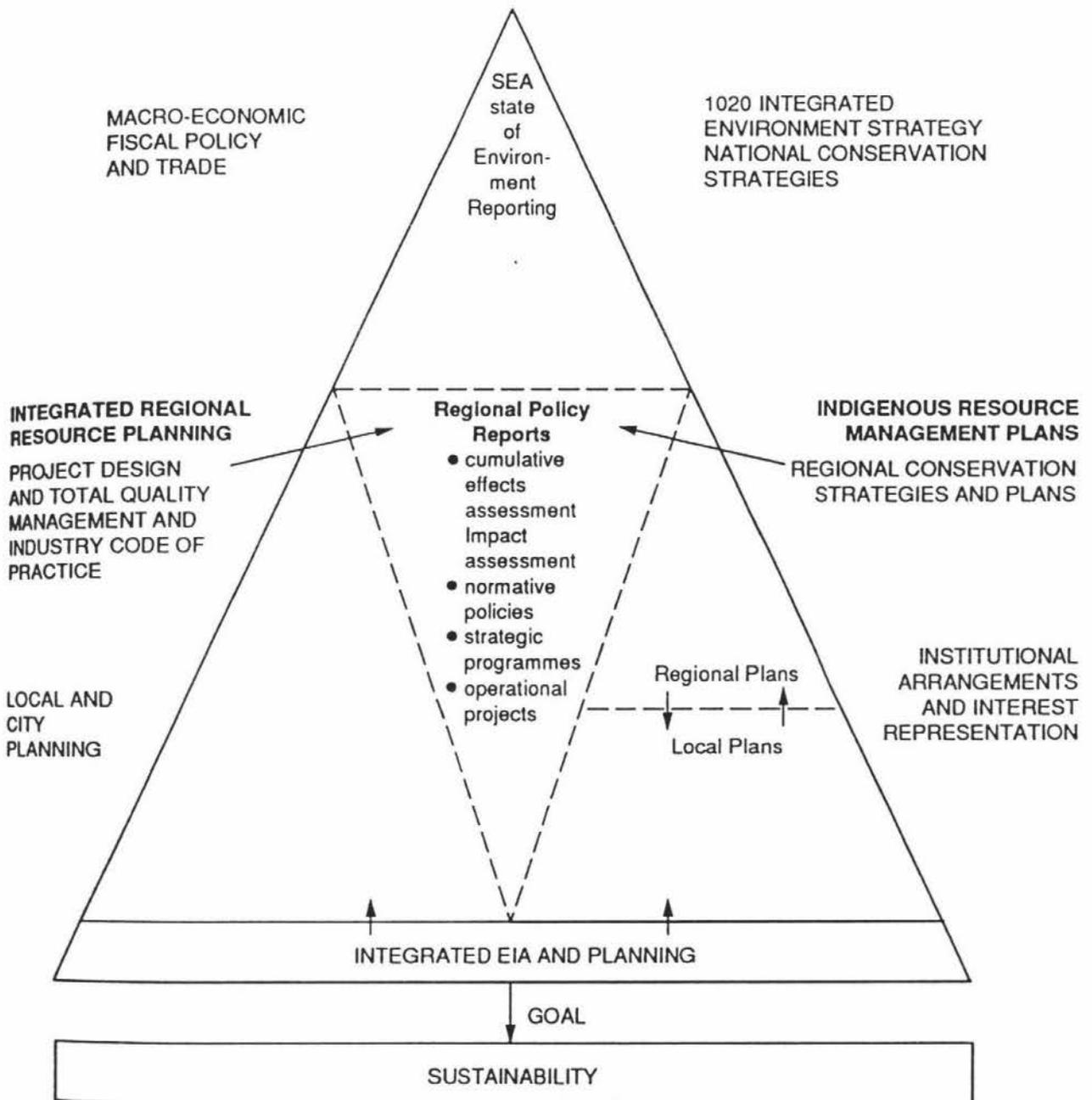


Figure 5.3 Proposed Strategic Environmental Assessment (SEA) for South Africa

Source: Adapted from Sadler 1994.

CONCLUSIONS

The suggestions drawn from previous chapters present challenges and opportunities for the ideal integrated strategic environmental management policy developed in this chapter with the objective to achieve sustainability and development. For South Africa to move towards an integrated environmental management policy it needs to develop a comprehensive environmental legislation that would be accepted by all members in the society. It appears from this chapter that an ideal integrated environmental legislation would serve as a planning tool to preserve genetic resources and resolve natural resource conflicts in the country.

The ideal integrated environmental management system would offer opportunities to recognise the rights of indigenous peoples in the management of the natural resources which they depend on for their livelihood. The partnership between the indigenous peoples and government departments should be promoted with regard to the management of the resources. The chapter indicates that it would be essential to develop institutional structures to encourage active involvement of indigenous peoples in decision-making processes similar to those developed in Canada and New Zealand. The discussion also indicated the importance of establishing effective comprehensive, coherent and integrated national strategy for the management of the natural resources of national importance. Moreover, this strategy would facilitate a co-ordinated approach between government departments, business, industry, communities and

indigenous peoples for decision making processes.

The chapter also focused on the central role to be played by regional and local levels of government in environmental management and protection. However, it would be essential for both the regional and local levels to promote active involvement of communities and indigenous peoples in the formulation and implementation of policies and plans in their regions. The need to involve communities and indigenous peoples in the formulation of plans for the management of resources has been expressed by the IUCN/UNEP/WWF (1991) and Agenda 21 in the previous chapters. The experience of the regional policy plans and statements in New Zealand provide opportunities to help draft strategic policies for both the regional and local levels of resource management for South Africa.

The emphasis on integrated coastal management provided an ideal strategy to resolve the inadequacy of the regulation of the coastal marine area in South Africa. Most significantly, the chapter indicated the need to involve communities and raise awareness through education with the objective to promote new attitudes about the coastal area. The regional and local levels would be required to gather and manage information on the coastal marine area in an integrated manner. In addition, the IUCN/UNEP/WWF (1991) suggests (Chapter Four) that national policies should establish mechanisms to co-ordinate the planning and allocation of uses of the coastal zone.

Finally, an ideal integrated system of environmental assessment is developed. An SEA is derived which incorporates elements of EIA within the context of the particular set of institutional arrangements in South Africa. A matrix contain in Appendix 5.5.1 provide a useful model of the sustainable management of the natural and physical resources in the New Zealand Resource Management Act 1991 which South Africa could adopt to draft an integrated environmental management system.

The following chapter would develop products or recommendations drawn from the suggestions put forward by the IUCN/UNEP/WWF (1991), Agenda 21, the Resource Management Act 1991 and theorists from previous chapters. The recommendations would also be developed from ideal integrated environmental management system discussed in this chapter.

CHAPTER SIX

POLICY RECOMMENDATIONS FOR THE IDEAL INTEGRATED ENVIRONMENTAL MANAGEMENT SYSTEM

INTRODUCTION

This chapter focuses upon the recommendations to develop an ideal integrated environmental management system for South Africa. These recommendations are derived from Chapter Two, which uses a literature review to develop criteria for analysing South Africa's environmental management system. Criteria has also been derived from the IUCN/UNEP/WWF (1991) strategy, Agenda 21, and the New Zealand Resource Management Act 1991 for the purpose of evaluating the White Paper, criticisms of the White Paper and the proposed Integrated Environmental Management procedure. The recommendations are based on the following important principles of an ideal integrated environmental management system:

- * Incorporation of indigenous resource management systems;
- * Integration of coastal management;
- * Integration of EIA into policy preparation process; and
- * Inclusion of business and other non-governmental organisations in innovative joint environmental management approaches.

Figure 6.1 represents the historical background of South Africa discussed in Chapter One. It also shows the criteria derived from the recommended national actions from the IUCN/UNEP/WWF (1991), Agenda 21, the New Zealand

Resource Management Act 1991 and the views of theorists. The criteria has been used to evaluate the White Paper, submissions and proposed the Integrated Environmental Management procedure in South Africa. Figure 6.1 also shows the recommended changes to the current South African environmental management system by developing an ideal integrated environmental management system for South Africa.

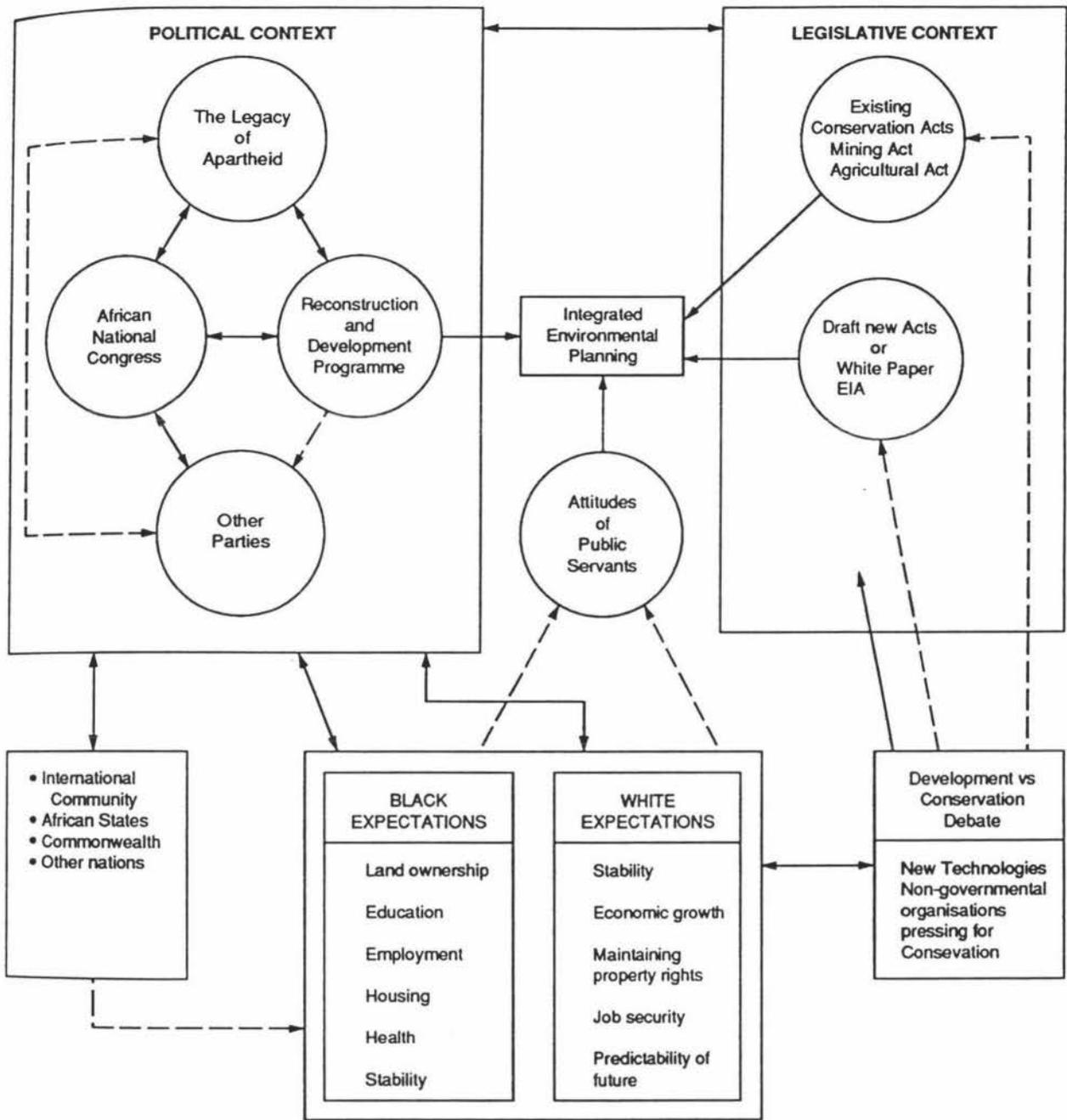


Figure 6.2 Status of National Environmental Planning in South Africa

Before presenting the recommendations for an ideal integrated environmental management system, a brief overview of the political and legislative contexts in South Africa (illustrated in Figure 6.2) is provided. Figure 6.2 shows the profound impact of the ANC's opposition to apartheid. It also shows the role of other political parties contribution to dismantle apartheid. The Reconstruction and Development Programme is the policy of the new government to address the basic needs of the majority of the black population. Figure 6.2 also shows the pressure exerted by the international community to dismantle apartheid. It also shows the contributions of the international community in addressing the expectations of the populations majority in South Africa.

Since the 1994 general elections, the new government is now faced with the challenge of addressing the expectations of both black and white people as illustrated by Figure 6.2. It also shows the role which the new public servants can play to meet the expectations of both black and white people in South Africa. Figure 6.2 illustrates the need for drafting new conservation Acts and the promotion of sustainable development and conservation. It also shows the need to develop new technologies in order to promote clean industries in South Africa.

The political context provides the internal and external pressures that have forced the previous government to move away from apartheid rule in South Africa towards a more democratic, non-racial era negotiated by all political parties. The legislative context provide the various Conservation Acts and the need to reformulate the current South African environmental legislation to achieve the goal of sustainable management of the natural and physical resources.

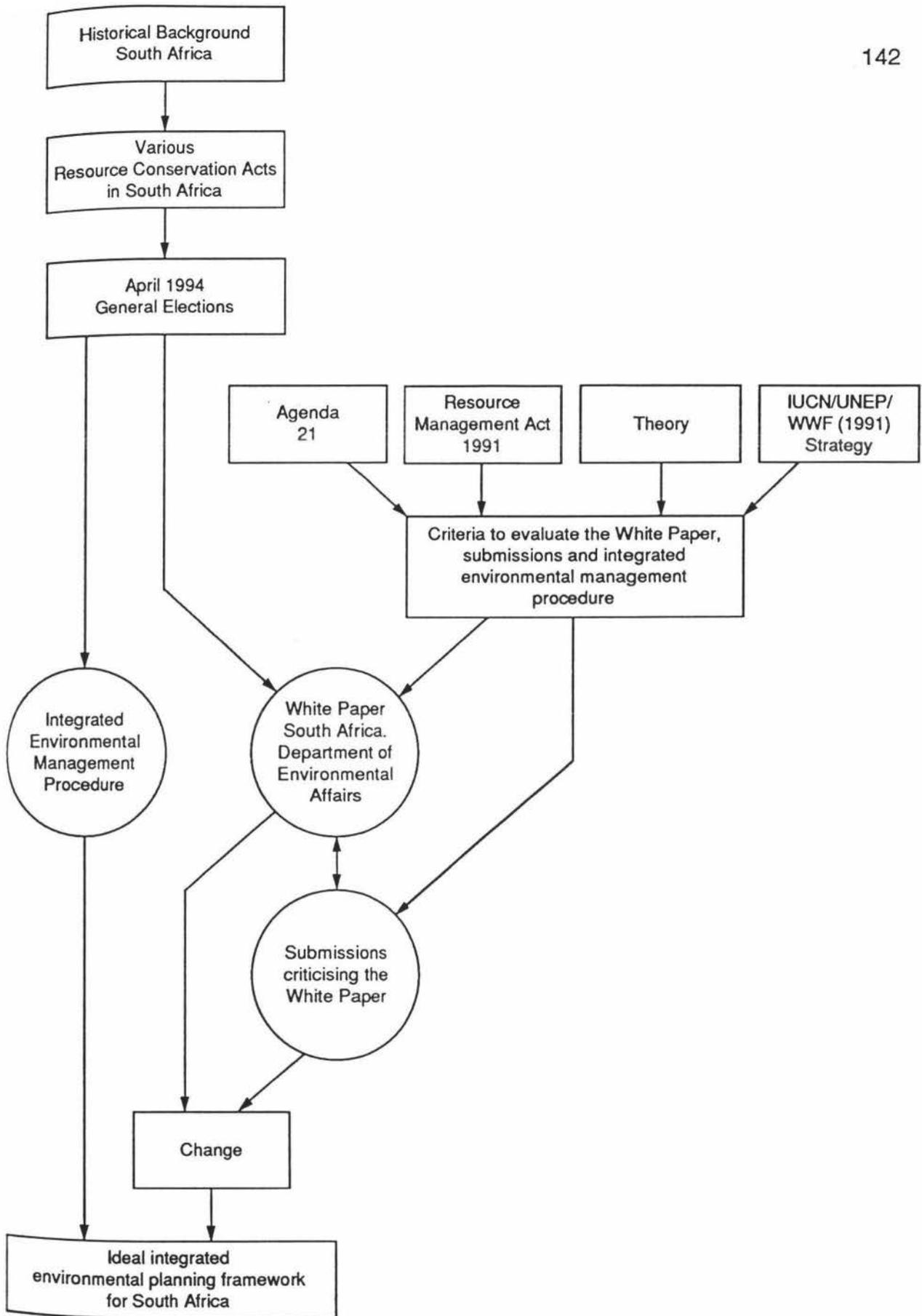


Figure 6.1 Ideal Integrated Environmental Planning for South Africa

POLITICAL CONTEXT

"Apartheid reveals with exceptional clarity the way unfairness within the human estate extends its damage into the natural estate as well" (Durning 1990:7).

The legacy of Apartheid

The history of South Africa in the past has been dominated by colonialism, racial discrimination, apartheid and repressive labour laws (refer to Chapter One).

"Historically and as a result of uneven resource endowments there are great inter and intra-regional disparities economically, socially and institutionally. Economic power exists in concentrated regions, particularly in the PWV area, while other regions are considerably poorer with high unemployment and poor social indicators" (Muslow et al, 1994:237)

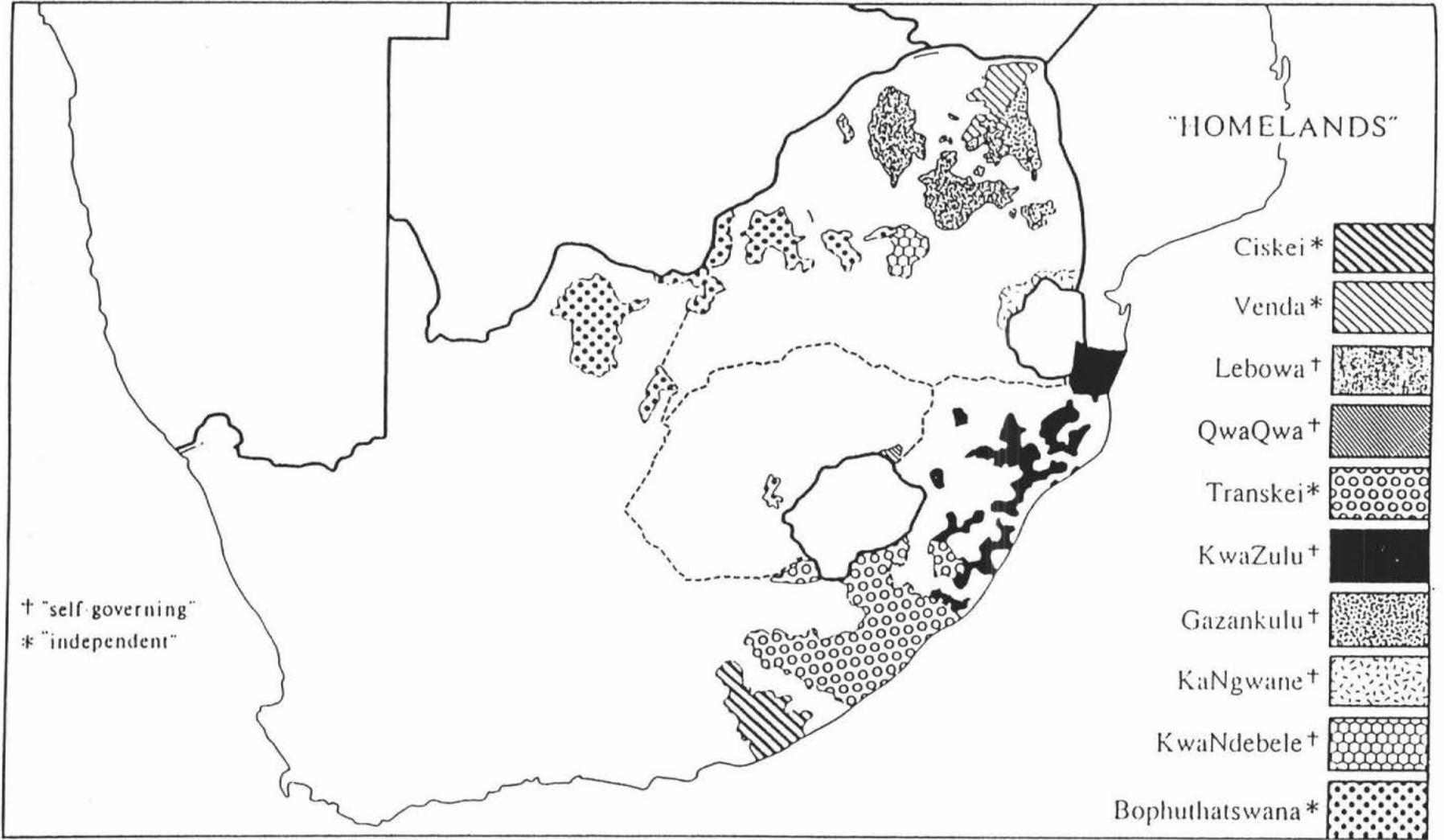
It is now realised that apartheid also resulted in increased impacts on the environment. Apartheid policies have polluted the air, water, rivers and the soil without requiring rehabilitation of polluted areas. For example, mining has been unsustainable and adverse effects on the environment have been underestimated because of the need to use natural resources to sustain an unpopular political regime. For example:

"To finance the military superstructure that upholds minority rule, broad areas have been deeply scarred by reckless mining. Meanwhile, air pollution over the nation's coal regions ranks with the worst in the world, partly because of energy strategy that aims at minimizing dependence on anti-apartheid oil exporters. South African mining and energy policies contribute to global environmental threats on a scale completely out of proportion to the size of the nation's population and economy" (Durning, 1990:6).

Adverse effects of environmental degradation are evident in the former "homelands" (Map 6.1) where large numbers of black people have been dispossessed of lands which are now generally infertile.

The former "homelands" are located in fragile environments. The majority of black people have been given land where topsoil is thin and rainfall unpredictable making sustainable agriculture impossible. Ramphele (1991) asserts that under the Nationalist Government's policy of apartheid, massive removal of communities from productive to unproductive land has increased the pace and extent of environmental destruction.

Map 6.1 showing former "Homelands"
 Source: Ramphele et al. (1991).



THE AFRICAN NATIONAL CONGRESS AND ITS OPPOSITION TO APARTHEID

There is no doubt that the African National Congress has had a profound impact because of its opposition to white domination. Since its foundation in 1912, the African National Congress (ANC) has been inclusive of all political persuasions united in opposition to white domination and apartheid. The ANC has been consistent in its vision for a non-racial, apartheid-free, democratic South Africa with equal opportunities for all South African citizens (Johns et al, 1991). In addition, the organisation enjoys a strong, widespread support among black people and among a minority of the white population. However, this does not deny the role which other parties played in the struggle against apartheid.

During the years of struggle against apartheid, ANC has been more concerned with political and economic objectives to redress racial inequalities and environmental effects created by apartheid policies. Ramphela (1991) asserts that since then there has been a narrow focus on political change as the prime concern during the transitional change in South Africa. This means that political parties in the coalition have paid less attention to environmental issues.

INTERNATIONAL COMMUNITY

The external pressure from the international community had a profound impact on the internal dynamics of the demise of apartheid in South Africa. The eight

year presidency of Ronald Reagan and Corbachev's rise to power in the former USSR resulted in a shift of emphasis in international relations. Both powers began to argue that conflicting differences should be settled through peaceful means. Therefore, the outcome of US and USSR policy changes, is that individual countries, such as South Africa need to adopt divergent approaches to solving hostilities. Most importantly, in the case of Angola, Namibia and South Africa, internal hostilities have been transformed into efforts to pool resources and set time frames to settle internal conflicts.

Another factor which contributed to the demise of apartheid has been the decline of the world gold prices. According to Lee et al (1991) the country's share in international gold production slipped from 60 percent to 40 per cent. Furthermore, Lee et al (1991) maintains that countries like Canada, the US, and Australia could produce gold significantly cheaper per ounce than South Africa. As the previous government has been reliant on its mineral base to nurture the economy, great damage have been done to the environment in the past.

"Apartheid is linked to mining's environmental toll in three ways. First, the enormous costs to the white government and economy of maintaining apartheid have made Pretoria financially dependent on mining. Consequently, the state have given great freedom to the minerals industry, allowing it to endanger black miners and the environment while protecting it from public scrutiny. Second, as occurs all too commonly around the world, the environmental costs of mining fall onto the poor, who are, in the apartheid state of South Africa, almost exclusively dark skinned" (Durning, 1990:15).

INTERNATIONAL TRADE SANCTIONS

The international community imposed trade sanctions against the former South African government in order to punish the continual violation of the fundamental universally-accepted human rights through institutionalised racial discrimination, and to reduce the white domination of the majority of black South Africans. In the past, sanctions have also been imposed against the former South African government because of its continued administration of Namibia in contravention of international law, and other military actions through which South Africa destabilized adjoining Southern African states.

Despite South Africa's attempts to thwart sanctions, they were a valuable tool in making the conduct of international trade more difficult and costly for South Africa. The sanctions isolated the South African business sector and affected sporting ties to an extent only fully realised now that sanctions have been removed. For example:

"Profits from mining are essential to South Africa because upholding apartheid has strained the country's economy to the breaking point. International trade sanctions and divestment have lowered real consumer spending some 15 percent and cut gross domestic product at least 10 per cent from what it otherwise would have been, according to Chris Van Wyk, chief executive of South African Bankorp. On top of these international penalties, apartheid itself has stifled the nation's economy" (Durning, 1990:16).

The Commonwealth and its member states have played an important role in bringing about the demise of apartheid. South Africa rejoined the Commonwealth on the 1st of June, 1994 and became its 51st member. President Mandela has

acknowledged the role that the Commonwealth and its member states played in bring about the end of apartheid.

Furthermore, the Commonwealth has expressed its willingness to assist the new South African government in its efforts to address the massive socio-economic problems facing the country, particularly, as regards the level of abject poverty, lack of housing, sanitation, health, employment, education and training among the majority of black South Africans (Commonwealth Currents, 1994).

SOCIO-ECONOMIC EXPECTATIONS

One of the most important issues to black South Africans during and after the historic April 1994 general elections has been land ownership. The majority of black South Africans demand the restoration of land rights lost under apartheid. The new government is faced with the challenge of addressing the injustices of forced removals and the historical denial of access to land. One of the objectives of the Reconstruction and Development Programme (1994) is to ensure that the economy is restructured in such a way that it generates large-scale employment to increase rural incomes and address overcrowding. Christainsen (1993) estimates that a number of white farmers still own and operate large track of farms that account for more than 80 per cent of South Africa's agricultural land.

Another expectation of the majority of black South Africans is better education. Historically, statistics on education indicates that black South Africans have been denied access to a better quality of education.

"According to Hofmeyr and McLennan, compared with Whites, Africans in education have a worse pupil-teacher ration (38:1 vs 17:1), more under-qualifies teachers (52% vs 0%), lower per capita education expenditure (R765 vs 3082) and a significant worse standard 10 pass rate (40.7% vs 96%). Perhaps the most startling educational statistic is that 53% of the white labour force matriculate compared with only 2.2% of blacks, which may not be surprising given the legacy of Bantu education and the fact that in 1987 only one seventh of the amount spent on each white child's education was spent on each black child" (Muslow et al, 1994:228).

Only by building the capacity of the human resource base, can natural resources be sustainably managed in South Africa. The majority of black people who live in the former "homelands", who are poor and with no options, continue to contribute to environmental degradation as well as those in urban areas (Muslow et al, 1994).

Employment is also a major expectation among the majority of black people. The new government will be faced with the challenge of building a sustainable economy that will address the high rate of unemployment in the country. Muslow et al (1994) asserts that some of the thinking concerning growth, must be questioned and more sophisticated strategies developed that will help meet peoples's needs for shelter, food and employment. Therefore, there are heightened expectations of the benefits that the new democratic era will bring to a highly mobilised, vocal and angry black populace.

Since the Government of National Unity took office after the April 1994 elections, housing has remained the most publicised aspect of its Reconstruction and Development Programme (Prodder Newsletter, 1994). Housing and better

basic services in both urban and rural areas are among the expectations of millions South Africans in the new democratic era.

Black South Africans also expect improvement in health care. An estimated 40 per cent of black people in the urban areas are shown to have inadequate water supply and sanitation (Muslow et al, 1994). Muslow et al (1994) maintains that infant mortality statistics per 1000 live births show a depressing gap between the 7.3 death of white children and 52.8 death of black children, indicating the vast disparity in health care provision between black and white people. Finally, black South Africans expect stability to achieve their expectations and the goals of sustainable development. The promotion of peace and stability will require meeting the basic needs of the poor in the urban and rural areas. Building peace goes hand in hand with building community development initiatives. Meeting the livelihood needs of people in strife ridden communities, and assisting in building the climate of peace and security so badly needed for economic growth (Muslow et al, 1994).

In expressing their expectations, whites also emphasise stability. The protection of property rights and participation in decision making processes in the country are also significant expectations. They also want to protect their cultures and languages, for example, Afrikaans and English. Table 6.1 shows the number of white expectations under the new democratic government.

Table 6.1: White's expectations of the most likely changes if blacks rule South Africa (n = 1 312)

Order and safety in society would be threatened	29
White incomes and standards of living would decline	21
Standards of public administration would fall	20
White occupational security would be threatened	10
Afrikaans language and culture would be weakened	9
White living habits would have to change	9
No serious or permanent change	6

Source: Lee et al, 1991.

As shown in Table 6.1 the whites are concerned with order and security, maintenance of their standards of living and falling standards in administration.

The new democratic era has opened the way for both black and white to work together to solve the ecological problems facing the country, and to improve their quality of life while sustaining the integrity of the natural resource base for the present and future generations.

"Some people express the view that the environmental crisis facing South Africans may provide a unifying force which will cut across these cultural and ideological divides. This hope is based on the assumption that people will come realised that if they do not work together to tackle the ecological crisis, they will perish together" (Ramphela et al, 1991:11).

Past experience in South Africa indicates that effective ecological protection will not be achieved without democracy and an equitable distribution of power. However, it would be naive to assume that a democratic system of government is a sufficient condition for environmentally sound policies (Ramphela et al, 1991).

The demand for economic growth and development on the one hand, and the sustainable conservation of natural resources on the other, are likely to pose a challenge the new government in its efforts to address poverty among the majority black South Africans.

LEGISLATIVE CONTEXT

In South Africa there will be a need for the establishment of effective environmental legislation for the sustainable management of the natural and physical resources. (refer to Chapters Three, Four and Five). Glazewski et al (1991) maintains that a common cry amongst those concerned with the continuing environmental degradation is for tighter regulation of democratic activities.

Most importantly, fragmentation of environmental legislation in South Africa needs to be addressed. Glazewski et al (1991) also notes that South Africa has many statutes which directly or indirectly promote the cause of environmental conservation. Furthermore, environmental legislation in South Africa does not provide public access to information about environmental risk. Air and water near mining and smelting operations are little monitored, and what monitoring is done is not reported (Durning, 1990).

' These squatter settlements on occasion also suffer from outlaw hazardous waste dumping. Hundreds of barrels of industrial solvents and effluent from paint making in Pietermaritzburg, for example, have been found stacked among mud huts in the hinterlands outside that city. Not far away, a British-owned company operates a mercury waste-processing facility upstream from the Valley of the Thousand Hills, a densely populated part of the KwaZulu reserve. In the Mngweni River, which flows into the valley, mercury concentrations have been recorded at 1, 500 times the level at which the U.S. Environmental Protection Agency declares materials toxic" (Durning, 1990:17).

The environmental legislation should be strengthened to allow environmental performance by industries to be more transparent than is currently the case.

ATTITUDES OF PUBLIC SERVANTS

The prerequisite of fulfilling all expectations in South Africa rests with the government. One priority is the transformation and reorientation of the previous public service institutions to meet the needs of the formerly disadvantage communities. In addition, black people should be prepared to develop the professional skills required to efficiently fulfil their task in the public service. For their part, white civil servants are confronted by the challenge of learning to work alongside black people as equals in the public service.

"A crucial element of the challenge of scale concerns the massive of state employment currently and the pressure to expand the civil service even further to redress the cross historical discrimination against the black population's participation in central government. The old system was built around creating jobs for the Afrikaner population which provided the political power base for the government. Part of the negotiated compromise of the transition has involved promising that their jobs will be secure. At the same time there will have to be a major and on-going process of rapid recruitment of black professionals into all ranks, but especially the higher ranks of the civil service" (Muslow et al, 1994:235).

The broad guidelines for a move towards development management for sustainable livelihoods have been laid down in the Mount Grace Resolution of the New Public Administration Initiative. The relevant parts emphasises:

- * more democratic, inclusive and participatory government and public service at all levels of government;
- * a just, equitable and non-racial society with equal access for all people to societal resources;
- * provision of better public service to people to enable them to improve their quality of life and become more self-reliant;
- * maintenance of sustainable economic, social and political growth and development; and
- * promotion of values such as efficiency, effectiveness, productivity, accountability, responsibility and responsiveness (Muslow et al, 1994:238)

The ideal integrated environmental management requires sustainable institutions. A civil service, well trained and professionally competent and must be willing to meet the expectations both black and white people in South Africa. The public service presents a crucial mechanism in which the expectations of both black and white could be filtered through in order to achieve sustainable development.

DEVELOPMENT VERSUS CONSERVATION

In order for the government to address the massive socio-economic problems cause by apartheid, particularly amongst the majority of black South Africans, there will be need for accelerated economic growth and development. However, this will mean a further adverse effects on an already degraded environment. Economic growth would be sought on mining, agriculture and forestry which had already afflicted a severe impact on the natural resource base.

It is now realised that unchecked economic growth would have deleterious effects on the environment as has been shown by the experiences of highly industrialized countries. Thus, there will be a need to promote sustainable economic development and conservation. The Reconstruction and Development Programme (RDP) can only succeed if environmental considerations are integrated into its preparation. The development versus conservation debate in South Africa is evident from a growing number of non-governmental organisations pressing for environmental protection (Appendix 4) contains examples of submissions to the White Paper.

Both the political and the legislative context illustrated in Figure 6.2 require both the will and the capacity of the government to formulate an integrated environmental policy. South Africa also needs a strategic vision to achieve sustainable management of the natural and physical resources to meet the needs of the present and future generations, while maintaining the integrity of the country's natural resource base.

RECOMMENDATIONS

INTEGRATED NATIONAL STRATEGY

In South Africa, there is need to establish effective legislation at a national level that will provide for the conservation of biological diversity and the sustainable utilisation of the country's natural resources. The integrated national strategy

should also recognise and effectively enforce traditional techniques and knowledge of indigenous peoples which are relevant to the conservation of natural resources. The legislation should ensure that the national strategy will provide opportunities for indigenous peoples to co-manage conservation programmes and tourism facilities, particularly to regions of national and international importance. For example, Maputaland (Map 4.1 in Chapter Four).

Most importantly, the national strategy should integrate land use and design strategies and incorporate them into environmental planning to achieve sustainability. The national strategy should develop procedures to integrate urban and rural policies and strategic guidelines that relate to the utilization of natural resources. The national strategy should also apply strategic environmental assessment (discussed in Chapter Five) to assess the impact of the expansion of cities and resultant adverse effects on agricultural lands and rural settlement areas. The research that has been carried out in South Africa indicated the impact of agricultural policies on farm lands:

"It is commonly believed that the natural resource base in South Africa is extremely fragile and being seriously degraded by many of the farming methods currently being practised. Degradation is well-advanced in the commercial areas, to an even greater extent in the homelands areas. Some policies have exacerbated these tendencies; for example, price supports have encourage grain production in unsuitable areas, and influx control measures have led to localized overcrowding in the homelands" (Christiansen, 1993:1563).

The legislation at the national level should provide for:

- * The protection of ecologically sensitive areas, for example, wetlands, waterbirds species, vleilands;
- * Protection of wetlands of scientific and aesthetic value;
- * Protection of wetland against mining activities, (St Lucia Lakes);
- * Protection of coastal marine area for example, at Maputaland and St Lucia;
- * Establishment of an integrated strategy by the year 2010, to deal with the problem of the scarcity of water in South Africa, (e.g., the Vaal River Catchment is South Africa's heavily utilised water resources and it is experiencing numerous water quality and quantity problems);
- * Establishment cross-sectoral mechanisms for integrated water management and the formulation of units based on drainage basins by the year 2010, for example, Walsley et al (1991) maintains that in South Africa, with its arid and highly variable hydrological conditions, the problem of supplying water to the nation has proved to be a challenging one which has led to many innovative solutions; and
- * Formulate legislation and implementation techniques to meet the needs of a developing economy;

Regional level

The national level of government should devolve functions to both the regional and local levels for implementation. The regional level of planning should be based catchments and perform the following functions:

- * Protection of natural resources which are of particular regional importance;
- * Control of the adverse effects of land-use, particularly farmlands for the purpose of: soil management, management of the quality of water and coastal waters;
- * Maintenance of water quantity and quality in the rivers and coastal areas within each region;
- * Effective prevention of adverse effects from the storage, disposal and transportation of hazardous substances;
- * Effective control of the natural and physical resources of any coastal marine area in any region.

Local level

At the local level planning function should include:

- * Methods to achieve management of adverse effects of the development, protection of land and natural and physical resources within a authority area.
- * Preparation of plans regulating development activities in the region;
- * Effective control of adverse effects of activities in water quality in rivers and lakes;
- * Formulation of integrated policies, plans in each region to prevent adverse effects of development activities; and
- * Establishment of effective methods to prevent the disposal and transportation of hazardous substances in each region.

INCORPORATING INDIGENOUS RESOURCE MANAGEMENT SYSTEMS

The implementation of an integrated environmental management system in South Africa will require recognition and enforcement of indigenous resource management systems into planning systems. For example, indigenous peoples of Maputaland (Map 4.1 in Chapter Four) who depend on the natural resource base for their subsistence should participate in the development of the region. The development and management of natural resources should enable the indigenous peoples of Maputaland to improve their quality of life while maintaining the integrity of the environment.

- * Indigenous peoples of South Africa should have right to manage and benefit from the development of natural resources;
- * Indigenous peoples should share decision making about economic development in particular regions and have access to credit and services to start their own businesses;
- * By the year 2000, integrated management of natural resources in South Africa should enable indigenous peoples in their particular regions to enhance their capacity to provide shelter, food, water, health and adequate education. For example, it is estimated that there are approximately 17

million people living below the Minimum Living Level in South Africa and of these 11 million live in rural areas;

- * By the year 2000, an estimated four million indigenous peoples who face life threatening malnutrition will have adequate nutrition;
- * South Africa also needs to increase the capacity of all indigenous people in both rural and urban areas, to achieve integrated environmental management. This is possible through using the following methods:
 - (i) provision of education to change behaviour
 - (ii) institutional strengthening and reorientation of local councils or municipalities
 - (iii) addressing inequalities of the previous apartheid system through empowerment and affirmative action of indigenous peoples.

INTEGRATED COASTAL MANAGEMENT

In South Africa, there is a need to establish effective measures for the protection of the marine and the coastal environments and its resources. The government should encourage integrated management of coastal regions within the country. Integrated strategies for the sustainable utilization and conservation of the coastal ecosystems should be developed.

The natural resources of the coastal zones should be developed in such a way that they will enhance the quality of life of the communities who live within the particular coastal region, for example, indigenous peoples who live at St Lucia. Most importantly, coastal areas in South Africa should be protected against irreversible adverse effects of people activities. The following recommendations should be carried out for the protection, development and management of the coastal zones and its natural resources in South Africa.

By year the 2000, indigenous peoples will be empowered to co-manage coastal resources. This would improve their quality of life, perpetuate traditional fishing practices and restore tribal respect (e.g. refer to Map 4.1 in Chapter Four).

- * The benefits derived from the management of marine and coastal resources used for industrial purposes should be channelled to the building of infrastructure like roads, housing, schools, hospitals and transportation facilities, for example, for indigenous peoples at Maputaland and St Lucia;
- * Protection of coastal natural and physical resources which are of cultural and spiritual significance to indigenous peoples;
- * Economic methods should be used where possible to compensate communities for degradation of "Common Property" in the coastal environments. Methods include, fees, charges, and the "Polluter Pays" principle.
- * Incentives should be used as methods to encourage appropriate activities on coastal zone, for example, the preservation of wetlands in South Africa;
- * Other methods to protect the coastal zone in South Africa include the provision of information about the effects of peoples activities. Information must be accessible to indigenous peoples within particular coastal zones;
- * Discharges of contaminants to coastal marine areas and the negative effects of contaminants should be researched; and
- * Regional and local authorities should prepare plans and policies for the management of the coastal marine resources within the particular regions. Regional and local authorities should provide opportunities for the involvement of communities and indigenous peoples in South Africa in the formulation and implementation of plans and policies for the management of the coastal environments.

INTEGRATING ENVIRONMENTAL IMPACT ASSESSMENT INTO POLICY

In order to achieve sustainable development, Environmental impact assessment practices in South Africa will need to be revised. Current EIA practices at the project-specific level need to be changed, with assessment also being part of the process of preparing policy (e.g., strategic environmental assessment), (refer to Chapters Four and Five). As discussed in (Chapter Five), there will be a need in South Africa to apply strategic environmental assessment (SEA) as an

improvement over EIA to cover development plans, policies and programmes about their conversion and likely deleterious effects on natural resources (refer to Figure 5.3 in Chapter Five).

The recommendations and methods that are of particular importance for the application of strategic environmental assessment (SEA) for South Africa include.

- * SEA will be applied to assess policies, plans and programmes earlier on that would likely have negative effects on the environment, e.g., mining activities at St Lucia;
- * SEA will also be used to examine effects of international trade agreements and their subsidiary codes of practice, bilateral and multilateral development aid programmes in South Africa;
- * SEA is to be applied to agreements on international environmental conventions, intergovernmental agreements in the sub-region, e.g., Namibia, Botswana, Lesotho, Swaziland, Zambia, Mozambique, Tanzania and Zimbabwe, to assess the effects of trade on the environment;
- * Effective mandatory procedures for consultation with communities and indigenous in environmental assessment and periodical review processes should be established. Additional methods also include the provision of information and environmental educational awareness programmes.

INNOVATIVE JOINT ENVIRONMENTAL MANAGEMENT APPROACHES INCLUDING BUSINESS AND OTHER NON-GOVERNMENTAL ORGANISATIONS

"All the evidence suggests that we have consistently exaggerated the contributions of technological genius and underestimated the contributions of natural resources We need ... something we lost in our haste to remake the world: a sense of limits, an awareness of the importance of earth's resources" (Meadows et al, 1992:161).

It is a priority to ensure clean industries in South Africa. Naturally, targets for improving the capacity of industries to clean up externalities, will need to be extended over fifteen years to the year 2010. Concerned groups include, national

government, industry, environmental experts, no-governmental organisations. All should be involved in establishing collaborative policy. The current levels of pollution caused by industries in the country, for example, in the Eastern Transvaal Highveld (ETH) and Lowveld (ETL) require the adoption of new technologies. This region was selected because Ligthelm feels that the region is already subject to:

"unacceptably high levels of pollution. The region is also characterised by considerable potential for economic growth, resulting in further pressure being exerted on the environment, both in terms of waste emission and the extraction of scarce natural resources, causing a conflict between various economic sectors. In addition, the region is characterised by relatively high levels of poverty in its less developed parts, resulting in further pressure exerted on the environment" (Ligthelm et al, 1993:46).

The Chemical Workers Industrial Union (1991) states that the discovery of massive amounts of mercury waste in the Mngweni and Umgemi rivers thrust workers at Thor Chemicals into the forefront of the struggle for a clean and safe working environment. Thus, there will be a need for the government and industry to provide environmental information to the public about the positive and negative effects of industrial activities. Industries should be encouraged to conduct periodical environmental audits about their activities. The use of economic techniques should as methods to achieve the optimal level of pollution. Examples of this technique include tradeable permits and Polluter Pay charges (refer to Chapters Two and Four).

The following recommendations should be considered as suggestions for government, industry, business and commerce to achieve desirable

environmental results in South Africa.

- * Encourage industries to integrate environmental costs in accounting systems to reflect the degradation of common property natural resources;
- * Promote the use of economic instruments and with the combination of regulatory approaches;
- * Provide information about environmental risk to communities and indigenous peoples who live adjacent to polluting industries, for example:
- * Strengthen effective discussions between the government, business, non-governmental organisations to encourage and promote a positive environmental practices; and
- * Encourage industries to adopt new technologies that would produce products which will ultimately be less harmful to the environment.

Most importantly, the choice and implementation of economic instruments on South Africa should be based on the following set of pragmatic considerations:

- * Will the implementation of economic technique be efficient to achieve the desirable environmental results?;
- * Will the application of the economic technique achieve sustainable development without loss to the South African economy (e.g., jobs, growth in production)?;
- * Will the economic technique adaptable in situations such as: adoption of new technologies of political changes?;
- * Will the economic technique provide business and industry in South Africa with an opportunity to develop sustainable technologies?;
- * Will the aims and objectives of economic techniques be understandable to general people in the South African community (for example would communities be hostile if regulation was reduced?.

CONCLUSIONS

The discussion in this chapter suggested recommendations drawn from the previous chapters to develop an ideal integrated environmental management system (discussed in Chapter Five). The recommendations arise from the perceived inadequacies of the White Paper and the submissions on criticisms of the White Paper. An effective comprehensive, coherent and integrated

environmental management system for South Africa requires cooperation between government and non-governmental organisations. An integrated environmental approach also provides the government with opportunities to overhaul and configure the previous institutional structures to achieve sustainable development.

The new democratic government can only be successful in achieving sustainable management of the natural and physical resources if it addresses the expectations of both black and white populations in South Africa. In addition, the huge expectations of the dispossessed majority should not only be recognised as priority but also be effectively addressed. The prerequisite for peace and security in South Africa rest upon the efforts of meeting the basic needs of the majority of black people to sustain their livelihoods while maintaining the carrying capacity of the natural resource base.

The following chapter draws on a number of conclusions about the research study. In addition, it makes some suggestions for future research on integrated environmental management system for the management of the natural and physical resources.

CHAPTER SEVEN

CONCLUSIONS

In this chapter, a number of conclusions are about implementing an integrated environmental management system in South Africa. Chapter One has identified the aim, objectives and criteria for this thesis. The objectives aim to: use a matrix to critique both the New Zealand Resource Management Act 1991 and the South African environmental management systems against the criteria derived from the recommended national actions in the IUCN/UNEP/WWF (1991), Agenda 21, and theorists. The White Paper, submissions criticising the White Paper and the proposed Integrated Environmental Management procedure in South Africa could then be evaluated against those criteria.

Research has shown the fragmentation and compartmentalised nature of environment management in South Africa. This fragmentation is also compounded by the lack of effective legislation. The number of the wide spread statutes preclude many possibilities for the development of integrated legislation for sustainable management natural and physical resources in South Africa. Previous environmental legislation has not provided opportunities for indigenous peoples to practice their resource management systems. The lack of recognition and enforcement of rights for indigenous peoples is illustrated by the struggle of the Richtersveld indigenous peoples to protect their lands against the establishment of the national park. The case of the Maputaland also illustrates

the lack of provisions in previous legislation to recognise and enforce the rights of indigenous peoples in the management of their natural resources.

It is suggested that environmental legislation in South Africa needs to be strengthened and effectively enforced in order to move towards an integrated management of natural resources. A comprehensive integrated environmental legislation will play a central role as an instrument in the management, preparation, administration and enforcement of land-use plans and environmental protection. In addition, legislation should be formulated in such a way that it will be acceptable to the South African community.

The establishment of institutional arrangements will be necessary to encourage active community involvement in decision-making regarding environmental matters. Thus, there will be a need to reformulate and integrate the various conservation laws, management structures pertaining to natural resource allocation, management and decision making. The New Zealand Resource Management Act 1991 provides examples which could be adopted by South Africa in developing integrated legislation governing natural and physical resource use and environmental planning and protection.

The establishment of an integrated national strategy will provide opportunities to redress previous fragmentation of environmental management in South Africa. The integrated national strategy should be responsible for the allocation of natural resources and the formulation of integrated resource management policies and

objectives base on accepted norms through consultation with non-governmental organisation, industry, business, communities and indigenous peoples. The New Zealand Resource Management regime provides a useful model for South Africa to consider because planning and management is carried out through an integrated system of responsibilities at all levels with the government being primarily responsible for allocation of public resources and the establishment of resource management policies and objectives. Regional councils have responsibilities for formulating polices and plans for land, water, air, resource and pollution management, including management of hazardous substances (section 30, Appendix A1.1.5). In addition, territorial authorities have responsibilities of land-use management, adverse effects of mining and petroleum development, noise and local pollution control and enforcement (section 31, see Chapter Five).

The perceived lack of effective regulation for the coastal marine area in South Africa necessitates the development of effective methods for its protection from adverse effects of activities. Alternative methods to regulation include: tradeable permits and Polluter Pay Principle. Most importantly, information needs to be provided about the coastal environment with the motive of changing behaviour and promoting awareness. Appropriate methods include education and training and dissemination of information in a manner that will be accessible to communities and indigenous peoples. The establishment of regional councils will play a crucial role in gathering and managing information about the coastal environments in South Africa.

The methods used in New Zealand avoid, mitigate or remedy adverse effects of discharging contaminants to fresh water and coastal waters. Furthermore, regional and territorial councils are required to consider a range of methods in addition to plans and policy statements to achieve the purpose of the Resource Management Act 1991 (Appendix A1.1.4). In addition, the IUCN/UNEP/WWF (1991) recommends the establishment of integrated mechanisms for the allocation of space to activities in the coastal zone.

The criticisms of the White Paper presented by participants at the 1993 Conference indicate a need for the establishment of a comprehensive integrated environmental system for the sustainable management of natural and physical resources to meet the needs of the present and future generations while sustaining the integrity of the natural resource base. However, this thesis argues that the submissions criticising the White Paper fall short of progressing far enough to provide suggestions that will help prepare an effective comprehensive integrated environmental management system.

Furthermore, the formulation of the White Paper by the previous government arises as a result of the wide spread realization of ecological problems, the finite nature of many natural resources and the long term destructive effects of their unsustainable exploitation and utilization. This thesis has argued that the White Paper has not progressed far enough in its quest to adopt a comprehensive, coherent and integrated national strategy for the management of the natural and physical resources in South Africa.

The perceived weaknesses of the proposed Integrated Environmental Management procedure and the application of environmental impact assessment referred to in the White Paper, need to be emphasised. It is realised that the Integrated Environmental Management procedure is not well developed to achieve universal principles of sustainable management of the natural and physical resources in South Africa. Environmental impact assessment procedures need to be integrated within the preparation of comprehensive policy as a process of strategic environmental assessment. Strategic environmental assessment may be used early in the preparation of policies, plans and programmes to determine their likely effects on the environment and people.

The application of strategic environmental assessment will require new institutional arrangements restructuring processes to allow community involvement in decision-making processes. In New Zealand, environmental impact assessment procedures have been revised by the Resource Management Act 1991 and EIA has been integrated into the preparation process. Section 32 of the Resource Management Act 1991 requires the assessment of plans and policy statements. The RM Act 1991, also requires assessment of effects when considering individual projects in the consents process.

Finally, economic instruments are needed to improve pollution control in South Africa. The application of economic instruments offers opportunities to ensure clean industries in South Africa. Both the government and the industry should provide the public with information about environmental risk.

A VISION FOR THE FUTURE

The thesis has highlighted some important issues that should be strengthened and facilitated by the government. Future research should focus in more detail on the means of implementing an integrated environmental system for South Africa.

In order to achieve sustainable management of the natural and physical resources, there will be a need for detailed research for the formulation and implementation of an integrated environmental legislation for South Africa. The legislation should be enforceable and recognise indigenous resource management systems.

Research is needed to improve effectiveness of promotion and consultation. Consensus building between non-governmental organisations, communities, indigenous peoples, industry and business is important in the formulation of objectives and policies for allocation of natural resources. Research should be carried out to identify activities that have the highest risk of causing irreversible adverse effects on the coastal marine area. Innovative methods and alternatives should be formulated to achieve effective management of the coastal zones resources.

It is also important to research how indigenous resource management systems may be integrated with modern techniques for resource management. Such

research should explore the possibilities of establishing a tribunal as a method to resolve environmental disputes in South Africa.

REVISITING THE MAIN AIM OF THE RESEARCH STUDY

This thesis has fulfilled its main aim, which was to use a matrix to compare the New Zealand Resource Management Act (1991) and the South African environmental management provisions. In addition, the thesis derived a criteria from the recommended national actions of the IUCN/UNEP/WWF (1991), Agenda 21 and the body of research about integrated environmental management systems. The suggestions drawn from the discussions were used to develop an ideal integrated environmental management system and to recommend changes to the current South African environmental management system.

Research already undertaken taken in South Africa (Chapter Four) has indicated the need to re-think EIA practice and the need to integrate it within the broader planning framework to achieve sustainability. In addition, the proposed Integrated Environmental Management procedure in South Africa (referred to in the White Paper) has already been perceived by critics to be inadequate tools for achieving sustainable development. Suggestions drawn from the IUCN/UNEP/WWF (1991), Agenda 21, the New Zealand Resource Management Act 1991 and the views of theorists were used to formulate an ideal integrated environmental management system and proposed recommend changes to the current environmental management in South Africa. It is hope that this thesis ~~ahs~~
has

contributed to the debate about improving environmental management in South Africa.

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APPENDIX- A1.1.1

FACTS FROM NEW ZEALAND RESOURCE MANAGEMENT ACT 1991

**National, Policy Statements, and Plans:
National Policy Statements
Section 45
The Resource Management Act 1991**

45. Purpose of national policy statements (other than New Zealand coastal policy statement)-

- (1) The purpose of national policy statement is to state policies on matters of national significance that are relevant to achieving the purpose of this Act.
- (2) In determining whether it is desirable to prepare a national policy statement, the Minister may have regard to-
 - (a) The actual or potential effects of the use, development, or protection of natural and physical resources:
 - (b) New Zealand interests and obligations in maintaining or enhancing aspects of the national or global environment:
 - (c) Anything which affects or potentially any structure, feature, place, or area or national significance:
 - (d) Anything which affects or potentially affects more than one region:
 - (e) Anything concerning the actual or potential effects of the introduction or use of new technology or a process which may affect the environment:
 - (f) Anything which, because of its scale or the nature or degree of change to a community or to natural and physical resources, may have an impact on, or is of significance to, New Zealand:
 - (g) Anything which, because of its uniqueness, or the irreversibility or potential magnitude or risk of its actual or potential effects, is of significance to the environment of New Zealand:
 - (h) Anything which is significance in terms of section 8 (Treaty of Waitangi):
 - (i) The need to identify practices (including the measures referred to in section 24 (h) relating to economic instruments) to implement the purpose of this Act:
 - (j) Any other matter related to the purpose of a national policy statement.

A1.1.2
Fourth Schedule:
Assessment of Effects on the Environment
The Resource Management Act 1991

1. Matters that should be included in an assessment of the effects on the environment-Subject to the provisions of any policy statement or plan, an assessment of effects on the environment for the purposes of section 88 (6)

(b) should include-

(a) A description of the proposal:

(b) Where it is likely that an activity will result in any significant adverse effect on the environment, a description of any possible alternative locations or methods for undertaking the activity:

(c) Where an application is made for a discharge permit, a demonstration of how the proposed option is the best practical option:

(d) An assessment of the actual or potential effect on the environment of the proposed activity:

(e) Where the activity includes the use of hazardous substances and installations, an assessment of any risks to the environment which are likely to arise from such use:

(f) Where the activity includes the discharge of any contaminant, a description of-

(i) The nature of the discharge and the sensitivity of the proposed receiving environment to adverse effects; and

(ii) Any possible alternative methods of discharge, including discharge into any other receiving environment:

(g) A description of the mitigation measures (safeguards and contingency plans where relevant) to be undertaken to help prevent or reduce the actual potential effect:

(h) An identification of those persons interested in or affected by the proposal, the consultation undertaken, any response to the views of those consulted:

(i) Where the scale or significance of the activity's effect are such that monitoring is required, a description of how, once the proposal is approved, effects will be monitored and by whom.

2. Matters that should be considered when preparing an assessment of effects on the environment - Subject to the provisions of any policy statement or plan, any person preparing an assessment of the effects on the environment should consider the following matters:

(a) Any effect of those in the neighbourhood and, where relevant, the wider community include any socio-economic and cultural effects:

(b) Any physical effect on the locality, including any landscape and visual effects:

(c) Any effect on ecosystems, including effects on plants or animals and any physical disturbance of habitats in the vicinity:

(d) Any effect on natural and physical resources having aesthetic, recreational, scientific, historical, spiritual, or other special value for the present or future generations:

- (e) Any discharge of contaminants into the environment, including any unreasonable emission of noise and options for the treatment and disposal of contaminants:
- (f) Any risk to the neighbourhood, the wider community, or the environment through natural hazards or the use of hazardous substances or hazardous installations.

A1.1.3
National, Policy Statements, and Plans:
National Environmental standards
Section 43
The Resource Management Act 1991

43. Regulations prescribing national environmental standards-

(1) Subject to section 44, the Governor-General may from time to time, by Order in Council, make regulations, to be called national environmental standards, for either or both of the following purpose:

(a) Prescribing technical standards relating to the use, development, and protection of natural and physical resources, including standards relating to-

(i) Noise:

(ii) Contaminants:

(iii) Water quality, level, or flow:

(iv) Air quality:

(v) Soil quality in relation to the discharge of contaminants:

(b) Prescribing the methods of implementing such standards.

(2) Section 360 (2) shall apply to all regulations made under this section.

A1.1.4
Purpose and Principles:
Section 5
The Resource Management Act

5. Purpose- (1) The purpose of this Act is to promote the sustainable management of natural and physical resources.

(2) In this Act, "sustainable management " means managing the use, development, and protection of natural and physical resources in a way or at a rate, which enables people and communities to provide for their social, economic, and cultural well being and for their health and safety while-

- (a) Sustaining the potential of natural and physical resources (excluding mineral) to meet the reasonably foreseeable needs of future generations; and
- (b) Safeguarding the life -supporting capacity of air, water, soil, and ecosystems; and
- (c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.

6. Matters of national importance- In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:

- (a) The preservation of natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:
- (b) The protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development:
- (c) The protection of significant indigenous vegetation and significant of indigenous fauna:
- (d) The maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:
- (e) The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.

7. Other matters- In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to -

- (a) Kaitiakitanga;
- (b) The efficient use and development of natural and physical resources:
- (c) The maintenance and enhancement of amenity values:
- (d) Intrinsic values of ecosystems:
- (e) Recognition and protection of the heritage values of sites, buildings, places, or areas;
- (f) Maintenance and enhancement of the quality of the environment:
- (g) Any finite characteristics of natural and physical resources:
- (h) The protection of the habitat of trout and salmon.

8. Treaty of Waitangi- In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of the natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).

A1.1.5
Functions, Powers, and Duties of Local Authorities:
Section's 30 and 32
The Resource Management Act 1991

30. Functions of regional councils under this Act-

(1) Every regional council shall have the following functions for the purpose of giving effect to this Act in its region:

- (a) The establishment, implementation, and review of objectives, policies, and methods to achieve integrated management of the natural and physical resources of the region:
- (b) The preparation of objectives and policies in relation to any actual or potential effects of the use, development, or protection of land which are of regional significance:
- (c) The control of the use of land for the purpose of-
 - (i) Soil Conservation:
 - (ii) The maintenance and enhancement of the quality of water in water bodies and coastal water:
 - (iii) The maintenance of the quality of water in water bodies and coastal water:
 - (iv) The avoidance or mitigation of natural hazards:
 - (v) The prevention or mitigation of any adverse effects of the storage, use, disposal, or transportation of hazardous substances:
- (d) In respect of any coastal marine area in the region, the control (in conjunction with the Minister Conservation) of-
 - (i) Land and associated natural and physical resources:
 - (ii) The occupation of space on land of the Crown or land vested in the regional council, that is foreshore or seabed, and the extraction of sand, shingle, shell, or other natural material from that land:
 - (iii) The taking, use, damning, and diversion of water:
 - (iv) discharges of contaminants into or onto land, air, or water and discharges water into water:
 - (v) Any actual or potential effects of the use, development, or protection of land, including the avoidance or mitigation of natural hazards and the prevention or mitigation of any adverse effects of the storage, use, disposal, or transportation of hazardous substances:
 - (vi) The emission of noise and the mitigation of the effects of noise:
 - (vii) Activities in relation to the surface of water:
- (e) The control of the taking, use, damning, and diversion of water, and the control of the quantity, level, and flow of water in any water body, including-
 - (i) The setting of any maximum or minimum levels or flows of water:
 - (ii) The control of range, or rate of change, of levels or flows of water
 - (iii) The control of the taking or use of geothermal energy:
- (f) The control of discharge of contaminants into or onto land, air, or water and discharges of water into water:
- (g) In relation to any bed of a water body, the control of the introduction

or planting of any plant in, on, or under the land, for the purpose of-

(i) Soil conservation:

(ii) The maintenance and enhancement of the quality of water in that water body :

(iii) The maintenance of the quality of water in that water body:

(iv) The avoidance or mitigation of natural hazards:

(h) Any other functions specified in this Act.

(2) The functions the regional council and the Minister of Conservation (under subparagraph (i) or (ii) or subparagraph (vii) of subsection (1) (d) do not apply to the control of the harvesting or enhancement of populations of aquatic organisms, where the purpose of that control is to conserve, enhance, protect, allocate, or, manage any fishery controlled by the Fisheries Act 1983.

A1.1.6
Functions, Powers, and Duties of Local Authorities:
Section 32
The Resource Management Act 1991

32. Duties to consider alternatives, assess benefits and costs etc.-

(1) In achieving the purpose of this Act, before adopting any objective, policy, rule, or other method in relation to any function described in subsection (2), any person described in that section shall-

(a) Have regard to-

- (i) The extent (if any) to which any such objective, policy, rule, or other method is necessary in achieving the purpose of this Act; and
- (ii) Other means in addition to or in place of such objective, policy, rule, or other method which, under this Act or any other enactment, may be used in achieving the purpose of this Act, including the provision of information, services, or incentives, and the levying of charges (including rates); and
- (iii) The reasons for and against adopting the proposed objective, policy, rule, or other method and the principal alternative means available, or taking no action where this Act does not require otherwise; and

(b) Carrying out an evaluation, which that person is satisfied is appropriate to the circumstances, of the likely benefits and costs of the principal alternative means including, in the case of any rule or other method, the extent to which it is likely to be effective in achieving the objective or policy and the likely implementation and compliance costs; and

(c) Be satisfied that any such objective, policy, rule, or other method (or any combination thereof)-

- (i) Is the necessary in achieving the purpose of this Act; and
- (ii) Is the most appropriate means of exercising the function, having regard to its efficiency and effectiveness relative to other means.

(2) Subsection (1) applies to-

(a) The Minister, in relation to-

- (i) The recommendation of the issue, change, or revocation of any national policy statements under section 52 and 53:
- (ii) The recommendation of the making of any regulations under section 43:

(b) The Minister of Conservation, in relation to-

- (i) The preparation and recommendation of New Zealand coastal policy statements under section 57:
- (ii) The approval of regional coastal plans in accordance with the First Schedule:

(c) Every local authority, in relation to the setting of objectives, policies, and rules under Part V.

(3) No person shall challenge any objective, policy or rule in any plan or proposed plan, regional policy statement or proposed regional policy statement, or proposed national policy statement or proposed New Zealand coastal policy statement, on the ground that subsection (1) has not been complied with, other than-

- (a) In a submission made under the First Schedule; or
- (b) In a request made under sub clause 21 of the First Schedule; or
- (c) In a submission made under section 49 or section 50 on a proposed national policy statement; or
- (d) In a submission made under section 57 on a proposed New Zealand coastal policy statement.

APPENDIX - A2.2.1

**ROSIER'S (1994) TABLES: ALTERNATIVE METHODES
FOR IMPLEMENTING NEW ZEALND RESOURCE
MANAGEMENT ACT 1991**

TABLE 1: EDUCATION AND ADVOCACY

ACTION/METHOD	PURPOSE/EXPECTED RESULTS	BENEFITS/ADVANTAGES	COSTS/DISADVANTAGES	COMMENTS
1. Farmers, developer, builder organizations re: (a) reduction of non-point discharge (b) reduction of contaminant use	reduce temporary effects of land disturbance decrease accidental spills/disturbance	better management practices on sites community respect for development increases	possible increased costs or time for some projects costs of information increased lead time before benefits are experienced	problems in establishing effectiveness of information in changing behaviour
2. Home owners/businesses about maintenance of septic tanks	reduces point and non-point sources of contamination		delays the point at which individuals are accountable for adverse effects (eg possible inequity between generations)	
3. All the people in the community to report/act (a) non-compliance (b) emergency spills	reduces point and non-point sources of contamination enables faster response to emergencies	ensures that standards of ambient water quality are enforced more effectively people's understanding of cause-effect relationships increase	potential for conflict	Action not recommended in all circumstances
4. Reassurance to the community that "something is being done"	praise companies which are innovative inform community about polluters and the fines imposed	public is informed that although some management techniques are invisible (eg BPM) people are trying possibility for private sponsorship diminish costs of regulation and enforcement	cost of publication	Education is best if issue is not urgent
5. School children	to ensure future generations have different values	requires less action in the present generation	if this is only technique used - intergenerational equity adversely affected	Grant (1994) comments that this is least effective action if problems are evident now.
6. Alert other agencies about issues for which they have control or responsibilities and advocate action including regulation	achieves integration between areas and between management regimes	increased potential for joint plans and joint management public becomes aware of different management regimes	potential for responsibilities to become "blurred" inability to act where matter is beyond agency's control	Advocacy usually used in support of other methods

TABLE 2: COMMUNITY ACTION

ACTION/METHOD	PURPOSE/EXPECTED RESULTS	BENEFITS/ADVANTAGES	COSTS/DISADVANTAGES	COMMENTS
<p>Management of specific areas including dunes, estuaries, wetlands and waterways</p>	<ol style="list-style-type: none"> 1. Physical development (voluntary labour) trails, landscape, rehabilitation, fencing, signposting 2. Employment through <ol style="list-style-type: none"> (a) work schemes (b) "warden" (c) interpretation or education 3. Monitoring of the environment eg ambient water quality 	<ol style="list-style-type: none"> 1. Increases community's self-sufficiency. 2. Decreases strain on Local Authorities to do everything. 3. Rehabilitation of degraded areas in coastal environment. 4. People's understanding of coastal systems, therefore reduced need for regulation. 5. Groups able to generate private sponsorship. 6. Cost-effective way of gathering data - more frequent sampling. 	<ol style="list-style-type: none"> 1. Initial costs to: <ol style="list-style-type: none"> (a) government if national network of groups is desired (eg 80 Dune-care organizations in NSW) (b) Local Authorities to provide secretariat or co-ordinating person who acts and conduit for two way information. (c) If monitoring equipment is needed - cost approx \$2,000-3,000. 2. Usually needs a regulatory framework to set limits of control by the group 	<p>In NZ this is generally not considered a method - carried out under provisions of Annual Plans</p> <p>RMA (S.33) sets limits on control</p>

TABLE 3: BEST MANAGEMENT PRACTICE

ACTION/METHOD	PURPOSE/EXPECTED RESULTS	BENEFITS/ADVANTAGES	COSTS/DISADVANTAGES	COMMENTS
<p>Private organisations Best Practicable Environmental Options (BPEO)</p> <p>Specific Practices include:</p> <p>1. do not disturb areas within a distance of coastal dunes, rivers and streams</p> <p>2. Use drainage basins, stormwater retention basins, wider drains, haybales</p> <p>3. Control runoff from public projects</p>	<p>Discharge is encouraged to reduce contaminants in discharge by changing management practices before discharge</p> <ul style="list-style-type: none"> • technological improvement • waster minimisation • Quality Assurance <p>reduce non-point pollution</p> <p>reduce loss of soil</p> <p>reduce non-point pollution to coastal waters, rivers and streams</p> <p>increase recharge potential of aquifers</p> <p>reduce non-point pollution to coastal waters, rivers and streams</p>	<p>Company usually increases efficiency of production-returns.</p> <p>reduce land degradation</p> <p>reduce soil loss from runoff</p> <p>Local Authorities lead by example for other activities.</p> <p>reduction of waste</p>	<p>Not appropriate for non-point discharges because <u>all</u> discharges are affected although not all pollute</p> <p>loss of area to farmer for production - still rateable</p> <p>fencing costs where stock graze</p> <p>temporarily reduce areas of land able to be utilised</p> <p>possible increases in cost or time for projects</p>	<p>difficult to agree on width depending on landscape type, slope and alternative watering locations</p> <p>Timing of retention varies depending on soil types</p> <p>(See Public Works)</p>

TABLE 4: ECONOMIC TECHNIQUES

ACTION/METHOD	PURPOSE/EXPECTED RESULTS	BENEFITS/ADVANTAGES	COSTS/DISADVANTAGES	COMMENTS
1. Tradeable permits	<p>establishes market</p> <p>provides property rights</p>	<p>People may purchase right to discharge contaminants</p>	<p>creates an expectation that discharge of contaminants is 'normal' and acceptable</p> <p>problem is organizing rights spatially. Capacity of water may not correspond to property boundaries (Griffin , 1987)</p>	<p>who maintains the data-base recording permits, exchanges, discharge character and effects?</p>
2. Charging and incentives (various kinds)	<p>"polluter-pays"</p>	<p>penalises those who discharge contaminants</p> <p>rewards those who don't or who change management practices</p>	<p>local authorities still have costs of management and monitoring</p> <p>system does not have the administrative simplicity of standards</p> <p>communities have varying capacity to control public/private property abuse (Boer and James, 1990)</p>	<p>usually used in conjunction with standards about ambient quality of waters; and,</p> <p>Griffen (1987) believes that economic methods are not more cost-effective than regulation because of the amount of information which needs to be gathered</p>

TABLE 5: PUBLIC WORKS

ACTION/METHOD	PURPOSE/EXPECTED RESULTS	BENEFITS/ADVANTAGES	COSTS/DISADVANTAGES	COMMENTS
Public Works in relation to stormwater effluent and sewage effluent disposal				
<p>1. Employ a range of techniques to ensure stormwater discharge is delayed, filtered</p> <ul style="list-style-type: none"> • street sweeping • sand filters • retention ponds • reduce paved surfaces (currently up to 85% of stormwater runoff (Hough, 1984)) • permanent water storage (eg tanks) on private property • more open, shallow drainage channels associated with playing fields, open space • classify soils in urban areas to determine their permeability 	to reduce point source contamination	<p>White (1992) 80-90% of contaminants can be removed from stormwater discharge using a number of techniques</p> <p>increase precipitation filtered through ground</p>	<p>increased costs to the community - which need to be spread over long term</p> <p>benefits not immediately perceivable by community</p> <p>in some areas, soil type may cause difficulties in implementing techniques</p> <p>where individuals responsible, varying degrees of compliance without regulation</p>	<p>Difficulties in presenting case for changes to the community</p> <p>Education, advocacy and auditing required</p> <p>Some practices also important in private projects</p>
<p>2. Consider the following issues when assessing technology associated with waste water treatment</p> <ul style="list-style-type: none"> • flexibility of systems (ability to up grade, retrofit etc) • low and medium cost technologies versus high cost technology • potential to extend system • standby capacity and operating flexibility • life of equipment • risk of failure (Bradley, 1991) 	improve contingency planning for emergencies resulting from failure of systems	increase accountability of public sector concerning environmental management	increased costs to community in short term Private Sector projects also affected	

TABLE 6: REGULATION

ACTION/METHOD	PURPOSE/EXPECTED RESULTS	BENEFITS/ADVANTAGES	COSTS/DISADVANTAGES	COMMENTS
1. Develop performance standards for:				
<ul style="list-style-type: none"> discharge from vessels 	reduce water pollution in waters heavily used by boats	boat owners responsible for their effluent	individual costs installing tanks or using portable systems	<p>In all cases regulation provides:</p> <ul style="list-style-type: none"> certainty about community aspirations "something is being done" faster results increased costs to productive sector - whether or not individuals pollute
<ul style="list-style-type: none"> septic tank discharges 	reduces non-point pollution	certainty about achieving results - now	difficulties in locating some discharge points (eg old tanks)	Regulation has not been demonstrated to reduce non-point pollution (Harrington et al 1985)
<ul style="list-style-type: none"> setbacks to coastal dunes, rivers, streams and water bodies 	filter contaminants	degradation, soil loss is avoided	difficulties in establishing width - dependent on soil type, slope, climate, land use.	
<ul style="list-style-type: none"> regulate discharges to aquifer recharge areas 	maintain quality of groundwater		costs of fencing loss of productive area	enable enforcement and monitoring by less skilled people
<ul style="list-style-type: none"> regulate the use of chemicals in production processes 	reduce potential for accidental spills	avoidance of problems more likely	difficult to enforce	Difficulties in understanding value judgements and cultural traditions without detailed explanation
2. Consider provisions in adjoining Local Authorities where water is shared		ensure consistency where standards are an appropriate tool	reduction in flexibility	Performance standards need to be:
				<ul style="list-style-type: none"> specific to activities. Therefore of limited use to non-point discharges. explicit about expected results and limitations of standard easily monitored supported by explanation of cause and effect relationship between discharge and environmental change
			disagreement about the scientific basis for performance standards - what about qualitative decisions about aesthetics, smell, spiritual matters	Must have a good scientific basis (Ogilvie, 1990)

APPENDIX - A3.3.1

**DEPARTMENT OF ENVIRONMENT AFFAIRS
WHITE PAPER POLICY ON A NATIONAL
ENVIRONMENTAL MANAGEMENTAL SYSTEM
FOR SOUTH AFRICA 1993**

Department of Environment Affairs



White Paper

Policy on a National Environmental Management System for South Africa

1993

WHITE PAPER

POLICY ON A NATIONAL ENVIRONMENTAL MANAGEMENT
SYSTEM FOR SOUTH AFRICA

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1. OBJECT

The object of this White Paper is to set out the policy of the Government with respect to a national environmental management system in accordance with the Government's policy and commitment pertaining to all facets of environmental matters.

2. OBJECTIVES

2.1 Introduction and background

The establishment of a settlement at the Cape in 1652 and the southerly migration of indigenous peoples of South Africa both had the objective of using the fruits of the land for sustenance. It was however soon apparent that the natural food sources were not inexhaustible and consequently restrictions on the hunting of game were introduced as early as 1657. Measures to protect certain forest and catchment areas followed and by the end of the 19th century a number of nature reserves had been proclaimed. The first conservation efforts were therefore directed at the protection of nature (fauna and flora). In due course it was realised, however, that nature conservation may not only be an objective in itself, but that comprehensive environmental conservation (protection and utilisation) must be to the advantage of all people. This realisation brought about that the then Department of Planning was extended to also include environmental matters and on 1 September 1984 an independent Department of Environment Affairs was established.

2.2 Government commitment

Until approximately 1970 environmental conservation was largely dominated by the protection of biotic elements (fauna and flora), with the preservation thereof for posterity as the only objective. Although long prior to this important matters such as the control of water and air pollution and the containment of soil erosion had received attention, these activities were not then seen by the public as part of a general environmental conservation effort.

Gradually the realisation dawned, both locally and abroad, that the maintenance of a healthy, living resource base with a rich variety of species is essential for the survival of life on earth, and consequently also for the survival of mankind. This realisation led to greater emphasis on the importance of effective environmental management and was reflected in various policy statements and other important documents and eventually in legislation.

In the White Paper on a National Policy regarding Environmental Conservation, 1980, the Government's broad policy with regard to the environment is set out as follows:

"The Government policy is that a golden mean between dynamic development and the vital demands of environmental conservation should constantly be sought. The aim is, therefore, that man and nature should constantly exist in productive harmony to satisfy the social, economic and other expectations of the present and future populations."

This philosophy was further developed in the Report by the President's Council (PC5/1984) Priorities between Conservation and Development, which contained the following recommendation, among others :

"All government agencies, from the highest to the lowest level, should accept conservation and development as mutually complementary components of environmental management which is aimed at the maintenance of a sound relationship between man and the environment, now and into the distant future. Only where national survival is at stake and where no alternative sources are available on acceptable conditions can conservation be subordinated to development."

This led to general consensus that environmental matters should be managed in an integrated manner, but there was still no effective management model available to give effect to this concept in practice. The President's Council was therefore requested in 1989 to investigate and make recommendations on -

"a policy for a National Environmental Management System with particular reference to the ecological, economic, social and legal implications thereof."

In a summarising document that was made available during the debate on the Report of the Three Committees of the President's Council on a National Environmental Management System (PC1/1991), the following priority findings were recorded :

"It became clear that environmental conservation ought not to be a goal in itself. Instead, the environment should be managed on the principle of sustainability, so as to provide a habitat for fauna and flora, to provide the resource for economic development and to improve the quality of life of all South Africans, both present and future generations.

Environmental conservation is perceived by many to be an elitist concern. This perception is regrettable, though, within the context of vast gaps in socio-economic developments, perhaps understandable. It needs to be stressed that the future of every South African is directly dependent on the careful husbandry of basic resources, the depletion of which has the potential to threaten the very survival of the entire nation.

Environmental management demands a partnership between government and the people. No management system, however sophisticated, will be able to deal with environmental degradation unless an environmental ethic develops amongst the broad public.

Hitherto, most governments and other parties involved have tended to manage the environment in a compartmentalised, ad hoc way, which has concentrated on local and/or discernible effects. The environment is based on highly complex interrelationships, which are even now barely understood by scientists. Damage to one part of the environment may have unexpected or unknown effects on the whole. Accordingly, it was judged essential to consider the environment and its management from a holistic viewpoint."

This point of view, as stated by the President's Council, is endorsed by the Government. It is further emphasised that the sustainable and economically responsible use of environmental resources can make a substantial contribution to the optimal use of South Africa's capital riches.

The Government acknowledges that environmental conservation is an all-embracing matter and that if it does not receive the high priority that it deserves as a matter of urgency the South African environment will deteriorate to such a degree (and there is concern that in the case of certain critical elements, severe degradation has already occurred) that it will not be able to sustain the necessary political and economic development that is planned. The effective and optimal management of the environment is one of the determining factors on which the success of a future political and economic system will depend.

An integrated environmental management system that is supported and managed by the authorities can in turn, however, not be viewed in isolation. It is therefore necessary also to refer to other relevant matters in the White Paper such as existing and expected constitutional structures, economic realities, developmental needs, demographic trends, the handling of legislation, organisational and structural changes, financial implications, the division of functions between Government institutions and statutory bodies, the management of research, specific environmental components and subsystems that require attention, and international liaison.

The Government therefore attaches a high priority to effective environmental management and is convinced that the speedy application of the principles and measures that are contained in this document will make a substantial contribution to promoting the sustainable utilisation of South Africa's environment and resources to the advantage of all its inhabitants - now and in the future.

South Africa's environmental problems can, however, not be solved in geographic isolation. The Government therefore acknowledges that it also has an responsibility with respect to regional and global problems and that it must contribute towards a solution.

2.3 Aims and general principles

Before specific organisational systems can be created and procedures formulated, it is necessary to define and demarcate the different functional areas. In order to do this, it is appropriate to adhere to internationally accepted principles, namely that environmental conservation includes orderly utilisation and protection and that it must ultimately be directed at the survival, with dignity, of mankind on earth. In so far as it is reasonably applicable in the South African context, the Government endorses the 26 principles that are contained in the 1972 Stockholm Declaration that was formulated by the United Nations Conference on the Human Environment, as well as the 27 Principles of the Rio Declaration as adopted at the United Nations Conference on the Environment and Development that was held in Rio de Janeiro from 3 to 14 June 1992. The Government is also in agreement with the principles that were formulated by the International Union for the Conservation of Nature and Natural Resources (The World Conservation Union - IUCN) as recorded in the publication World

Conservation Strategy, and with the broad guidelines contained in the publication Caring for the Earth (1991) (IUCN, World Wide Fund for Nature and the United Nations Environment Programme). South Africa's environmental policy is thus placed in the common international context.

In accordance with this, and in addition to the provisions of section 2(1) of the Environment Conservation Act, 1989 (Act No. 73 of 1989), the Government undertakes to uphold the following principles when policy with respect to the environment is declared:

- Every inhabitant of the Republic of South Africa has the reasonable right to aspire to live, work and relax in a safe, productive, healthy and aesthetically and culturally acceptable environment in such a manner as will promote economic growth and social welfare.
- Every generation has a moral obligation to act as a trustee of its natural environment and cultural heritage in the interest of succeeding generations. In this respect, sobriety, moderation and discipline are necessary to restrict needs to sustainable levels.
- Every person or institution has a responsibility to carefully consider all activities that may have an influence on the environment and to take all reasonable steps to promote the protection, maintenance and improvement of both the natural environment and human settlements.
- The maintenance of natural systems and the protection of diverse and sensitive biomes as well as ecological processes is essential for the survival of all life on earth and must be promoted.
- Renewable resources are part of complex and interlinked ecosystems and must be permanently maintained through judicious management. Non-living natural resources are limited and the utilisation thereof can only be extended through judicious use and maximum reuse.
- Sustainable development programmes, particularly in rural areas, are necessary to promote economic growth, to counter poverty, to improve standards of living and to curtail unwanted growth in the human population.
- An environmental management system must be compatible with current economic features and human needs.

The Government is committed to a programme of research on the environment in order to establish an equitable balance between the reasonable needs of man and the effective protection and conservation of the environment. The Government is also committed to the promotion of environmental awareness at all levels of society through the provision of information and through education and training, as outlined in the White Paper on Environmental Education (1989). The establishment of an informed population is of cardinal importance in the promotion of the rational use of the environment.

Biotic diversity must be maintained through the skilled application of nature conservation practices and the utilisation of natural resources must be aimed at meeting the reasonable needs of man. Exploitation in the short term without proper consideration of the long-term influences of a particular activity on the environment is unacceptable. In order to attain the sustainable utilization of resources, the principles of integrated environmental management (IEM*) is accepted as one of the management mechanisms (PC1/1991 4.10.7).

It is accepted that the nature of environmental problems often derives from different perceptions and value systems. Therefore, to ensure the application of effective environmental practices that will have long-term benefits for all inhabitants of South Africa, the participation of all interested and affected parties will be encouraged in an effort to solve environmental problems. In this respect the partnership principle between the authorities and the private sector as well as community organisations is endorsed.

The greatest single challenge in the application of a unique South African environmental policy is without doubt to reconcile the ideals, expectations and aspirations of developed and developing components of the community. The exceptional cultural diversity of the South African population requires that a unique approach to environmental matters must be found. The approach to this problem must nevertheless be based on sound economic, scientific and practical principles. It will also be necessary to guard against unrealistically high environmental standards and long-term environmental conservation objectives will have to be commensurate with the health and well-being of all components of the population. In this regard the following statement is of importance:

"South Africa should rigorously pursue economic development, subject to maintaining the services and quality of environmental resources and the setting of affordable environmental standards for all sectors of the economy" (PC1/1991 4.3.1).

2.4 The principle of sustainable development

Direct and particularly indirect utilization of environmental resources for economic gain (also for recreational purposes) for the benefit of man is unfortunately also the underlying cause of the negative effects on the environment and the ultimate destruction of the sources of wealth and prosperity.

*IEM is a procedure to ensure that environmental considerations are efficiently and adequately integrated in all stages of the development process. It comprises environmental resource allocation from conceptualisation, planning and the assessment of possible consequences to the taking and implementing of decisions and the monitoring of results.

This axiom is valid for renewable as well as for non-renewable resources. The utilisation of non-renewable resources must be optimised and equilibrium must be established between the use and regeneration of renewable resources. Similarly, failure to apply compensatory technology and science (for example electricity, plastics, isotopes, liquid fuel) that enhances man's standard of living, is also the source of all manner of pollution. The necessity for economic growth and job creation is nonetheless indisputable. The key to the solution of the problem is not to be found in reduction of development but in the achievement of a dynamic balance between development and conservation based on the interdependence between these two processes. The principle of sustainability in respect of non-renewable resources and their loss should be compensated for by increasing the supply of renewable resources or by making technological progress. In fact, the same technology that generates development and prosperity must also provide the answers with respect to resource preservation and waste management.

The Government does not directly control the utilisation of the country's economic production resources. Therefore South Africa is also dependent on the responsibility with which the private sector uses national resources and the degree to which it is prepared to accept public accountability for its actions.

It nevertheless remains the Government's responsibility and task to establish a framework of environmental law that will promote sustainable development without jeopardising established real rights. In this regard the Government intends to promote measures that will result in enterprises introducing environmental monitoring and auditing in their own interest. The Government also undertakes to issue directives that will require certain developers to undertake appropriate environmental impact studies to the satisfaction of the responsible authorities. Without being unreasonable, the principle of "the user must pay" will also be applied and environmental costs will have to be borne by the developers. The following quotation from Sustainable Development - A guide to our Common Future gives an important perspective :

"Sustainable development means meeting the basic need of all and extending to all the opportunity to satisfy their aspirations for a better life. But it also implies acceptance of consumption standards that are within the bounds of ecological possibility and to which all can aspire.

Sustainable development is best understood as a process of change in which the use of resources, the direction of investments, the orientation of the technological development, and institutional change all enhance the potential to meet human needs both today and tomorrow".

Ultimately, the sustainable utilisation of resources must be directed towards satisfying the moral, aesthetic, economic, social, emotional and spiritual nature of man.

2.5 Goals

In order to pursue certain goals the Government strives to achieve the following objectives by means of specific existing and new programmes (these objectives emanate mainly from the findings and recommendations of the three Committees of the President's Council as recorded in Report PC1/1991) :

- Make provision in a Bill of Rights in order to fulfil the reasonable aspirations of all the inhabitants of South Africa for an acceptable environment (PC1/1991 6.7.5).
- Vigorously support the Population Development Programme and measures to combat poverty, because only through containing of population growth and creating prosperity will it be possible to assure that South Africa's resources will be able to carry the constitutional and economic developments that are visualised (PC1/1991 2.1).
- Take measures to ensure that all Government departments and other Government institutions give active attention to environmental matters that emanate from or fall within their line functions, for example physical planning, agriculture, mining, forestry, transport, education, etc. (PC1/1991 4.3.14).
- Implement a national environmental assessment programme through the Department of Environment Affairs in conjunction with appropriate institutions to audit all facets the state of the environment. The programme must set time schedules and contain critical information elements against which the effect of intervention programmes can be judged and the results evaluated. The system must also be used to make information on the environment available to the public (PC1/1991 4.3.15 and 6.3.3.14).
- Apply appropriate measures with respect to land use to ensure the conservation (utilisation and protection) of ecologically sensitive and unique areas, for example grasslands, wetlands, islands, mountain catchment areas, indigenous forests, deserts, Antarctica and the coastal zone (PC1/1991 Chapter 2). In all these instances the responsible institutions must be identified and their responsibilities clearly demarcated. The private sector and non-Government organisations must be actively involved in nature conservation activities, including activities on private land. Strategies for land use must be established to provide for effective protection, recreational requirements, production utilisation, urbanisation and industrial use. The exercise of mineral rights in such areas is not necessarily excluded. To achieve these objectives, environmental impact assessment studies (EIA)* should be used as a tool.

* An EIA, which is usually inherent in the IEM procedure, is a study of the probable changes in various socio-economic and biophysical characteristics of the environment which may result from a proposed or pending action or activity.

- Apply existing persuasive measures intensively (PC1/1991 4.4.21) and, where appropriate, intensify legislation by the responsible bodies, especially to protect valuable high-potential agricultural land, to combat erosion and to prevent desertification. In this respect the application of the Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983), as well as the principles contained in the White Paper on Land Reform (1991), is of crucial importance. They should be applied diligently by the Government departments concerned. Soil conservation is regarded to be one of the most critical environmental issues (PC1/1991 2.2.2).

- Plan forestry, mining, road-building, rail networks, agriculture, industrial activities, etc. so as to minimise the damaging impact of all development projects on the environment and on man and to facilitate rehabilitation. To this end the existing regional and town planning systems and the provisions of the Physical Planning Act, 1991 (Act No. 125 of 1991), must be used to best advantage. A holistic approach to environmental conservation must also be embodied in the Integrated Environmental Management (IEM) approach as proposed by the Council for the Environment (1989) and refined by the Department of Environment Affairs (1992). Similarly, the application of environmental impact studies (EIA) is a valuable tool that may be used in all physical structure plans. A balance must, however, be maintained between environmental protection and essential development (PC1/1991 4.10).

- Arrange urban development in such a way that inhabitants can live a healthy, safe and dignified life in an aesthetically acceptable environment with the maintenance of cultural values. Details of the Government's policy with respect to urbanisation are set out fully in the Physical Planning Act, 1991 (Act No. 125 of 1991), in the White Paper on Urbanisation (1986) and the proposals contained in the Report on Housing in South Africa, by Dr J H de Loor, April 1992. From an environmental management point of view the following principles are endorsed (PC1/1991 2.2.2.40 to 51) :
 - A holistic environmental approach must form an integral part of all facets of environmental planning and development. This includes the human environment as well as natural environmental elements taking into account the specific influence of socio-economic factors. Consultation with all interested and affected parties is a fundamental element of the policy.
 - High density and orderly development must be pursued to enable maximum use of available land. Buffer zones should be established between residential and industrial zones.
 - The urban environment must be planned in such a way that water- and all other aspects of pollution is minimised.
 - Expertise and involvement by local communities must be promoted in order to ensure acceptable standards and living conditions.

- The protection and creation of cultural assets, for example historical buildings and aesthetic considerations must be given prominence and must be purposefully promoted.
 - Promotion of a public open space policy and provision for "green belts".
- Protect cultural resources as an integral part of environmental management and implement measures that are aimed at the retention of cultural resources where changes in land-use are contemplated.
 - Compile a complete inventory of natural protected areas (PC1/1991 2.5.3.27), make land available in a rational way and apply a national nature conservation plan to ensure the maintenance of South Africa's biodiversity in accordance with the principle of utilisation and protection as embodied in the report of the President's Council's Planning Committee on Nature Conservation in South Africa (PC2/1984) and the White Paper on a National Policy regarding Environmental Conservation (1980). The establishment of a national policy regulate nature conservation will not jeopardise the managerial autonomy of existing nature conservation authorities. In cases where protected areas have specific tourist potential the utilisation of such areas for tourism should be included as an element in the management plans (White Paper on Tourism, 1992) (PC1/1991 4.10.9). Similarly, the mutual use of national resources, particularly by the local population, should be made possible within reasonable limits. Regulatory measures should be introduced to ensure sustainable use of economically viable natural resources, for example game, marine resources, natural veld and natural forests. The maintenance of ecological integrity and the natural attraction of these areas must, however, still be pursued as a primary objective.
 - Deploy a national strategy for waste management and develop integrated pollution control in which the elements of responsibility, accountability, prevention, treatment and reuse must enjoy priority. Disposal in the atmosphere, land and water environments should be considered as a last option only. Protection against toxic waste, the control of environmentally detrimental agricultural and industrial practices, as well as the combating of littering and the promotion of recycling will be included in the strategy. Industry-based programmes to achieve the above-mentioned objectives will have to be introduced (PC1/1991 2.6).
 - Combat all forms of water- and air pollution by formulating a cost-effective comprehensive policy, the promulgation of appropriate legislation, the establishment and maintenance of norms and standards, the application of the best practicable environmental options or appropriate affordable technology, the fostering of positive attitudes among industrialists and the public, and the promotion of international co-operation (PC1/1991 5.5).

- Support measures to promote the conservation of energy and increase energy efficiency as well as efforts to optimise the generation of electricity by fossil fuels. The electrification of urban, and rural areas will be promoted as far as possible within the limits of financial constraints. The possible development of alternative energy resources (sun, wind and water) is, where appropriate, also supported. This does not necessarily exclude the possible use of nuclear energy in the future (PC1/1991 4.6.14).
- Judiciously utilise resources and employ measures to ensure that South Africa will have sufficient water of a suitable quality for household, agricultural, forestry, industrial and recreational purposes, and for the maintenance of ecosystems. Resource protection, reuse and the judicious consumption of water are critical environmental issues (PC1/1991 2.3).
- Investigate and evaluate the application of fiscal incentives and penalties (for example fees for permits, fines for transgressions and levies on pollution) in order to achieve reasonable protection and environmental objectives. A fund for environmental management could be established and funded from the above-mentioned revenue (PC1/1991 6.8.6).
- Employ economic measures to promote the internalisation of external environmental costs and the application of environmental auditing (EA)*. As far as possible, the principle of self-regulation is nevertheless endorsed.
- Support measures to control noise, vibration and shock.
- Co-ordinate the environmentally safe management of hazardous substances (including waste) in accordance with internationally accepted standards and practices.
- Deploy achievable environmental education and environmental information programmes (PC1/1991 3.3) in accordance with the White Paper on Environmental Education (1989) in co-operation with education authorities and other Government and private establishments concerned, as well as the public media, to different communities. The successful managing of environmental matters depends on the co-operation of an informed and sensitive public and leadership echelon. Neglected urban and rural communities, in particular, should receive sympathetic attention.

* Environmental auditing (EA) is a basic management tool comprising a systematic, documented, periodic and objective evaluation of how well environmental management systems and equipment are performing with the aim of helping to safeguard the environment by -

- a) facilitating management control of environmental practices; and
- b) assessing compliance with State and company policies, including regulatory requirements.

- Co-ordinate the management of purposeful environmental research so that priority fields enjoy preference, manpower and financial resources are used optimally, unnecessary duplication is avoided and the results are actively applied (PC1/1991 3.1).
- Promote tourism by planning and executing all conservation and development projects in such a manner that the aesthetic result will have a positive effect on visitors. (White Paper on Tourism, 1992)
- Develop human resources for the establishment and utilisation of appropriate affordable technology that has environmental advantages. Technology is of crucial importance in balancing the preservation of the environment and the need for development.
- Rationalise, consolidate and promulgate specific legislation to achieve certain environmental objectives (PC1/1991 Chapter 5). All legislation should, as far as possible, contain economic incentive measures, be enforceable and be aimed at achieving the sustainable utilisation of resources. The nature of these measures will depend on the specific issue that is being addressed.
- Investigate the desirability and feasibility of an environmental ombudsman as proposed by the Presidents Council (PC1/1991 5.13.5; 6.7.2).
- Investigate appropriate ways (for example an annual award) to give recognition to individuals and institutions that have made a special contribution to environmental conservation (PC1/1991 3.2.4.9).
- Extend international co-operation and participation in the development of international agreements in fields such as the protection of endangered species, the protection of wetlands, waste management, the control of dangerous substances, nature conservation, ozone depletion, global climate change, international meteorological matters and the maintenance of protocols and conventions, as well as the Antarctic and other treaties. South Africa's involvement in a regional context is especially important, inter alia to promote trans-boundary conservation (PC1/1991 2.5.8.3 and 2.5.8.4).

3. PRINCIPLES FOR THE CREATION OF A NATIONAL ENVIRONMENTAL MANAGEMENT SYSTEM

In order to establish the format and structure of a functional management system, certain principles first have to be formulated and established. The following three elements are distinguished :

- The apportionment of accountability
- The establishment of methods and procedures to achieve policy objectives
- The apportionment of responsibility and functions.

3.1 Apportionment of accountability

(i) Personal

All successful democratic societies are based on the assumption that every individual carries personal accountability for his own prosperity and wellbeing and towards his fellow countrymen. The Government supports this point of view and undertakes to develop education and guidance programmes so that each individual will be able to accept personal responsibility regarding the environment in an intelligent and informed manner.

(ii) Communities and organisations

Not only individuals, but also people in a collective context have a responsibility to address environmental issues within their sphere of interest. Therefore the Government expects that inter alia organised agriculture, commercial and industrial organisations, occupational and professional organisations, trade unions and political bodies, the public media, mining houses, artists and journalists, each in its particular field, as well as cultural and geographic communities, will take concrete initiatives to collaborate with the authorities to address and promote environmental matters. This will serve to promote the democratisation of environmental matters and the participation of those involved.

(iii) The Government

The Government must concern itself with the promotion of the spiritual and material welfare of all citizens as a national objective. The Central Government's responsibility is emphasised in the President's Council Report on a National Environmental Management System. The Government confirms this responsibility with respect to environmental matters. To meet this obligation the Government undertakes to pursue the following functions, in so far as they are financially achievable and will not impair economic growth :

- The development of national policy with respect to all appropriate matters
- The promulgation of legislation, determined law enforcement and the establishment of appropriate economic incentives
- The establishment of norms and standards
- Environmental auditing and the making available of reliable data for public information and for planning and decision-making purposes
- Co-ordination between Government bodies so that cohesion of purpose can be established
- The support of constructive initiatives by the private sector
- Determine priorities for environmental research and support of the development of appropriate human resources
- The creation of environmental awareness at all levels of society
- Maintaining international co-operation.

3.2 Methods and procedures to achieve policy objectives

An environmental management system should be directed at applying the principles of sustainable development and integrated environmental management in practice. It should contain the elements of management and control, education and persuasion, should promote co-operation, support uniformity of action and should make provision for taking punitive measures in a sensitive but firm manner.

An environmental management system will have to be established in an evolutionary manner and this will take time. Collective enthusiasm and co-operation will be necessary so that a holistic approach to environmental matters can be formulated. A single policy document or a once only identification of Government responsibilities and the creation of functional structures will not automatically provide a final solution.

Nevertheless, it can now be stated that a holistic approach to environmental matters is imperative, that it is an all-embracing matter, that it affects all human activity, and that it must be promoted through integrated environmental management principles.

Although in this document an effort is made to achieve co-ordination and order by means of a comprehensive environmental management system, it is impossible (and even undesirable) to include in a single system all institutions that are concerned with so many diverse fields. It is therefore essential that institutions and organisations that perform line functions concerned with environmental matters should, individually and collectively, accept responsibility and commit themselves to undertake real actions and to maintain existing activities. This applies to the public and the private sectors with respect to, for example, agriculture (particularly soil conservation), forestry, mining, land use, transport, nature conservation, town and regional planning, education, occupational health, environmental health and much else. The report of the President's Council has identified the lack of co-ordination in the public sector as a serious problem (PC1/1991 6.1.1 and 6.1.3). Therefore, although the independence and unique functions and managerial autonomy of all public sector establishments are recognised and respected, a mechanism will be developed whereby cohesion and co-ordination can be established. It should also make provision for consultation with the private sector.

To give effect to the concept of a national environment management system the Department of Environment Affairs must conduct a continuous process of consultation, co-ordination, monitoring, policy formulation, planning, legislation and evaluation that is designed to direct and influence the activities of all Government institutions, organisations, companies and other participants in such a way that a common cause and objectives are pursued. These functions must be supported by purposeful research and specialist advice.

It must be stressed that the mere creation of an organisational structure is in itself no guarantee that environmental matters will be managed in an effective way. Eventual success will depend on the expertise, dedication, initiative and enthusiasm of the persons who man and manage the system.

3.3 Apportionment of responsibilities and functions

When functions and responsibilities pertaining to environmental matters are allocated, all components of society must be taken into account.

As indicated in 3.1(ii), the private sector, including commerce, industry, agriculture, forestry, developers, consultants, professional groups, scientific associations, trade unions, political bodies, interested parties and the general public have a special responsibility with respect to environmental matters. The Government endorses the necessity of co-ordinated co-operation between the authorities and all parties concerned. This co-operation must take place through proper consultation and must promote the participation of concerned citizens.

In the White Paper the accent is however placed on the allocation of responsibilities and functions with respect to Government organisations (PC1/1992). In this regard two elements or dimensions can be distinguished, namely -

- (1) fields of responsibility; and
- (2) managerial functions.

3.3.1 Fields of responsibility

When functions that concern environmental matters are allocated, the geographic sphere of impact of the specific environmental matters must be taken into consideration. There is however a continuum of functions; overlapping exists, and no sharp demarcation can be made. For example, integrated pollution control and waste management as well as nature conservation and environmental education cover all levels of responsibility and fields of impact. It is also important to stress that generalisations must be avoided; an arrangement that is valid for a particular environmental issue may not be appropriate for another. Nonetheless, the following general fields can be outlined in a broad sense :

- (i) Matters of global impact, for example the depletion of the ozone layer, global warming, marine pollution, deforestation and international treaties (for example the Antarctic Treaty).
- (ii) Matters of continental importance, for example in the case of Africa population growth, poverty, deforestation, desertification, water resource management, energy utilisation and nature conservation with respect to the conservation of biodiversity and endangered species.
- (iii) Matters of national importance, for example air and water pollution, development planning, nature conservation, marine resource management, catchment management and the management of hazardous waste.
- (iv) Matters of regional importance, for example metropolitan and regional development, coastal management, the utilisation of rivers, and nature conservation.
- (v) Matters of local importance, for example the management of solid waste, the combating of littering and noise control.

Although environmental matters should remain the responsibility of the Central Government (PC1/1991 5.2.2), the Government subscribes to the principle that, where appropriate, functions should be devolved to local authorities and regional and provincial governments after it has been established that the necessary knowledge, experience and infrastructure exist or can be made available to perform such functions effectively (PC1/1991 6.5.1.7(b). It is, however, necessary to emphasise that most functional fields vertically traverse all levels of government (first, second and third tier) and that distinct demarcation is usually not possible. It is nevertheless clear that certain facets of certain matters such as those that are mentioned under (i), (ii) and (iii) above can only be managed effectively at Central Government level. Various matters that are mentioned under (iv) and (v) above will also have to be managed centrally by means of establishing national norms, standards and procedures. Therefore, amidst this functional diversity, it will also be necessary to establish co-ordinating measures that will ensure unity of objectives and cohesion.

3.3.2 Management functions

Although environmental matters cannot be demarcated precisely, for functional purposes it is necessary to clearly allocate responsibility. Emanating from the above reasoning the key managerial functions are therefore allocated to the various levels of government as follows :

3.3.2.1 Central Government

- (i) Minister of Environment Affairs and the Department of Environment Affairs
- Policy formulation and declaration in accordance with sections 2 and 3 of the Environmental Conservation Act, 1989 (Act No. 73 of 1989), and other powers that are vested in the Minister of terms of the Act. Thus, for example, a national nature conservation plan, the application of Integrated Environmental Management (IEM) standards and management norms will be established in consultation with the executive institutions, and will have to be applied by national, regional and local authorities.
 - Monitoring with respect to tasks that are performed by second tier and local authorities, as well as the establishment of a national system to audit the status of the environment on an ongoing basis. The creation of an inspectorate may also be necessary for this purpose (see below).
 - Legislation with respect to environmental matters. In this regard the Government undertakes to systematically and purposefully assess all legislation that has a bearing on the environment with a view to amendments, rationalisation, consolidation and deregulation and, where appropriate, the introduction of new legislation. Where applicable, regional authorities will deal with local legislation.
 - The establishment of priorities so that environmental research can be rationalised and organised so that manpower and resources are fully utilised and the co-ordination of environmental research is effected so as to ensure that key issues are addressed in good time. In this respect the Department of Environment Affairs will take the initiative and will, in consultation with the Scientific Advisory Council, consult with the Foundation for Research Development, the CSIR, the Human Sciences Research Council, the Agricultural Research Council, the Medical Research Council, the Water Research Commission, the Forestry Council, National Parks Board, the provincial administrations, all interested Government departments, academic institutions and private organisations.
 - Execution of functions of national importance, for example meteorological services, research and the management of marine resources, the control of hazardous substances, environmental education and the administration of the Environmental Conservation Act, 1989 (Act No. 73 of 1989), will be continued.

- The co-ordination of Government functions as well as consultation with non-Government establishments and organisations will be continued. For this purpose legal amendments will be made so that the functioning of the Committee for Environmental Management and its sub-committees will be streamlined and made more appropriate. The possible creation of regional offices for the Department of Environment Affairs will also promote this function (see below). Moreover, the Department of Environment Affairs will remain the guardian of the National Botanical Institute, the National Parks Board, the Council for the Environment and the South African Antarctic Research Programme.
- The extension of international co-operation, particularly with respect to the participation in and implementation of international conventions, treaties and protocols after due consultation with the parties concerned.

(ii) Other Central Government departments and statutory bodies

All Government departments and statutory bodies whose line functions affect and are involved in activities pertaining to the environment will, in accordance with current provisions, continue their existing functions subject to the reallocation of specific functions such as those mentioned in paragraph 4.2. Every Government department and administration will accept full accountability for the consequences that the activities within its field of functions may have on the environment. Co-ordination will be effected through the Committee for Environmental Management (CEM) or other appropriate mechanisms.

3.3.2.2 Provincial and/or regional government

Provincial administrations and regional authorities will, subject to national policy that has been legally determined, also make substantial contributions to environmental management in order to accomplish some of the above-mentioned managerial functions (for example legislation) regarding the above activities, either under delegated or devolved authority. The accent will, however, be on executive functions, particularly with respect to matters of regional significance, for example nature conservation, land use planning, coastal management and noise control.

When determining which regional authority should accept responsibility, the future constitutional structure will have to be considered. In the mean time, the provincial administrations and the regional governments may be designated. Provision will have to be made to ensure that every authority has the necessary expertise.

The Government realises that to manage limited development areas for instance, such as parts of the coast appreciable expert manpower will be required and as far as possible undertakes to improve the situation.

3.3.3 Local authorities

Local authorities will have to meet three responsibilities on a delegated or devolved basis :

- (i) The application of national policy matters where these are designated by way of legislation.
- (ii) The promulgation and/or application of regulatory measures in their own right that are of local importance, for example health regulations, control over motor exhaust fumes, littering, refuse removal and noise control.
- (iii) The creation of pleasant living, recreational and working environments, cultural promotion, and the protection of open spaces and natural areas taking into account local needs and in collaboration with local community organisations.

4. STRUCTURAL OUTLINE FOR A NATIONAL ENVIRONMENTAL MANAGEMENT SYSTEM

Appropriate structures will have to be established in order to achieve the objectives outlined in the previous sections and to perform the necessary functions. This applies to first, second and third tier government structures. In accordance with the approach of the report of the President's Council remarks will, however, be restricted to the first tier or central government.

The Department of Environment Affairs will assume responsibility for the effective implementation of an environmental management system. The Government undertakes to adjust the structure of the Department, within affordable limits, so that it can perform its functions in an effective way. The development of the details of all functional and structural adjustments will be undertaken in consultation with the Commission for Administration. General principles appropriately suffice for the purposes of this White Paper.

4.1 The adequate extension of the staff and the establishment of expertise in the Chief Directorate of Environmental Conservation in as far as it is possible, so that functions that are currently ineffectively performed or not attended to at all can be managed properly (PC1/1991 6.8.6c). Functional components will be created and structured in such a way that the major environmental problems and issues are addressed effectively, for example :

- Land and resource utilisation, including urban and coastal areas and the promotion of existing town and regional planning systems, IEM, EA and EIA principles, and rehabilitation
- The maintenance of biodiversity, including wetland preservation, indigenous forests and the development of a national nature conservation policy and plan
- All aspects of pollution control (except water pollution management which is presently excluded for practical reasons)
- Management and planning regarding the environment that includes the application of economic measures in order to achieve environmental objectives, research, environmental education, status-of-the-environment reports, international liaison, legislation, etc.

4.2 Investigation into the consolidation of specific environmental functions by the possible transferring of the following functions from the Department of National Health and Population Development to the Department of Environment Affairs:

- (i) Air pollution control (PC1/1991 2.4.5.38)
- (ii) Water and waste control (PC1/1991 2.6.5.18; 6.6.6.4a)
- (iii) Control over certain aspects of dangerous and toxic substances (PC1/1991 2.6.5.18; 6.6.6.6):

Provided that the health components of the above-mentioned functions will remain under the control of the Department of National Health and Population Development.

- 4.3 The establishment of the necessary regional representation and rationalisation with respect to existing organisations to co-ordinate regional activities and render expert advice regarding the application of the principles of integrated environmental management (including environmental impact studies) to, for example, regional services councils, local authorities and regional development advisory councils. The establishment of such offices will be done in close consultation with Government departments that render similar services at national, provincial and regional level (PC1/1991 6.5.2.4).

The functions of regional offices will be clearly defined and demarcated in order to ensure that there is no confusion or overlapping with the functions of provincial administrations and other regional authorities.

- 4.4 The possible creation and co-ordination of an inspectorate or environmental monitoring component will be investigated subject to manpower and financial constraints so as to ensure that provisions, norms and measures that are applicable to environmental matters, particularly environmental pollution, are adhered to (PC1/1991 6.5.5). Here, too, the clear demarcation of functions between central, regional and local authorities with respect to each functional area is essential.

- 4.5 Better utilisation of the Committee for Environmental Management (CEM) in order to promote co-ordination of purpose and activities within the public sector (PC1/1991 6.3.2 and 6.5.1.7(c)). The main objectives of the Committee will be to -

- (i) co-ordinate the financing of environmental functions;
- (ii) rationalise environmental legislation;
- (iii) co-ordinate and monitor the actions and performance of all State and semi-State organisations and regional authorities whose line functions are involved with the environment (an appropriate modus operandi whereby such a task can be effected will be developed after consultation and will be embodied in legislation); and
- (iv) regularly publish a comprehensive report on the state-of-the-environment including information on the waste stream.

This objective will require that section 12 of the Environmental Conservation Act, 1989 (Act No. 73 of 1989), may have to be amended to rationalise the committee's composition so that it can function more effectively. Provision for subcommittees will be made and a secretariat is considered to be essential.

- 4.6 Maintenance of the existing components and functions with respect to meteorological services, research, the management of marine resources and the management of the Antarctic and islands programmes.

- 4.7 An Environmental Council will not be established, but the existing Council for the Environment will be retained (PC1/1991 6.3.3). It is an indispensable element of a comprehensive environmental management system, particularly because it is an important mechanism by which the private sector and academic establishments can be consulted. The Council will therefore consist of experts from a wide variety of interested parties and community groups. The task of the Council is to advise the Minister on policy matters.

- 4.8 Since the White Paper is a policy document that merely outlines the Government's intention, it will have to be followed up by the development of a specific implementation strategy. This strategy should, *inter alia*, set priorities, highlight crucial issues and be supported by energetic management plans and statutory policy declarations.

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APPENDIX - A4.4.1 SUBMISSIONS TO THE WHITE PAPER

APPENDIX - A4.4.1

**KWAZULU BUREAU OF NATURAL RESOURCES
COMMENTS ON THE WHITE PAPER
POLICY ON A NATIONAL
ENVIRONMENTAL MANAGEMENT
SYSTEM FOR SOUTH AFRICA**

BY N. A. STEEL

COMMENTS ON THE WHITE PAPER POLICY ON A NATIONAL ENVIRONMENTAL
MANAGEMENT SYSTEM FOR SOUTH AFRICA. DEA. 1993

By N A Steele, Director, KwaZulu Bureau of
Natural Resources. June 1993

Mr Chairman, ladies and gentlemen

Thank you for inviting me to speak at this forum: I am most grateful for the opportunity to take part in it, to listen and profit from the views of other speakers and delegates and to be able to share the perspective on conservation and matters pertaining to the environment that we in KwaZulu have attained over the years. To those of us with a Western background and a Western experience in matters environmental, this has been a process of learning a new perspective, one that has been attained in the crucible, often in the fiery crucible, of constant contact, talks and negotiation with people which your paper refers to as "the broad public" - in our case the people of KwaZulu, whom, in these matters, we serve; this has been a long process, sometimes painful, as all births are painful, more often rewarding, and nearly always surprising. For the people of KwaZulu, as must be obvious, do not share much of the conservation lore those with a Western background take for granted; and in this negotiation process, which goes on daily, they too have had their lore modified. We look for common ground, and we learn from one another. In the course of this process, we have evolved, and are continually evolving, a conservation perspective that is in some respects unique in the country; some of which I would like to share with you today.

I would like to stress, at the outset, my congratulations to the composers of this fine document; and also to suggest, if I may, with great humility, that it lacks a component; that component is the perspective of those whose views on matters environmental has been moulded by their different religion and culture*; an African perspective, an African component.

In general, we in the BNR inherited an outlook on conservation conditioned by our immediate past - an emphasis on Game Reserve Management, at the expense, as your document mentions, of a more holistic view of the environment; a type of management which tended to ignore African communities, their views and needs, unless it was to combat their poaching forays; but it seldom went beyond that. These communities had no say in the running of the Game Reserves, and derived little benefit from them. This style of conservation management was not practical; it did not work, and it will not work.

I do not mean to imply, by breaking conservation perspectives into two parts - "Western" and "African" - that there is no common ground; indeed there is, and that, in this ongoing process of mutual learning that I have briefly described, is our starting point, our most fruitful meeting-ground; neither do I wish to imply that either of these perspectives is what some would call "culture-bound", with the implication, for example, that conservation truths arrived at by valid scientific experiment are not universally applicable, do not also apply to African cultures, and must therefore be modified; these kinds of truth are

*The two "culture" and "religion" - appear to be so intertwined as to be almost synonym one to another;

not relative, they do not change from culture to culture, they are not "culture-bound".

Perhaps these are the kind of truths which African cultures will find painful to adjust to; yet they represent our bottom line, beyond which we will not move because we cannot. (As your paper says, page 4, para. 6, "It needs to be stressed that the future of every South African is directly dependent on the careful husbandry of basic resources, the depletion of which has the potential to threaten the very survival of the entire nation"). I would say, though, that we have also found, in our negotiations, a great openness to learn, which gives strength and hope to this process.

But let me give an example of what I mean: take for example, the concept of carrying capacity, as applied, say, to cattle; the idea that a particular piece of land should hold no more than x number of cattle. Speak about carrying capacity related to game animals, and you will have a sympathetic audience; relate it to cattle, and the atmosphere cools; other factors, which by-pass the point at issue but are held not to, like the need for land re-allocation, the injustices of the past intrude. As your paper says there is a need, in this field of conservation - for all concerned - for education, for, in some instances, re-education; and that education will not work if it ignores the religious and cultural background of its audience; that must be its starting point.

Perhaps, at this point, some further examples would help of what we in the BNR have learnt in this process of mutual learning. In its Mission Statement, the Bureau recognises the fundamental interaction of people, resources and the environment.

And it is aware, as your paper also emphasises, of the urgent need for the promotion of a conservation ethic based on community and individual responsibility and accountability for the integrity of the environment, which will be a major factor in promoting conservation amongst rural communities; but, while agreeing on the need for such an ethic, we would emphasise the question of how to implant it. Part of the reason for starting, some years ago, what are called Community Conservation Areas and Tribal Game Reserves was to help foster such an ethic; and this is not the only way we are aiming at doing this, as later examples will show. A community Conservation area, or a Tribal Game Reserve, is essentially a community initiative, or a joint Bureau/community initiative - the point to stress is active community involvement - in setting aside an area for conservation (the principles involved will hopefully spread outside the area itself), and jointly (in varying degrees) managing it: that is, having a joint management committee with the community, a committee which may well contain members of the private sector to help develop a range of tourism objectives; and (from the Bureau) of providing a sound scientific base (and legal framework) from which to proceed with various initiatives within the area; the point being the involvement of the community at all levels, management, the apportionment of benefits, etc. This community involvement extends through other current Bureau initiatives, like that at Sileza, where the community already has a legally binding agreement with the private sector on matters of tourism, to official KwaZulu Government Game Reserves, where community representatives are present at all management meetings, and

communities receive a % of whatever the yields the Reserve produces (monetary as well as natural resource yields, like, for example "ncema" grass, reeds, thatching grass, etc.); and in most Bureau controlled areas, including some outside of proclaimed Reserves, the Bureau is negotiating agreements with the private sector concerning tourism rights; a % of yields of all such agreements will accrue to neighbouring communities, who are also, of course, represented in all such negotiations. The key to all this is local community involvement; I am myself involved, almost on a daily basis, in such negotiations.

I must again stress that both "sides" - I mean those with differing conservation backgrounds and perceptions - are daily learning one from another, that this is not a one-way learning process, either way; that this mutual learning process is a long way from over; and that it is imperative that this excellent paper receive more input from the "side" of the "broad public".

For example, on Page 4, para 1, "Only where national survival is at stake and where no alternative sources are available on acceptable conditions can conservation be subordinated to development".

I do not doubt that this clause was probably formulated with specific examples in mind, probably, some of them pertaining to the exploitation of mineral resources, and envisaging little irreversible long-term environmental damage; but, to those with a different conservation perspective, it would be used to open the way to practises which, though politically expedient, even essential for political survival, would indeed lead to long term and probably irreversible environmental damage

- such as the pressure for more land to be used in "cultural" ways that do not take into account concepts like carrying capacity of the land; it could be used to explode the whole of the rest of the document. This could be a classic example of the need to very clearly define what is meant by terms like "national survival", to make sure that both "sides" interpret it - and other concepts - in the same way, and do not hold, unbeknown to one another, vastly differing views arising from exactly the same words or phrases; if such differences in interpretation exist, they should emerge sooner rather than later in the negotiation process, otherwise the shock of their later discovery could endanger the whole process. If, therefor, there is pressure not to carefully define this and other phrases and concepts, this should be studiously avoided, to avoid unnecessary later disappointments. I wish also to praise what I consider to be some highlights of the document; like the emphasis on the need for regionalisation, with which I fully agree; the need for an environmental ombudsman to mediate in conflicts; the need to encourage population control measures - and many others. This last brings me to another need, which I do not see mentioned in the document, at least not specifically; the need for those of us from a background different to that of the "broad public" to research, or have access to research, on the religious and cultural background of the "broad public" so as to gain the type of understanding - I do not say agreement - which pertains to conservation issues, and which can only help us in our on-going negotiation and expansion of conservation activities.

This seems lacking, in the main; and while I do not underrate the type of knowledge gained by experience in the crucible of negotiation in conservation matters, such as engage us in the Bureau every day, I do believe that such research would help this process in no small measure.

This leads me to my concluding remarks: I fully support the main concepts put forward in this document; concepts like sustainability, a holistic approach to conservation, and so many others; and while I realise that a white paper cannot deal in detail to any great extent, I would like to suggest that we should concentrate, having accepted the principles of conservation, on its "hows" - how to attain, for example, sustainability for our environment; how to attain the spread of a conservation ethic; how to make conservation pay its own way; and many others. For example, on p. 4, para. 7, "No management system, however sophisticated, will be able to deal with environmental degradation unless an environmental ethic develops among the broad public". Yes; but how will such an ethic develop? This presupposes an understanding of the present ethic of the "broad public", that is, numerically, those who share the religion and culture of African peoples, as I have previously stated. But does this understanding exist? If it is thought to exist, from what source(s) has it come? And if it is faulty, where does that leave the whole of this document?

And also to repeat, and emphasise, that we must implant what I have called an "African" component in this paper;

and do so, in part, by stressing the need for active participation at all levels of the "broad public" in conservation activities, particularly those which conservation activities will most greatly affect, hopefully positively; we need to re-think many of our "classic" conservation solutions, and engage more people from different cultures - those most vitally affected first - if we are to succeed in the long term in our conservation endeavours.

APPENDIX - A4.4.2

**SOUTH AFRICAN NATURE FOUNDATION
PERSPECTIVE FROM THE
WILDLIFE AND CONSERVATION COMMUNITY**

BY J. HANKS

A NATIONAL ENVIRONMENTAL MANAGEMENT SYSTEM FOR SOUTH AFRICA

A perspective from the wildlife and conservation community

The Government's White Paper entitled: **Policy on a National Environmental Management System for South Africa** is essentially a policy document which outlines the Government's intention. The question I want to address at this meeting is whether or not the proposed policy is realistic in terms of the concerns of the wildlife and conservation community. I have no mandate to speak on behalf of this community, nor have I had an opportunity to consult the Trustees of the Southern African Nature Foundation. Thus the assessment I am about to give is a personal one. I hope it will stimulate some debate, and that my criticisms will be seen as constructive.

I started reading the White Paper with eager anticipation and optimism, but regrettably this soon turned to despondency and despair. These are harsh words, because the first superficial impressions of the White Paper are very positive. As the Minister of Environment Affairs, Louis Pienaar said in Cape Town on 22 March 1993 when the document was released: "The White Paper is a commitment by the government to international thinking on the subject of environmental management". The document certainly does show evidence of "international thinking", and there is no doubt that relevant international policy documents have been consulted. The end result is an environmental policy "wish-list", which on more critical reading disappoints me deeply. We have in front of us a document which is unrealistic, inadequate, ambiguous, and fails to set priorities. I will deal with each of those concerns in turn.

1. The White Paper is unrealistic

When the White Paper was released, the Minister said the following: "It is a vision for the future based on realism". I wish I could support that statement. Let me give you a few examples of where the paper is lacking in realism.

- * A major concern is that so much of the document is trapped with the legacies of apartheid, and does little to address this serious problem. I urge the Department of Environment Affairs to give priority attention to this important issue. Let me give just one of many examples. Soil conservation legislation is of paramount importance in this country, yet there are still a number of provisions aimed at soil conservation in areas previously reserved for occupation by black people. The Black Land Act 27 of 1913 and the Development Trust and Land Act of 1936 have been repealed by the Abolition of Racially Based Land Measures Act 108 of 1991. However, the regulations issued in terms of the 1936 Act (including soil conservation measures) remain in force (Fuggle and Rabie, 1992). The unravelling of the compartmentalised bureaucracies of apartheid is a fundamental prerequisite for a realistic environmental policy.
- * The White Paper has set unrealistic targets. Two examples will illustrate this point. On page 15, the Government undertakes to pursue "The creation of environmental awareness at all levels of society". If this alone was achieved, it would represent remarkable progress, but let's be realistic. Approximately one third of all South Africans have had no formal education, and we have a very long way to go to attain comprehensive primary education let alone environmental awareness "at all levels of society". Why attempt to set a target that we cannot hope to reach?

Another example of a lack of realism for targets is on page 19, where it states: "When determining which regional authority should accept responsibility, the future constitutional structure will have to be considered. In the mean time, the provincial administrations and regional governments may be designated. Provision will have to be made to ensure that every authority has the necessary expertise". What does this really mean? Whose responsibility will this be? Who will do the training, what is the required training, and what are the financial implications? Who will check that this is being done - the Department of Environment Affairs? Where in the developed world does "every authority have the necessary expertise"? Let us not forget that South Africa is a developing country.

- * The White Paper ignores financial considerations. I was pleased to see that Dr Colin Cameron, the Director General of Environment Affairs, has recognised this when he said: "The Government is only just starting to assess the financial implications of its environmental proposals. Many of these proposals will eventually hinge on the economic ability to achieve them or not". Surely this is the wrong way round? Financial implications are an integral part of policy formulation. If they are not, then the policy becomes no more than an unrealistic wish-list.
- * The confusion that exists on the subject of consultation has also raised questions about the acceptability and realism of the document. At the launch of the White Paper, Minister Pienaar said that the document had been drafted "in wide consultation with environmental bodies". I would like to know who participated in this consultation, not only from the environmental side, but more importantly, from other political parties, and from Black, Asian and Coloured Communities. We are at the end of a cumbersome tricameral era of government, and the processes of consultation are undergoing radical changes. Has the White Paper been left behind?
- * My final concern about the lack of realism involves the key issue of carrying capacity. No attempt appears to have been made to address this most fundamental issue. Different parts of South Africa have different carrying capacities. As a matter of the highest priority, this component must become an integral part of a National Environmental Management System, with development plans produced to ensure that the carrying capacity is not exceeded.

2. The White Paper is inadequate

It was very great disappointment for me to see no real evidence that the Department of Environment Affairs will be given the teeth and a budget to do its job properly. Furthermore, where are the veto provisions on the proposed actions of other Departments? Is this a serious policy paper, or is it just an attempt to placate the environmental lobby? Can we honestly expect Dr Cameron and his hard-pressed staff to make significant changes unless the Department is given real authority and a substantially increased budget? Surely these are fundamental policy issues which should be an integral part of a White Paper?

Section 2.5 (Goals) of the White Paper lists 26 objectives (pages 9 - 13) although they are not numbered from 1 to 26. Several of these objectives seem to have been overlooked in the all-important section on pages 14 - 15 on Government Accountability for a functional management system - the nine functions listed on page 15 seem very inadequate.

3. The White Paper is ambiguous

Policy papers tend to be superficial, perhaps to give Governments some degree of flexibility. However, when superficiality merges into ambiguity, a policy paper starts running into problems. Regrettably, the White Paper has far too many ambiguities. I would like to mention just two as examples, both from the list of nine functions on page 15.

- * The Government has undertaken to pursue "the establishment of norms and standards". What does this mean? International norms and standards? And norms and standards for what? Are the norms and standards acceptable to the majority of South Africans? Who has been consulted?
- * The Government has undertake to pursue the function of "Environment auditing...." What does this mean? Will Government legislate accordingly, or merely encourage? What are the financial and management implications of such a policy undertaking?

4. The White Paper does not set priorities

A policy paper must set priorities and this internationally motivated wish-list urgently requires a focus and direction through the setting of priorities. Three areas of great importance to conservation bodies are the following.

- * Page 11 has the all-important reference to the conservation of biological diversity, and the application of a national nature conservation plan. This vitally important plan has been drifting along in its formulation since the mid-1970's. The White Paper must give this one of the highest priorities, and give a two-year target date for its completion. South Africa has one of the highest biodiversity indices in the world, and we are in serious danger of not meeting our international obligations to stop or slow the loss of species.
- * Although there is reference to the Integrated Environmental Management (IEM) procedures, the White Paper gives no indication when or how the required legal teeth will be introduced. In the light of the anticipated acceleration of industrial development in the next two-three years, this is simply not good enough. Surely this is of the highest priority?
- * Page 13 has a welcome reference to international co-operation, and to South Africa's involvement in a regional context, particularly on global climate change. I believe that this does not go nearly far enough, and in a way passes the buck for responsibility and priority action. Global warming deserves to be a priority objective in its own right, and wording along the following lines would much more appropriate. "Reduce South Africa's contribution to global atmospheric pollution in line with international practice, and conduct appropriate research so as to be able to predict the environmental change that will result from existing pollution levels and so as to be able to plan timeously mitigatory and preventative measures".

In conclusion, if South Africa is to make a sincere attempt to tackle our plethora of environmental problems, and gain international credibility and respectability for our environmental policies and programmes, the Government must raise the status of the Ministry of Environment Affairs, by giving the Ministry teeth, by increasing its budget, and by appointing a Minister with vision and courage to put the environment at the top of the political agenda. We are not talking about aesthetics - we are talking about the economic survival of this country, the survival and quality of life of its people, and the conservation of an internationally recognised heritage of biodiversity.

APPENDIX- A4.4.3

**DEPARTMENT OF ENVIRONMENT AFFAIRS: WHITE PAPER: POLICY
ON A NATIONAL ENVIRONMENTAL MANAGEMENT SYSTEM FOR
SOUTH AFRICA: A MINING INDUSTRY VIEW**

BY H. WAGNER

10 May 1993

10 June 1993

DEPARTMENT OF ENVIRONMENT AFFAIRS: WHITE PAPER: POLICY
ON A NATIONAL ENVIRONMENTAL MANAGEMENT SYSTEM FOR SOUTH
AFRICA: A MINING INDUSTRY VIEW: H WAGNER

Introduction

Mines, members of the Chamber, have espoused the concept of the Environmental Management Programme Report (EMPR) which is the practical expression of the philosophy of integrated environmental management. This allows for the holistic appraisal, not only of a development project's immediate impact on the environment, but also the site-specific impact which the project could have following closure. Thus embodied in the EMPR concept is the management of environmental impact as an integral part of the management of the projects being developed. A project managed according to the principles laid down in the EMPR therefore, upon closure, would have satisfied the requirements which pertain to the granting of closure, and these requirements would have been monitored from the prospecting phase, through the mining phase and finally to closure.

The application of the principles of IEM through the EMPR establishes a balance between economic development and environmental conservation.

The concept of the EMPR has been embraced with enthusiasm by mines. However, what is needed is some mechanism through which disputes can be expeditiously resolved.

The Mining Industry's Approach to Environmental Conservation

In addressing the question of environmental conservation, the mining industry is guided by the following basic principles:

- (i) an holistic approach to the environment;
- (ii) integrated environmental management (IEM) embodied in the concept of the EMPR, "cradle-to-grave" management of all environmental impacts by mining operations, from prospecting to closure. This is an extension of the rehabilitation programme for which provision is made in the Minerals Act, 1991 and has been adopted as industry policy through the medium of the "Aide Memoire for the Preparation of Environmental Management Programme Reports for Prospecting and Mining".

This was a joint effort between industry and relevant government departments, represented on the Steering Committee for Rehabilitation Guidelines which was constituted by the Department of Mineral and Energy Affairs;

- (iii) the need for a balance between development and environmental conservation to enable the industry to continue to make a major contribution to the economy of our developing country;

- (iv) the practice of self-regulation which has found practical expression in the Handbook of Guidelines on Environmental Management as well as the Aide Memoire for the Preparation of Environmental Management Programme Reports for Prospecting and Mining. Both documents augment or extend what is provided for in legislation and are endorsed by the authorities;
- (v) the rationalisation of existing environmental legislation which consists of some 20 Acts and one provincial ordinance which could be applied directly to the mining industry;
- (vi) the administration of environmental legislation (of relevance to the mining industry) through a single agency, namely, the Government Mining Engineer (GME) rather than through several government departments which contribute to administrative delays in the granting of mining authorisations and closure certificates;
- (vii) BATNEEC (best (proven) available technology not entailing excessive cost) referred to in the Aide Memoire as implying "that the technology being proposed is proven by practical application which is appropriate to the particular problem and is cost-effective and is established and generally acceptable nationally at the time the proposal is made";

- (viii) the need for consultation and negotiation between all parties before environmental legislation is enacted or international treaties are signed by the government;
- (ix) acceptance of the "user pays" principle, with provision for site-specific funds in order to meet the concomitant financial obligations, but rejection of a state administered fund to meet across-the-board costs resulting from pollution; and
- (x) the rejection of any increase in bureaucratic structures or expansion of the existing civil service, other than what is provided for in the Minerals Act, 1991.

Points on which the White Paper Accords with the Mining Industry's Approach

- (i) A holistic approach to environmental matters is stated as being imperative (page 15);
- (ii) "A holistic approach to environmental conservation must be embodied in the Integrated Environmental Management (IEM) approach" (page 10);
- (iii) The White Paper makes several references to the need for a balance between development and environmental conservation as advocated by government and the President's Council:

Page 3: "The Government policy is that a golden mean between dynamic development and the vital demands of environmental conservation should constantly be sought ..."

Page 7: "South Africa should rigorously pursue economic development, subject to maintaining the services and quality of environmental resources and the setting of affordable environmental standards for all sectors of the economy"

Page 8: "The key to the solution of the problem is not to be found in reduction of development but in the achievement of a dynamic balance between development and conservation based on the interdependence between these two processes"

- (iv) The White Paper advocates the employment of economic measures to promote the internationalisation of external environmental costs and the application of environmental auditing but states that "as far as possible the principle of self-regulation is nevertheless endorsed" (page 12);
- (v) One of the stated objectives of the White Paper is rationalisation, consolidation and promulgation of specific legislation to achieve certain environmental objectives (page 13);
- (vi) The White Paper shows agreement with a policy of consultation by stating:

"To give effect to the concept of a national environmental management system the Department of Environment Affairs must conduct a continuous process of consultation, coordination, monitoring, policy formulation, planning, legislation and evaluation that is designed to direct and influence the activities of all Government institutions, organisations, companies and participants ..." (page 16); and

"Government endorses the necessity of coordinated cooperation between the authorities and all parties concerned". However, it adds "This cooperation must take place through proper consultation and must promote the participation of concerned citizens" (page 16).

Points of Difference between the Chamber and those Advocated in the White Paper

1. The Chamber disagrees with the statement a "speedy application" (page 5) of the principles of environmental management contained in the White Paper in order to "make a substantial contribution to promoting the sustainable utilisation of South Africa's environment ...". This conflicts with the statement in paragraph 3.2 (page 15) "An environmental management system will have to be established in an evolutionary manner and this will take time". The Chamber agrees with the latter approach. Since the EMPR concept makes a substantial contribution to this evolution in the mining industry, the Chamber believes that the concept should be allowed to find its feet and become accepted practice on mines;

2. The question of environmental awareness and the promotion thereof, as referred to on pages 6 and 12, will have little impact without a general upliftment of the population. A better standard of education is considered to be a prerequisite for the inculcation of positive attitudes towards environmental conservation, as this now appears to be monopolised by a lobby emanating from more privileged sections of the community. The White Paper further states, "All successful democratic societies are based on the assumption that every individual carries personal accountability for his own prosperity and wellbeing and towards his fellow countrymen. The Government supports this point of view and undertakes to develop education and guidance programmes so that each individual will be able to accept personal responsibility regarding the environment in an intelligent and informed manner". (page 14).

The Chamber believes that given the present socio-economic level of the majority of the population, this seems like an unattainable goal which can only hope to be fulfilled after the basic question of literacy has been addressed";

3. Whilst the Chamber accepts the basic principle of the "participation of all interested and affected parties" to solve environmental problems, especially in the concept of the partnership between the authorities, the private sector and community organisations, there are some reservations that this could lead to an extension of the principle of locus standi, which in turn could result in obstructive and frivolous opposition to projects. This would have a detrimental effect on developments;
4. The White Paper refers (on page 8) to the application of "the user must pay" principle and that environmental costs will have to be borne by the developers. As submitted in its comments on the draft White Paper, the Chamber believes that costs incurred as a result of the application of the "user pays" principle could seriously hamper development, if compliance with unrealistic environmental standards are required, incurring disproportionate costs;
5. Reference is made (page 18) to the possible creation of an inspectorate as part of the monitoring process "with respect to tasks that are performed by second tier and local authorities, as well as the establishment of a national system to audit the status of the environment on an on-going basis".

The Chamber contends, however, that the regional structures provided for in the Minerals Act should not be augmented in any way.

Instead, the EMPR structures should be incorporated as industry-specific committees on the same level as local authorities. Such committees would be chaired by the Regional Director and comprise representatives of government environmental agencies (namely, the Departments of Environment Affairs, Mineral and Energy Affairs, Water Affairs and Forestry, Agriculture and Health and Population Development) and representatives of the mining industry;

6. The question of environmental audits (page 12) is as a "basic management tool" acceptable, but should not be seen as extending beyond this definition. The Chamber, in line with its belief that self-regulation should be the guide by which industry approaches the question of environmental conservation, opposes any government or outside agency's intervention in the way of environmental audits. Instead, site-specific control would cover the financing, planning, monitoring, and reporting as agreed in the mine's EMPR, with the mine being accountable to the industry-specific committee under the chairmanship of the regional director;
7. The question of "the extension of the staff and the establishment of expertise in the Chief Directorate of Environmental Conservation ..." (page 21) is also raised in relation to assisting in the effective performance of functions such as land and resource utilisation, the maintenance of biodiversity, all aspects of pollution control and management and planning.

The White Paper repeats the intention regarding "the establishment of the necessary regional representation and rationalisation" (page 22) to coordinate regional activities and to "render expert advice" for the application of IEM.

This conflicts with the Chamber's view that there should be no such extension of existing structures, as this will undoubtedly add to costs and contribute to a swollen bureaucracy. However, the deployment of existing expert staff to more appropriate structures would be supported by the Chamber;

8. The White Paper advocates the transfer of Air Pollution Control, Water and Waste Control and control over certain aspects of dangerous and toxic substances to the Department of Environment Affairs.

Air Pollution Control in the mining industry (as provided for in terms of the Atmospheric Pollution Prevention Act, 1965) is currently administered by the Government Mining Engineer as delegated to his office by the Chief Air Pollution Control Officer. This arrangement accords with the Chamber's stated desire to have all environmental matters, affecting the mining industry, dealt with through a single point of control, namely, the GME, which accords with the recommendations of the President's Council. Therefore, the Chamber believes that the status quo should not only obtain with regard to air pollution control but that this arrangement should be extended to cover control of water as well as waste, as these pertain to the mining industry;

9. References are made in the White paper to the question of land use. It says (page 9) "Apply appropriate measures with respect to land use to ensure the conservation (utilisation and protection) of ecologically sensitive and unique areas, for example grasslands, wetlands, islands ...".

Specific reference is made to agricultural land (page 10) "... where appropriate intensify legislation by the responsible bodies, especially to protect valuable high-potential agricultural land to combat erosion and to prevent desertification". However, the White Paper (on page 4) states that "All government agencies, from the highest to the lowest level should accept conservation as mutually complementary components of environmental management ...".

The Chamber in its reply on the draft White Paper stated "The Chamber submits that there will not be adequate protection of the environment if proper and orderly development does not take place and it should be constantly kept in view that South African Society cannot do without development of its mining, agricultural, industrial and other economic sectors". This stance was adopted when reacting to the interim Report of the Van Niekerk Committee of Inquiry into the long-term effects of high-recovery coal mining. The Chamber contends that too much is laid at the door of mining and too little recognition is given to the impact of other sectors on the environment.

For example, no reference is made to the deleterious effects of agriculture, resulting in the loss of 300 - 400 million tons of topsoil each year. This leads the Chamber to suggest that serious consideration should be given to making other sectors adopt the EMPR concept which would, by way of the holistic approach, take account of the serious type of impact exemplified above.

The Chamber further believes that as the work being done by the Resource Liaison Committee (which was set up as a result of a recommendation of the Van Niekerk Committee) is addressing the question of research into the problems identified by that Committee there is no reason to look at ways to protect land use, through the medium of additional legislation. Rather, proper application, for instance, of the Conservation of Agricultural Resources Act would achieve the objective of optimising the use of high potential agricultural land;

10. The White Paper states "Strategies for land use must be established to provide for effective protection, recreational requirements, production utilisation, urbanisation and industrial use ... to achieve these objectives environmental impact assessment studies (EIA) should be used as a tool".

This does not accord with the principles of IEM, which go beyond merely investigating the impact of development, to the holistic evaluation of potential impacts and their management as outlined in the EMPR;

11. The White Paper advocates the application of the best practicable environmental options (BPEO) whilst the Chamber advocates BATNEEC as spelt out in the Aide Memoire for the Preparation of Environmental Management Programme Reports for Prospecting and Mining;

12. The devolution of power as advocated by the White Paper (page 17) runs vertically from the central government (which should retain responsibility for environmental matters) to local authorities and regional and provincial government "after it has been established that the necessary knowledge, experience and infrastructure exist or can be made available to perform such functions effectively".

The Chamber believes that this devolution of power should be clearly defined so that it does not become diluted down the line and that responsibility and accountability for wielding such power is also appropriately devolved. It would appear therefore that it would be necessary for government, not only to spell out how far down power is to be devolved, but also to ensure that there is a limit to this devolution;

13. One of the functions of central government, envisaged in the White Paper (page 19) is the extension of international cooperation, "particularly with respect to the participation in and implementation of international conventions, treaties and protocols after due consultation with the parties concerned".

The Chamber's reaction is to point out that in principle this should be supported but that in South Africa's national interest, the country should be viewed as a developing country, and that therefore standards applicable to First World economies should not always be viewed as being appropriate for this country; and

14. The investigation of the desirability and feasibility of an environmental ombudsman (page 13) is referred to in the White Paper, in line with a proposal of the Report of the President's Council. Such an appointment, the Chamber believes, should be to fulfil a facilitating role and should not be in place to enforce regulatory requirements and should not adversely cut across responsibilities of the line inspectorates of existing government departments.
15. The White Paper (on page 21, para 4.1) makes provision to extend the staff of the Chief Directorate of Environmental Conservation and to create function components to address, amongst other things: Land and resource utilisation "including urban and coastal areas and the promotion of existing town and regional planning systems, IEM, EA and EIA principles, and rehabilitation".

The Chamber submits that:

- * agricultural land is the responsibility of the Department of Agriculture and should be so delegated;

- * resource utilisation includes water, which is the responsibility of the Department of Water Affairs and Forestry, and minerals which is the responsibility of the Department of Mineral and Energy Affairs (DMEA). Therefore, responsibility for the utilisation of these resources should be so delegated; and

- * expertise for the rehabilitation of land disturbed by mining resides in the DMEA, for land disturbed by road, rail and airport construction in the Department of Transport, for land disturbed by dam construction in the DWA&F and with local authorities for urban waste. Rehabilitation of such areas should be delegated to the authorities where the relevant expertise resides. Therefore there should be a specific reference to delegating environmental management to those best equipped to do so. The Department of Environment Affairs would then need to merely monitor performance in the interests of adequacy and uniformity.

APPENDIX - A4.4.4

**DEPARTMENT OF ROMAN LAW AND LEGAL PLURALISM
UNIVERSITY OF POTCHEFSTROOM: EXTRACTS FROM AULHOV, (1993).**

BY N. OLIVIER

1. INTRODUCTION

The Government's White Paper Policy on a National Environmental Management System for South Africa WP 13-1993 was tabled in Parliament in March 1993 by the Department of Environment Affairs. This White Paper was published in response to the President's Council Report on a National Environmental Management System that was published in November 1991 (Report of the three committees of the President's Council on a National Environmental Management System [PC1/1991]).

The aim of this brief overview of the implementation of the proposed Policy on a National Environmental Management System is to give a short overview of the contents of the President's Council's 1991 Report and the 1993 White Paper as regards the existence of diverse environmental management systems in Southern Africa (Republic of South Africa, the six self-governing territories, the four TBVC-states, the four provinces as well as former South African Development Trust land (hereafter SADT land) presently in force, as well as to identify the possible rationalization of these divergent systems once the 1993 policy has been put into operation.

2. THE 1991 REPORT OF THE THREE COMMITTEES OF THE PRESIDENT'S COUNCIL ON A NATIONAL ENVIRONMENTAL MANAGEMENT SYSTEM FOR SOUTH AFRICA

The 1991 Report contains a number of recommendations pertaining to the rationalization of environmental legislation as a prerequisite for the creation and implementation of a National Environmental Management System. Within the context of the existence of divergent systems obtaining in the various geographical areas that make up South Africa the following proposals are relevant:

1. Amendment of the Water Act to give water rights to nature reserves (para 2.3.4.21; 267);
2. The development of a transnational water management system (para 2.3.7.2; 267);
3. The consolidation of provincial legislation concerning nature conservation in a Nature Conservation Act; application thereof should be delegated to the provinces or regions (para 2.5.3.2; 273);
4. The unification of all legislation regarding protected areas (parks and nature reserves) into a single act (para 2.5.3.27; 274);
5. The introduction of a uniform Coastal Zone Management Act (para 2.5.7.7; 275);
6. The rationalization of the diverse act pertaining to solid waste, nuclear waste and nuisance; regulations in this regard should also be promulgated (para 2.6.5.9; 277);
7. The introduction of a uniform Waste Act that should provide for the prevention, recycling and the disposal of waste as well as control of the dumping, gathering, transport, treatment and storage of waste (para 2.6.5.10; 277);
8. The amendment of the Dangerous Substances Act of 1973 to increase the control of the transportation of such substances as well as of related penalties (para 2.6.3.13; 277);
9. The promulgation of uniform bylaws by local authorities pertaining to the requirements for monitoring of waste dumping sites (para 2.6.5.12; 277);
10. The introduction of legislation providing for compulsory recycling (para 2.6.4.7, 2.6.5.13 and 6.4.5.15; 277);
11. The introduction of specific legislation pertaining to the conservation of high-potential agricultural land (para 5.4.1; 282);
12. The rationalization of other legislation pertaining to land as a renewable resource; e.g. fire protection provisions in the

35. Provision for a river conservation authority for the purpose of management of rivers and their catchment areas (5.7.7; 289);
36. The separation of educational and law enforcement functions (para 5.8.4; 289);
37. The enforcement of legislation without reference to other cabinet members as well as the repeal of the requirement that the approval of some cabinet members is a prerequisite for the promulgation of subordinate legislation by the Minister of Environment Affairs (para 5.8.10; 290);
38. The promulgation of an environmental policy without the obligation to have recourse to other cabinet ministers (para 5.10.1; 290)
39. The revision of statutory provisions with a view on providing for the compulsory implementation of the EM (integrated environmental management) process; (para 5.11.2; 290);
40. The formulation of parliamentary legislation to provide for increased public participation and the disclosure of environmental information; (para 5.12.91; 291);
41. The transfer of subordinate legislative powers from the minister to the RSA parliament and the reversal of the process of devolution so that legislative powers regarding environmental affairs will vest in parliament (and not as at present in inter alia provincial authorities); (para 5.13.4; 291);
42. The establishment of an environment ombudsman; (para 3.13.5; 291);
43. The creation an environment appeal tribunal; (para 5.13.9; 291);
44. The granting of locus standi to individuals and parties by means of legislation; the criterion should be the general interest and not, as at present, a particular individual interest; (para 3.13.11, 5.13.14; 291-292);

45. The establishment of an environment tribunal and the compulsory disclosure of reasons; (para 5.13.16; 292);
46. The recognition of a right to environmental integrity in a Bill of Rights or the possible inclusion of such a right as a principle of state policy; (para 5.14.2; 292);
47. Improved training - also as regards criminal sanctions - of officials; (para 5.15.6; 292-293);
48. The increase of penalties to fit the seriousness of environmental crimes; (para 5.15.9; 293);
49. The introduction of alternative forms of liability in addition to criminal sanctions; (para 5.15.10; 293);
50. The implementation by means of national legislation of principles of international conventions; (para 5.16.1-2; 294); and
51. The establishment of a standing environment law reform body (para 5.17.3; 294).

3. THE 1993 WHITE PAPER: A POLICY ON A NATIONAL ENVIRONMENTAL MANAGEMENT SYSTEM

In its 1980 White Paper on a National Policy regarding Environmental Conservation (1993:3) the government's policy was formulated as follows: "The government policy is that the golden mean between dynamic development and the vital demands of environmental conservation should constantly be sought. The aim is, therefore, that man and nature should constantly exist in productive harmony to satisfy the social, economic and other expectations of the present and future populations."

In its 1984 report the President's Council (Priorities between Conservation and Development) (1993:3-4) made the following recommendation:

"All government agencies, from the highest to the lowest level, should accept conservation and development as mutually complementary components of environmental management which is aimed at the maintenance of a sound relationship between man and the environment, now and into the distant future. Only when national survival is at stake and where no alternative sources are available on acceptable conditions can conservation be subordinated to development."

In its 1993 White Paper the government states that an effective management model was still lacking (1993:4). With this in mind the President's Council was requested in 1989 to formulate recommendations as to a national environmental management system.

The government takes the view that all relevant matters should be taken into account when an integrated environmental management system is formulated and implemented; cognizance should be taken of existing and expected constitutional structures, economic realities, developmental needs, demographic trends, the handling of legislation, organizational and structural changes, financial implications, the division of functions between government institutions and statutory bodies, the management of research, specific environmental components and subsystems as well as international liaison (1993:5).

The following international documents form part of the South African environmental framework:

1. The 26 principles of the 1972 Stockholm Declaration (United Nations Conference on the human environment);
2. 27 principles of the 1992 Rio Declaration (the United Nations

3. Principles as formulated by the International Union for the Conservation of Nature and Natural Resources (IUCN);

4. The broad guidelines as set out in the 1991 Caring for the Earth (IUCN);

The principle of sustainable development is the basic premise on which the White Paper is based (1993:7-8).

The following goals pertaining to the legal framework as regards the environment are to be concretized by the government (1993:9-13):

1. Providing in a Bill of Rights for the formulation of a right to the environment;
2. The exercise of line functions of the various government departments and institutions (e.g. forestry and agriculture);
3. Implementation of a national environmental assessment programme (IEA)
4. Application of legislative and other measures pertaining to land use with a view on the conservation of ecologically important areas; this will also effect private land;
5. The active application of persuasive measures as regards high potential agricultural land as well as the intensification of relevant legislation;
6. Planning should be done in future with reference to the impact of the development projects on the environment;
7. The formulation and implementation of a national nature conservation plan;
8. The introduction of a national waste management as well as an integrated pollution control strategy;

9. The promulgation of appropriate legislation as regards water and air pollution;
10. The application of fiscal incentives and penalties;
11. The control of noise, vibration and shock by means of legislative measures;
12. "(to) rationalize, consolidate and promulgate specific legislation to achieve certain environmental objectives. All legislation should, as far as possible, contain economic incentive measures, be enforceable and be aimed at the achieving the sustainable utilization of resources. The nature of these measures will depend on the specific issue that is been addressed";
13. The investigation into the possible creation of an ombudsman for the environment; and
14. Participation in transnational and international conservation

Three elements in the formulation of a environmental management system have to be taken into account (1993:14-20):

1. Apportionment of accountability: individuals, communities and organizations as well as the government each have their own sphere of accountability;
2. Methods and procedure to achieve the above-mentioned policy objectives: one of the most serious problems as identified by the President's Council (PC1/91 6.1.1 and 6.1.3) is the lack of co-ordination between the various public sector bodies. The government states its policy as follows:

"To give effect to the concept of a national environment management system the Department of Environment Affairs must conduct a continuous process of confrontation, co-ordination, monitoring, policy formulation, planning, legislation and evaluation that is designed to direct and influence the activities of all government institutions,

organizations, companies and other participants in such a way that a common cause and objectives are pursued. These functions must be supported by purposeful research and specialist advise."

3. Apportionment of responsibility and functions: In this regard a distinction is made between fields of responsibility on the one hand and managerial functions on the other hand.

As regards fields of responsibility the government accepts the principle that functions where appropriate should be devolved to local and regional authorities subject to the proviso that the necessary knowledge, experience and infrastructure exist or can be made available with a view on the effective administration of such functions. Nonetheless the establishment of coordinated measures will be of the utmost importance.

Management functions: the White Paper takes the view that responsibility should also be allocated to the following institutions:

Central government:

- (a) Policy formulation and declaration as envisaged by sections 2 to 3 of the Environmental Conservation Act 73 of 1989 should be done by the Minister of Environment Affairs;
- (b) Legislation should be examined: (1993:18)

"In this regard the government undertakes to systematically and purposefully access all legislation that has been a bearing on the environment with a view on amendments, rationalization, consolidation and deregulation and, where appropriate the introduction of new legislation. Where applicable regional authorities will deal with local legislation."

- (c) The introduction of legal amendments in order to facilitate the coordination of government functions; however in principle existing line functions will not be transferred with the exception with:

- (i) air pollution control
- (ii) water and waste control

(iii) control over certain aspects of dangerous and toxic substances (1993:21).

Provincial and regional government: (1993:19):

Although such authorities will primarily be responsible with the execution of functions, a limited legislative competency will be granted to them.

Local authorities:

In addition to the application of national and regional policies and legislative measures they will also be endowed with the power to promulgate regulations pertaining to inter alia health matters, littering and noise control.

The Committee for Environmental Management will be tasked with the rationalization of environmental legislation and the co-ordination of state and other official institutions (1993:22).

A specific implementation strategy must be formulated to give effect to the policies contained in 1993 White Paper (1993:23); in this regard such a strategy should also contain statutory policy declarations.

5. PROBLEM AREAS

It would seem that the White Paper does not provide either at all or not sufficiently for the following matters.

1. No mention is made of the existence of ten separate systems for environmental systems control obtaining in the 6 self-governing territories and the 4 TBVC states nor does the White Paper contain

any reference to the legal position obtaining in former South African Development Trust Land.

In terms of the Constitution of the Self-governing Territories Act 21 of 1927 the various legislative assemblies have full and exclusive legislative powers pertaining to items contained in Schedule 1 to that Act. The power to legislate on environmental matters was transferred to the various legislative assemblies in 1985. The relevant items are:

- item 7: agricultural use including veld and soil conservation;
- item 8: nature conservation, and
- item 31U: conservation of the environment.

The prevention of water pollution (item 32B) was transferred in 1991.

The effect of the transfer of legislative powers is that no South African legislation subsequent to such transfer applies in the various self-governing territories. The present day environmental legislation framework obtaining in the 6 self-governing territories consist of South African measures (national and provincial) until 1985 as well as own promulgated measures (if any), post-1985 RSA measures have no application.

As far as the TBVC countries are concerned, the position is even more complex; since independence they have full exclusive legislative powers - also as regards environmental measures.

SADT land was transferred on 1 April 1992 to the Minister of Land and Regional Affairs, the various administrators, the Minister of Agriculture, the Minister of Public Works and the various self-governing territories. Notwithstanding such transfer the own SADT Forest and Nature Conservation Regulations remain in force.

Such pluralism of divergent legislative frameworks for the conservation of the environment need to be addressed urgently with a view on the rationalization of such measures and the introduction of a uniform environmental conservation control system in South Africa.

2. Specific provision should be made for the introduction and implementation of a programme providing for the rationalization of all

South African legislation (national, provincial and local) pertaining to environmental management. This responsibility should also be vested in a specific department that should have the final say in the legislation process even if it should effect legislation that falls within the ambit of other government departments.

3. A serious rethink of the divergence of functional authorities is needed; in this regard serious consideration should be given to the transfer of administrative powers to the Department of Environment Affairs and the extension of its control functions in order to enable that department to effectively manage the environment in a comprehensive manner.

APPENDIX - A4.4.5

**AN ASSESSMENT OF THE POLICY ON A NATIONAL
ENVIRONMENTAL MANAGEMENT SYSTEM FOR SOUTH AFRICA
AS PUBLISH IN THE 1993 WHITE PAPER**

BY P. NEETHLING

AN ASSESSMENT OF THE POLICY ON A NATIONAL ENVIRONMENTAL
MANAGEMENT SYSTEM FOR SOUTH AFRICA AS PUBLISHED IN THE
1993 WHITE PAPER

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GROUP MANAGING DIRECTOR -
CONSOL LIMITED

Thank you for the opportunity of expressing a view on behalf of Commerce and Industry. I do not profess to have any mandate from this broad segment to talk on its behalf, and must therefore speak firstly from my own background of packaging and tyres and secondly in my position as President of the Packaging Council of South Africa. This body consists of companies which have any interest in or an interface with packaging and as such has, as members, raw material suppliers, converters, bottlers and fillers and eventually down to retailers. I am also privileged, as a member of the Council for the Environment and its Waste and Pollution Committee, to be in reasonable contact with environmental thinking and to be exposed to the Department of Environment Affairs people and some of its philosophies.

I would like to thank the Department for this document and would like to make some constructive comments towards addressing the problems in the South African environment.

1. ASSESS THE FEASIBILITY OF INTENTIONS OF WHITE PAPER (CHAPTER 2)

Industry and Commerce believe that the viewpoint of a balanced approach between development and environmental protection is sound, but in the shorter to medium term there is little doubt that the forces driving job creation right now will probably be favoured. The level of economic activity is now at such a low ebb that virtually any improvement, even with some small short-term detrimental effects, will be warmly received. It is common knowledge that a smoking stack on the horizon is to the jobless a potential sign of work and not a threat to the environment.

This must be seen against the general level of responsibility and willingness to accept public accountability displayed by so many members of business whose example will no doubt be seen and followed by many more. The call for environmental monitoring and auditing is a natural expression of this view and commerce and industry will support the practical and reasonable promotion of measures by the Department in this regard. The adoption of an approach which at least initially, will allow for substantial voluntary effort by businesses is welcomed.

resources to throw at this issue, both financial and human. Let them invent the wheel first. Let us get going on the other priorities while watching economic instruments carefully for potential introduction in South Africa.

The promotion of recycling is supported by industry, but definitely not at all costs. Meaningful recycling is taking place in many or most materials which can be recycled viably. Market forces will dictate in most instances what can be done and what can't. The spirit of entrepreneurship will drive recycling opportunities, but will also determine when recycling is no longer cost-effective. Efforts to drive it beyond that point can only succeed if more incentives are made available. Recycling simply for the sake of the environment without any economically viable understructure, is doomed to fail.

2. THE PRACTICABILITY OF THE PRINCIPLES FOR AN ENVIRONMENTAL MANAGEMENT SYSTEM (CHAPTER 3)

The first principle mentions the apportionment of accountability and in this regard there can be no doubt about the willingness of commercial and industrial organisations to take concrete initiatives to collaborate with the authorities to address and promote environmental matters. It is also encouraging to note that the Government pledges its support of constructive initiatives by the private sector.

The second principle of methods and procedures to achieve the policy objectives discusses some important concepts which commerce and industry endorse. It states clearly that the environmental management system should be directed at applying the principles of sustainable development and integrated management in practice. A holistic approach to environmental matters is imperative and it is fully appreciated that the system can only be established in an evolutionary manner which will of necessity take time. The role of the Department of Environment Affairs is endorsed and again it is appreciated that provision is made for consultation with the private sector.

The third principle addresses the apportionment of responsibilities and functions. It states, upfront, the importance of the private sector and the necessity of co-ordinated co-operation between the authorities and all parties concerned. The necessary devolution of functions and the definition of who will do what against the backdrop of the available expertise may be a tricky one in the new political dispensation. It is of great concern that local authorities will have the responsibility for the promulgation

of regulatory measures which are deemed to be of local importance on items like exhaust fumes, littering, refuse removal and noise control. It will be of little value to the private sector to discuss these items centrally with the Department and then to find different interpretations and implementations on the ground. National businesses with regional interests may find this confusing and frustrating and difficult to enforce.

3. DISCUSSION OF THE IMPLEMENTATION STRUCTURE (CHAPTER 4)

Although it is probably the most practical approach at this stage, it is disappointing that the structure comments are restricted to central government only.

We support strongly that Government should do the necessary to adjust the structure of the Department, within affordable limits, so that it can perform its functions in an effective way. The transferring of control functions on air pollution, water and waste control and dangerous and toxic substances from other departments to the Department of Environment Affairs is supported. The establishing of regional offices for inspection or monitoring purposes is also understood and endorsed although it will probably only become clearer later what the interaction will be between the central and regional authorities.

The improved utilisation of the Committee for Environmental Management is imperative particularly when measured against the current perceived lack of proper communication and co-ordination between departments. It is not clear how a body like that can take responsibility for regularly publishing a comprehensive report on the state of the environment, including information on the waste stream. The responsible party at all times must be the Department for Environment Affairs, it must take the lead and collate and publish the results under its own name, with due reference to the inputs of the other departments.

The continuation of the Council for the Environment is supported, but greater attention is required to the composition of this body with regard to the interested parties and community groups in South Africa.

A national strategy for waste management and the development of integrated pollution control will be supported. However, attention must be drawn to the degrees of negative impact these different elements have on the environment. Air and water pollution must be controlled rigidly as well as the disposal of hazardous wastes which can all have a detrimental effect on health and threaten the future existence of the human race. Of a far lesser concern is the handling of waste and litter, particularly in developed areas with workable, albeit expensive systems to take care of it. The broader packaging industry does not believe that landfills are evil, particularly in a country which has reasonable space available for landfills and where it is also probably without counter-argument, the most economic way to deal with waste. Even litter, which is probably more painful on the eye, therefore aesthetically not pleasing, is not the major problem it is made out to be. The developing areas have a waste and litter problem, but they have many other problems as well which may be overcome in a negotiated political settlement, a structure in which black townships and squatter settlements take on their rightful role and a general level of trust and understanding being developed and understood.

From both local and overseas perspectives, priorities on the environmental scene seem to be the need to deal with the high population growth, water availability and supply, soil erosion, desertification and air pollution. In this poor country of scarce resources, it is important to spell out priorities and to gain the confidence of the people and rulers of the new South Africa on environmental matters which are the most painful.

On the issue of fiscal incentives and penalties, the White Paper is much clearer on penalties in the form of fees, fines and levies than on incentives which can probably be linked to the whole question of economic measures or instruments. The question of the internalisation of external environmental costs has not as yet put enough meat on the skeleton for business to understand this concept fully. The inclusion of this even in the national accounts, is to say the least, still highly theoretical and mainly based on the theory being talked about in some other developed countries, mainly Europe. They have introduced, in what would appear to be isolated instances, some tradeable permits on air pollution, but very little else. The U.S.A. is talking about it, but not implementing it. Although industry is not totally against this concept, it is obvious that there are many more pressing environmental problems in South Africa than for us to try and climb on this latest hot issue, economic instruments. Let the other countries sort out the theory first and then experiment with the various elements before we attempt these skills largely esoteric issues. They have more

SUMMARY

The Department must be complimented on the production of this White Paper. I believe that the approach, principles, guidelines and structures are basically acceptable to commerce and industry. The hard work is still ahead and the final paragraph clearly states that it merely outlines Government's intention and that a specific implementation strategy should be developed. Of vital importance will be to determine the most crucial issues and the setting of priorities. Putting the meat on this skeleton is not going to be easy, but I am convinced that I talk on behalf of all commerce and industry when I offer our unqualified willingness to support the cause and to be available for the essential participation, mentioned throughout, to make it as meaningful as we all trust it will be.

24 May 1993/jls

APPENDIX - A4.4.6

**THE WHITE PAPER, ENVIRONMENTALIST MANAGEMENT AND IEM:
OPPORTUNITIES GAINED AND LOST**

BY G. NEL

THE WHITE PAPER, ENVIRONMENTALIST
MANAGEMENT AND IEM : OPPORTUNITIES
GAINED AND LOST

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PRESENTED AT THE ONE DAY CONFERENCE
THE GOVERNMENTS WHITE PAPER :
POLICY ON A NATIONAL ENVIRONMENTAL MANAGEMENT
SYSTEM FOR SOUTH AFRICA, JUNE, 1993
MEGAWATT PARK
JOHANNESBURG

THE WHITE PAPER, ENVIRONMENTALIST MANAGEMENT AND IEM:
OPPORTUNITIES GAINED AND LOST

1. ABSTRACT

The 1993 White Paper, a Policy on a National Environmental Management System for South Africa is presented as a policy statement towards the adoption of an effective environmental management model for this country. IEM, EIA and environmental auditing are both explicitly referred to, and accepted, as useful tools to implement the principles of sustainable development, and to foster the introduction of environmental management on a national scale.

The impression is being made in the White Paper that development entails only the conceptualization, planning and implementation phases of the project life cycle. It is however argued here that this implication, or the absence of a more explicit statement suggesting the opposite, restricts the general perception of what an comprehensive approach to environmentalist management should be. The concept development presupposes much more than the mere planning, decision making and construction phases. The principle of a cradle to grave commitment to environmentalist management demands the integration of both environmental concerns, and the principles of sustainable development with all the post development stages of the project life cycle, i. e. the operational, expansion, decommissioning, dismantling and after care phases.

IEM is better positioned as a planning and decision making tool, than an approach to comprehensive environmentalist management, as is also implied by its name: 'integrated environmental management'. It is suggested that these limitations inherent to IEM, should be explicitly addressed in a document such as the White paper in order to prevent any misconceptions about its real potential.

TEM or total environmentalist management, of which IEM is an integrated part, is suggested as a strategy to both prevent, and correct the general misconception about the potential of the IEM procedure, to address the demands posed by comprehensive environmentalist management.

2. **Environmental management objectives formulated in the White Paper of 1993**

The White Paper on a National Policy regarding environmental Conservation of 1980 defined the national policy with respect to development and the environment as follows:

"The government policy is that a golden mean between dynamic development and the vital demands of environmental conservation should constantly be sought. The aim is, therefore, that man and nature should constantly exist in productive harmony to satisfy the social, economic and other expectations of the present and future populations" (RSA, 1993: 3).

The Report of the President's Council (RSA, 1984) added the following concepts to the above mentioned policy:

- * Recognition of the responsibility of all government agencies,
- * Conservation and development should be regarded as mutually complementary components of environmentalist management,
- * Exceptions may only be made where the national survival is at stake, or where no alternative resources are available.

The general consensus reached from the 1984 report was that environmental matters should be managed in an integrated way, but that no effective management model was available to give effect to this concept in practise (RSA, 1993: 4).

3. Towards a strategy for environmental management

The President's Council was requested in 1989 to investigate and make recommendations on the concept of an environmental management model (RSA, 1991).

In its recommendations, the President's Council accepted the principles of IEM or integrated environmental management as one of the management mechanisms to achieve sustainability (RSA, 1991). IEM is defined in the 1993 White Paper as follows: *"IEM is a procedure to ensure that environmental considerations are efficiently and adequately integrated in all the stages of the development process. It comprises environmental resource allocation from conceptualizations, planning and the monitoring of results"* (RSA, 1993: 7).

IEM is also defined in the official IEM guidelines as: *"A philosophy which prescribes a code of practise for ensuring that environmental considerations are fully integrated into all stages of the development process in order to achieve a desirable balance between conservation and development"* (DOEA, 1992: 4).

The 1993 White Paper also suggests that EIA, or environmental impact assessment is usually inherent to the IEM procedure and is a tool to determine and evaluate the probable changes to the socio-cultural and biophysical environments which may result from a proposed or pending activity (RSA, 1993: 7).

The combination of the substantive and procedural EIA elements, with a fresh philosophical framework, offers significant opportunities towards the

achievement of the objectives of sustainable development during the development process.

4. Opportunities gained: What IEM has to offer

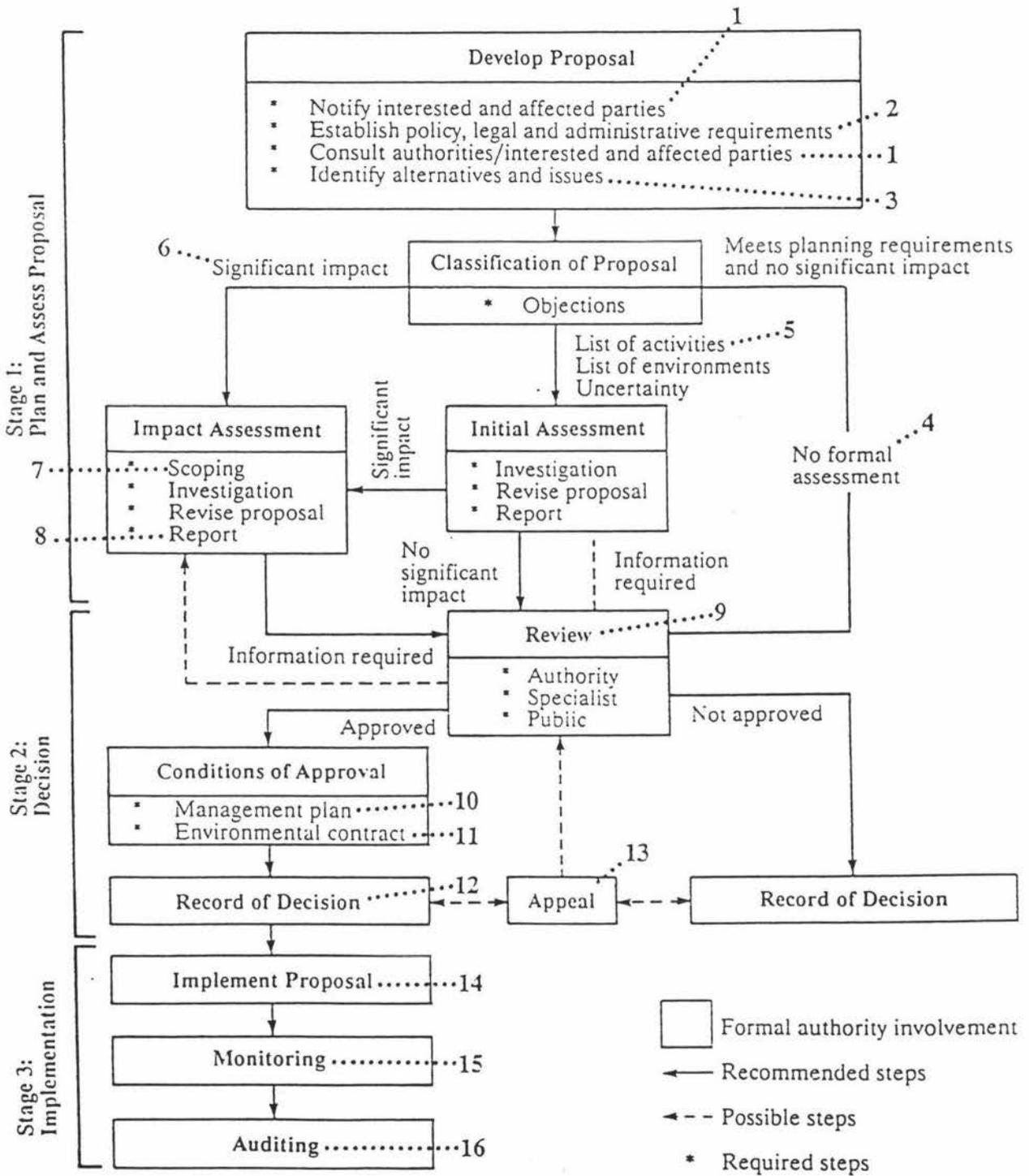
IEM is a procedure to ensure that environmental considerations are included early into the decision making framework of all new development proposals or initiatives which may result in specific actions. The IEM procedure contains most of the procedural requirements which were developed by international experience with EIA systems over the last twenty years. These procedural requirements are formulated in order to:

- enforce **compliance** to the procedural elements of EIA;
- force **action** by everybody having significant impacts on the environment, and to
- increase the **accountability** of decision makers by opening up the decision making processes to also include all the interested and affected parties.

The procedural elements inherent to IEM include:

- Consultation and notification of all the **interested and affected parties**;
- The formulation and consideration of **alternatives**;
- The screening of a proposal according to official screening lists;
- Scoping;
- The preparation of a preliminary report;
- **Outside review**;
- The formulation of **conditions of approval**;
- The formal **record of the decision**; and
- The **monitoring and auditing** of the implemented proposal. (Fig. 1)

FIGURE 1 : THE IEM PROCEDURE



IEM is an excellently designed procedural model and tool to integrate the investigation, determination, evaluation and communication of the potential environmental impacts which are associated with any development decision, initiative or action. It also allows for the monitoring and auditing of performance which may be presented in terms of the assessment.

When considered in context with similar procedures elsewhere in the world, the conclusion has to be that IEM does not constitute an approach to comprehensive environmentalist management *per se*. When all the procedural, and substantive components of the IEM procedure are considered, the only conclusion is that it compares very favourably with the very best of both current international thought, and systems of what an EIA procedure should be.

5. Opportunities lost

The explicit reference in the 1993 White Paper to only the IEM as an appropriate tool to achieve sustainable management is both conceptually, and substantively, problematic. Sound environmental development principles and procedures, as embodied in the IEM procedure, are not synonymous to comprehensive environmentalist management, as is implied by both the White Paper of 1993, and the name *Integrated Environmental Management*. Comprehensive environmentalist management entails much more than the planning and implementation of development proposals. The latter of which is regarded to be an integrated part, albeit on important one, of the former. The principal reasons supporting this argument are:

- IEM is better positioned as an information forward feed process and tool to facilitate rational decision making, planning and development

processes, rather than a comprehensive environmentalist management system;

- * The White Paper does however imply the necessity of a comprehensive environmentalist management system, other than what IEM is able to provide, in a reference to the desirability of environmental auditing in order to measure the performance of "*environmental management systems and equipment*" (RSA, 1993: 12).
- * IEM is not regarded to be a suitable tool to implement the principles of sustainable development to the operational phases of the project life cycle;
- * Principles of sound environmentalist management should also be integrated with the strategic day to day line functioning management systems and processes of any organization, both during the development phases and thereafter;
- * The term IEM is also misleading for individuals and organizations which are inexperienced with the full extent of environmentalist management, regularly regard compliance to IEM to be sufficient to address their environmentalist management responsibilities.

6. Possible solutions : Total environmentalist management (TEM)

Both the philosophy, and the substantive components of the Total Environmentalist Management (TEM) approach, provide the opportunities to introduce and sustain the entire range of activities and systems which are demanded by a comprehensive and integrated approach to environmentalist management on a cradle to grave basis (Nel 1992, 1993). TEM does not only facilitate sound development planning and implementation, it also provides for a fully integrated, holistic and self sustaining system to foster the achievement of excellence across the board of environmentalist management line functioning activities.

The TEM approach is characterized by the following:

- * It is **comprehensive** because it allows for the early introduction of ecological principles to both the decision making, and the management processes of all the line functions associated with a project.

- * It is fully **integrated**, because TEM is aligned with the current strategic elements, structures and systems which govern and determine all the line functioning activities of all the units, at all the levels of any organization, on a cradle to grave basis.
- * TEM also facilitates the introduction of suitable systems and programmes to ensure compliance, the **measurement** of performance levels, as well as a fundamental change in the value and belief systems of the entire staff.
- * It is **holistic**, for it recognizes that all the elements, systems and structures of an organization are expected to perform throughout the entire life cycle of it's activities.
- * It also provides for the identification of a variety of auxiliary systems and activities which may negatively impact on the achievement of sustainability by means of a series of operational plans, strategies, programmes, procedures and guidelines geared towards the prevention of non-performance.
- * It also facilitates the recognition and maintenance of an organization's **responsibility** to, and **environmental ownership** of their product, packaging, waste and impacts, as well as occupational and community health and safety.
- * It is also supportive of the concept of **total quality**, for continuous improvement in performance levels, customer satisfaction and the involvement of everybody concerned, are actively integrated with the approach. The continuous improvement approach also acts as a self-perpetuating mechanism, enforcing compliance.
- * It is also aligned with the existing **occupational health and safety** programmes.

7. The nature of TEM

The TEM programme consists of a suite of activities associated with all the line functioning activities inherent to the classical project life cycle, such as:

- * The forward feed information of
- * Strategic planning activities,
- * The implementation of auxiliary management systems,

- * Monitoring and auditing programmes, as well as
- * The periodic evaluation of the entire programme.

A schematic representation of the TEM process is provided in Fig. 2 and a more detailed analysis of the contents of the various TEM phases are summarized in Fig 3.

7.1 The project life cycle

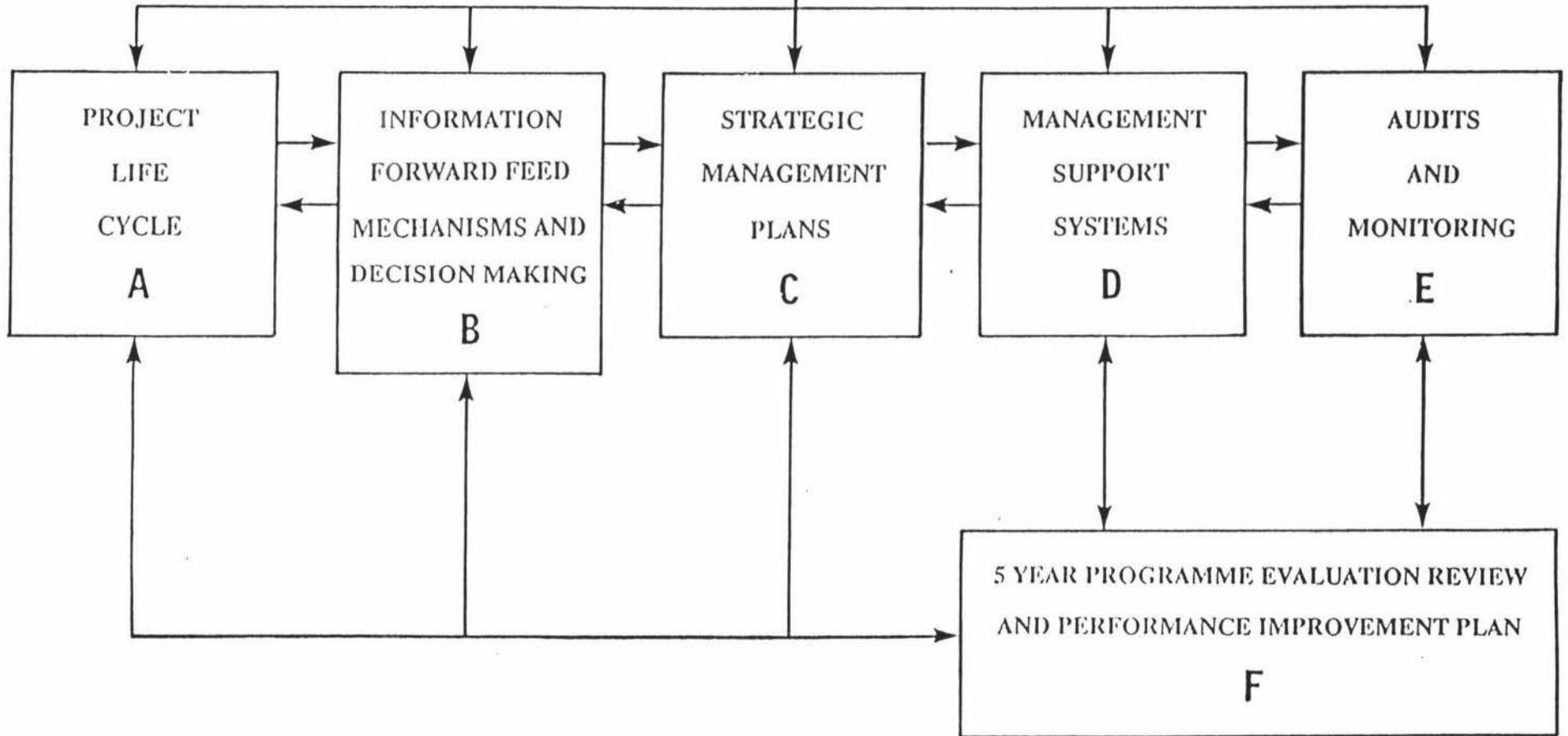
The TEM approach commences with the recognition and acceptance of responsible care and stewardship of the environment, throughout the entire life cycle of any project. The principle of a *cradle to grave commitment* to the philosophy of TEM suggests that the environmental ramifications of any initiative should be addressed from the conceptual phase, through the planning, design, construction, operational, maintenance, expansion and decommissioning phases, to also include, dismantling, rehabilitation and after care.

7.2 The information forward feed phase

All the activities associated with the entire project life cycle, demand the forward feed of relevant information, in order to improve the prospects to reach an informed and rational decision. The tools most frequently used to collect, assess, feed forward and communicate environmentally relevant information, include the IEM procedure, as well as a range of environmental, social, aesthetic and risk impact assessment methods and techniques.

A CONCEPTUAL FRAMEWORK FOR TOTAL ENVIRONMENTALIST MANAGEMENT

ALIGNMENT WITH TOTAL QUALITY MANAGEMENT PROGRAMMES (ISO 9000-4)
ALIGNMENT WITH OCCUPATIONAL HEALTH AND SAFETY PROGRAMMES



The information collected for use during the initial decision and planning phases, now need to be incorporated into a structured and functional suite of strategic environmentalist planning strategies which also need to be documented.

7.3 Strategic environmentalist management planning

All the elements and aspects related to the introduction of a TEM programme, need to be carefully planned and documented in order to facilitate both the implementation, sustainability and the evaluation of performance levels achieved by the environmentalist management programme. The line functioning environmentalist management objectives need to be explicitly formulated, documented and communicated. These objectives should commence with a generic and broadly formulated mission statement and general policies at the apex, followed by more specifically defined objectives, targets or standards and then by operational plans, strategies, programmes, procedures or guidelines. These environmentalist management strategies do not only determine and define the performance levels expected from all line functioning activities, but they also provide a yardstick against which environmentalist management performance levels may be measured. They also provide the required checks and balances to sustain both compliance to, and the continued improvement of performance.

Operational plans that need to be formulated in order to implement the strategic aims and objectives of a TEM programme include:

- * Contingency and deviation plans, including worst case scenarios,
- * Impact mitigatory plans,
- * Rehabilitation plans,

- * Maintenance plans for all equipment in order to ensure sustained performance levels,
- * Equipment and technological research and development programmes in order to stay abreast of ever changing demand and control measures,
- * Performance improvement plan,
- * Training and education programme,
- * Resource utilization plans,
- * Procurement and transportation plans,
- * Risk management plans,
- * Closure and aftercare plans,
- * Plans for water, land and air management,
- * A reliable and sufficient monitoring programme,
- * Waste minimization and management plans.

The implementation of the strategic environmental management plans may not be successfully implemented if they are not supported by the following auxiliary management support systems.

7.4 Auxiliary TEM systems

The following TEM auxiliary management systems are required to ensure that all the endeavours of the preceding phases are successfully implemented and sustained on a day to day basis and at all line functioning levels. They include the following:

- * Top level support and commitment,
- * The adequate provision of resources,
- * The sustained training and education of the entire staff,

- * A system to collect, keep and distribute relevant information and data, as well as
- * Reliable and functional communication and legal advise back-up systems.

7.5 **Auditing and monitoring**

A TEM programme also need to be backed up by appropriate auditing and monitoring programmes, which are representative, reliable and regularly undertaken.

7.6 **Evaluation of the TEM programme**

The entire TEM programme should be evaluated at regular intervals in order to assess whether the system is able to continue to improve on performance levels.

8. **Support for the TEM type of approach**

International support for a TEM type of approach is growing. Current supporters include The International Chamber of Commerce (ICC 1991); The Global Environmental Management Institute (GEMI, 1991 & 1992); The Environmental Law Institute (ELI, 1992) and The British Standards Institute (BSI, 1992), including the preparation of standards for environmentalist management for South Africa by the SABS.

9. Conclusion

It is argued that IEM is not a suitable tool to achieve the principles of sustainable development, once the development planning and implementation phases have been completed. IEM is also not well positioned to address all the demands of a sound environmentalist management system during the actual construction phase of any project, because it does not cater for the entire suite of activities which need to be in place to introduce and sustain the day to day requirements of an environmentalist management approach to the various line functioning activities of an organization.

IEM should however be recognized as a tool which is excellently positioned to ensure the forward feed of much needed environmental information, the formulation of mitigatory proposals including the management of diverse value and belief systems, as well as an inspection system to oversee compliance, very much the same way that EIA systems operate elsewhere in the world.

Its inherent inadequacy to address all the requirements of a total approach to environmentalist management should also be explicitly recognized in a document such as the 1993 White Paper, while changing the name IEM to Integrated Environmental Planning or Development will also assist to clarify the general misconceptions about the potential of the IEM approach.

PROJECT LIFE CYCLE A	INFORMATION FORWARD FEED B	STRATEGIC MANAGEMENT C	MANAGEMENT SUPPORT SYSTEMS D	AUDIT AND MONITORING E	PROGRAMME EVALUATION F
CONCEPTUAL	<ul style="list-style-type: none"> • Environmental awareness • Reconnaissance 	<u>STRATEGIC MANAGEMENT;</u> <ul style="list-style-type: none"> • Mission statement 	<u>EXECUTIVE SUPPORT;</u> <ul style="list-style-type: none"> • Board level • Senior management 		
PLANNING		<ul style="list-style-type: none"> • Objectives, targets and standards • Management plans and strategies 	<u>PROVISION OF RESOURCES;</u> <ul style="list-style-type: none"> • Environmental manager • Staff • Finance 	<u>TYPES OF AUDIT;</u> <ul style="list-style-type: none"> • Life cycle • Management 	
DESIGN	<ul style="list-style-type: none"> • Terrain suitability analysis 	<ul style="list-style-type: none"> • Programmes, procedures and guidelines 	<u>OPERATIONAL CONTROL;</u> <ul style="list-style-type: none"> • Documented work instructions • Non-compliance and corrective action 	<ul style="list-style-type: none"> • Policy • Current status 	
CONSTRUCTION	<ul style="list-style-type: none"> • IEM • Landscape assessment 	<u>PLAN FOR;</u> <ul style="list-style-type: none"> • Environmental impact control • Contingency plans/ worst cases 	<u>INFORMATION AND DATA;</u> <ul style="list-style-type: none"> • Database • Distribution • Auditing and monitoring • Previous contingencies 	<ul style="list-style-type: none"> • Supplier and sub-contractor • Compliance • Contingency 	<ul style="list-style-type: none"> • Review of C, D, E
OPERATION AND MAINTENANCE	<ul style="list-style-type: none"> • Social impact assessment • Ecological evaluation 	<ul style="list-style-type: none"> • Resource utilization • Procurement and transport • Strategic environmental management 	<u>LEGAL ASPECTS;</u> <ul style="list-style-type: none"> • Requirements • Awareness • Documentation 	<ul style="list-style-type: none"> • Resources • Product • Closure 	<ul style="list-style-type: none"> • Design, Implement and
EXPANSION	<ul style="list-style-type: none"> • Equipment and systems design according to environmental standards • Risk assessment 	<ul style="list-style-type: none"> • Rehabilitation • Risk management • After care 	<u>TRAINING AND EDUCATION;</u> <ul style="list-style-type: none"> • Awareness • Skills training 	<u>MONITORING;</u> <ul style="list-style-type: none"> • Air quality • Water quality 	<ul style="list-style-type: none"> • Performance improvement
DECOMMISSIONING AND DEMOLITION		<ul style="list-style-type: none"> • Water management • Land management • Performance improvement 	<u>COMMUNICATION;</u> <ul style="list-style-type: none"> • Internal • External 	<ul style="list-style-type: none"> • Land quality • Indicator species 	<ul style="list-style-type: none"> • plan
AFTER CARE		<ul style="list-style-type: none"> • Equipment maintenance • Development research 	<u>SITES AND BUILDINGS;</u>	<ul style="list-style-type: none"> • Base line quality 	

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APPENDIX - A5.5.1

**MATRIX- A CRITIQUE OF THE NEW ZEALAND
RESOURCE MANAGEMENT ACT 1991 and THE SOUTH AFRICAN
ENVIRONMENTAL MANAGEMENT PROVISIONS**

CRITERIA	NZ RESOURCE MANAGEMENT ACT	S.A. WHITE PAPER	COMMENTS
IUCN/UNEP/WWF/AGENDA 21			
<p>1. Adopt an integrated approach to environmental policy, with sustainability as the overall goal</p> <ul style="list-style-type: none"> - national eco-policy planning/key sectoral - national conservation attach to finance Ministry - national cross-sectoral policies - environmental impact assessment <p>- collaborative policy forums: representative governments, interest groups, business, industry</p> <p>- indigenous people</p> <p><u>Actions by 2000</u></p> <p>(1) Environmental law and enforcement provisions and implement (permit system) Contents</p> <p>(1) principles of sustainable society</p> <p>(2) permit system see p68 for characteristics</p> <p>(2) Review of Admin policy</p> <ul style="list-style-type: none"> - adequacy of existing controls - policies, plans, budgets need to take account of environmental effects 	<p>Not in RMA - in NZ economy is separate from Enviro Management</p> <p>No Conservation in two areas</p> <p>(1) Ministry for Conservation in RMA S28/29, 56-58</p> <p>(2) Conservation Act 1987 National conservation estate.</p> <p>Neither are linked to Finance Ministry</p> <p>Minister for Enviro under S24 can investigate use of economic instruments.</p> <p>Ministry for Environment also 5 of the Environmental Reports - but these are not linked to Government budgets</p> <ul style="list-style-type: none"> - no National cross-sectoral policies - guide for EIA - Fourth Schedule RMA <p>RMA provides for consultation in making of plans and policy statements.</p> <ul style="list-style-type: none"> - First and Second Schedule RMA <p>Requirements of First and Second Schedule RMA</p> <p>Section 6, 7 and 8 of RMA - recognise matters of importance to iwi</p> <ul style="list-style-type: none"> - Section 57,60,64,73 - recognise and consider iwi management plans 	<p>1. Application of South African Environmental Policy</p> <p>2. Criterial Policy formulation</p> <ul style="list-style-type: none"> - reconcile ideals - general - expectation/aspirations of developed/developing components of communities - general - consult executive institutions - apply by national, regional, local levels 	<p>1. The human environment is not explicitly addressed as part of an integrated environmental management for SA.</p> <ul style="list-style-type: none"> - If a high priority is given to the declaration of an environmental policy, the socio-economic environment will not receive a high priority. - White Paper talks about structuring of the Department only, not structuring of regional and local levels. - While the <u>Environmental Conservation Act</u> provides for the development of a statutory environmental policy, it has as yet been formalised - <u>Narrow definition of the environment</u>: Environment is the whole of the physical, biological and cultural circumstances which influence the life of the individual or the community. <p>The state of the biophysical environment is regarded as an important development of the quality of life of any community and a healthy environment is the resource base for healthy socio-economic development.</p> <p>* This definition lacks an integrated approach, since the biophysical and socio-economic environments are regarded as separate entities, the quality of the latter being subordinated to the status of the first.</p> <p>Socio-economic status is simplistically accepted as being determined by the status of the physical environment, while interaction between these elements of the environmental system are ignored.</p> <ul style="list-style-type: none"> - Neglect of socio-economic variable is a major component of environmental policy in South Africa as is evident in the White

<p>(3) Indicators of human development, freedom, sustainability. Refer ch 3, ch 7, ch 1.</p>			<p>Paper as a National Environmental Management System (Fabricius, 1994, 26-32).</p>
<p>2 Develop strategies for sustainability, and implement them directly and through</p> <ul style="list-style-type: none"> - Regional - Local Planning - integrate urban/rural policies 	<p>Yes RMA provides for (1) development of plans/policy statements and at all levels (2) it assumes that policies/plans are not inconsistent Section 61,66, and 74 test section 82</p>	<p>Provincial/regional governments</p> <ul style="list-style-type: none"> - environmental management - delegated or devolved authority - delegated or devolved - environmental management 	<p>2 It ignores indigenous peoples <u>views</u> and <u>needs</u> on environmental conservation</p> <ul style="list-style-type: none"> - It ignores community involvement at all levels of environmental conservation. - No mention of a strategy to attain the spread of a conservation ethic, and how to develop that ethic (Steel, 1993, 2,4,7,8)
<p>3 Subject proposed development projects, programmes and policies to environmental impact assessment and to economic appraisal</p> <ul style="list-style-type: none"> - Environmental socio-eco impacts - Socio-eco benefits/costs - Pre-feasibility stage - Full public participation - Independent review 	<p>Section (90) (a) Information requested with applicant effects (2) Four Schedules of RMA specify what effects will be considered in EIA</p>	<p>Land use conservation</p> <ul style="list-style-type: none"> - private sector/non-government organisation active in conservation activities - Use EIA - Lack of legislation to enforce EIA 	<p>3 Address divergent legislative frameworks for the conservation of the environment</p> <ul style="list-style-type: none"> - Need for the introduction of an integrated environmental conservation control system in South Africa - Rethink of divergent of functional authorities in environmental management (Nic Oliver, 1993, 12-13)
<p>4 Establish a commitment to principles of a sustainable society in constitutional or other fundamental statements of national policy</p> <ul style="list-style-type: none"> - incorporate principles in constitution - future generations - conservation - participation, interest groups - indigenous people 	<p>Purpose and Principles of RMA (S5-8) express commitment and national for Sustainable Management</p> <p>No Same as Sustainable Society Yes But conditional on no loss to present generation. Yes Conservation Act, Commissioner for Environment (Watchdog) 1st and 2nd Schedule of Act S93 procedure for notification for applicant Complaints 316-328</p>	<p>Rationalise, consolidate/promulgate specific legislation</p> <ul style="list-style-type: none"> - achieve environmental (general objectives) - lack of participation (e.g black communities) - no recognition of indigenous people 	<p>4 No attempts have been made to deal with the issue of carrying capacity</p> <ul style="list-style-type: none"> - Lack of priority to establish an integrated national conservation plan to protect our biodiversity. - It gives no indication when or how IEM procedures will be introduced - Consultation raised questions about the acceptability and realism of the document (J Hanks, 1993, 2-3).
<p>5. Establish a comprehensive system of environmental law and provide for the implementation and enforcement</p> <ul style="list-style-type: none"> - land-use planning/development control - prevention of pollution - efficient energy use - control hazards substances 		<p>Establish framework for environmental law</p> <ul style="list-style-type: none"> - promote sustainable development - enterprises introduce monitoring in their own interest - <u>Certain development</u> undertake environmental impact studies 	

<ul style="list-style-type: none"> - waste disposal - conservation of species and ecosystems - industries/government/agencies, subject to periodic environmental impact assessment 			
<p>6. Review the adequacy of legal and administrative controls, and of implementation and enforcement mechanisms, recognise the legitimacy of local approaches</p> <ul style="list-style-type: none"> - local authorities own powers to protect environment - community involvement in formulation and implementation - enact environmental protection measures, sub-national/local level 		<p>Apply national nature conservation plan</p> <ul style="list-style-type: none"> - Ensure maintenance of biodiversity (general) 	
<p>7. Ensure that national policies, development plans, budgets and decisions on investments take full account of their effects on the environment</p> <ul style="list-style-type: none"> - value environment quality/natural resources are in national accounts - adopt sustainable indicators 	<p>Yes. Section 2-4 interpretation (a) any agency etc is a "person" and therefore bound by the Act including Crown.</p> <p>No. We have Schedule of E reports not yet incorporated in national accounts.</p> <p>Yes. In Schedule of E reporting and section 35 of RMA monitoring of - Plans & Policies - Environment</p>	<p>Apply fiscal incentives and penalties</p> <ul style="list-style-type: none"> - Achieve protection/environmental objectives 	
<p>8. Use economics to achieve sustainability</p> <ul style="list-style-type: none"> - Adopt polluter pay principle - User pays principles <p>Provide economic incentives for conservation and sustainable use</p> <ul style="list-style-type: none"> - Regulatory and economic instruments - Procedures/consumers achieve environmental objectives - Environmentally-sound products/pollution control - Reduce costs of enforcement - Generate revenue 	<p>No. A present Regional Councils and Territorial Administrations do not have power to fully implement Economic instruments.</p>	<p>Principles of the user must pay</p> <ul style="list-style-type: none"> - no guidelines 	<p>Alternative methods may also include advocacy and provision of information about issues</p>
<p>9. Strengthen the knowledge base, make information on environmental matters more accessible,</p> <ul style="list-style-type: none"> - Review national research 	<p>Yes. NZ has Ministry of Resource and Technology - national priorities assessed</p>	<p>Lack of provision of information to communities (e.g. black communities)</p>	

<ul style="list-style-type: none"> - Identify key tasks - Participate in international programmes - Disseminate/apply research results 	<ul style="list-style-type: none"> - Section 28, 35 require Minister for Conservation and Regional Councils and Territorial Administration to keep information Yes Commitment to SPREP treaties, conventions and of understanding. 		
<p>10. Strengthen the knowledge base, and make information on environmental matter more accessible</p> <ul style="list-style-type: none"> - Review national research - Identify key task - Participate in international programme - Disseminate/apply research results 	<p>Section 35 RMA requires local authority to provide information.</p>	<p>Implement a national environmental assessment programme</p> <ul style="list-style-type: none"> - audit environment - information available to public 	

Various Resource Conservation Acts

- * The Conservation of Resources Act (43 of 1983)
- * The Forest Act (122 of 1984)
- * The Sea Fishery Act (12 OF 1988)
- * Various nature conservation ordinances passed in each of the four provinces
- * The Mining Rights Act (20 of 1967)
- * The Precious Stones Act (73 of 1964)
- * The Mines and the Works Act (27 of 1956)
- * Tiger's Eye Control Act (1 of 1977)

A new Mineral's Act, passed by Parliament in 1991, replaced and consolidated over 20 of these acts regulating the exploitation of mineral resources.

South Africa's laws regulating planning and development include the following:

- * The Physical Planning Act (89 of 1967)
- * The Lake Areas development (39 of 1975)
- * The Subdivision of Agricultural Lands Act (70 of 1970)
- * The Advertising on Roads and Ribbon Development Act (21 of 40)
- * The Sea Shore Act (21 of 1935)

Detail planning tends to be regulated by the individual provinces under their own town-planning ordinances. In the Cape, for example, the land Use Planning Ordinance (15 of 1985) regulates spatial development.

Laws concerned with pollution control and waste management are:

- * The Atmospheric Pollution Prevention Act (45 of 1965)
- * The Water Act (54 of 1956)- the main statute regulating pollution of the river courses:
- * The Hazardous Substances Act (15 of 1973)

Finally, in the field of labour law, the Labour Relations ACT (28 OF 1956) and the Machinery and Occupational Safety Act (63 of 1983) both have a bearing on the workplace environment (Glazewski et al, 1991: 142-143).