

**A LEGAL REVIEW OF THE SOUTH AFRICAN NATURAL
RESOURCES MANAGEMENT MECHANISMS,
TOWARDS INTEGRATED RESOURCES
MANAGEMENT**

M Uys

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Water Research Commission



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**Report to the
Water Research Commission**

by

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TOWARDS INTEGRATED RESOURCES MANAGEMENT

EXECUTIVE SUMMARY

The basis for integrated resources management (IRM) in South Africa is founded in the Constitution, establishing a human right "to an environment that is not harmful to health or well-being, and to have that environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation, promote conservation and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development." Constitutional provision is also made for co-operative environmental governance, towards the attainment of which the principles and tools of various laws have been directed.

In the field of environmental law, various pieces of legislation related to the management of natural resources have recently been revised, to make use of progressive management principles, tools and institutional structures to attempt to co-ordinate decision-making towards cooperative governance. Although the provisions of these laws hold promise for the coordinated utilization and development of all resources, the practice of integrating resources management systems has not yet found definition and application in South Africa.

The challenge of integration is to establish a merged management system with the necessary principles, tools and institutions where sustainable development and use of natural resources is achieved through decision-making by way of simple and user-friendly processes, in which public participation is incorporated.

Since the very cornerstones of IRM, which include catchment management, public participation and institutional restructuring, are relatively recent initiatives that have not yet been fully accommodated within environmental practice, attempts towards the advanced IRM at this stage, would be premature.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

TABLE OF CONTENTS

PREFACE	9
ABBREVIATIONS AND ACRONYMS	10
CHAPTER I	12
HOW ARE RESOURCES MANAGED IN SOUTH AFRICA?	12
WHAT DOES THE MANAGEMENT OF RESOURCES ENCOMPASS?	12
Resources	12
Management.....	13
Sustainability	13
Integrated Environmental Management	14
RESOURCES MANAGEMENT PRINCIPLES	14
The Constitution	14
The National Environmental Management Act	15
Goals	15
Principles	15
Other resources management legislation	16
Water	16
<i>National Water Act, 1998 (NWA)</i>	16
Land use and development.....	16
<i>Development Facilitation Act, 1996 (DFA)</i>	16
<i>Physical Planning Acts 1967 and 1991</i>	16
Agricultural Fishery and Fishery Resources	16
<i>Agricultural Resources</i>	16
<i>Marine Resources</i>	17
<i>Forests</i>	17
Mineral Resources	18
Heritage Resources	19
Ad hoc conservation laws	19
MANAGEMENT TOOLS.....	20
Constitution.....	20
Legislative measures	20
Other measures	21
<i>Executive powers</i>	21
<i>Supremacy of the Constitution</i>	21
<i>Intergovernmental relations</i>	21
<i>Co-operative facilitation</i>	22
<i>Just administrative action</i>	22

TOWARDS INTEGRATED RESOURCES MANAGEMENT

<i>Locus standi</i>	23
National Environmental Management Act, 1998 (NEMA)	23
Environmental Implementation Plans (EIPs) and Environmental Management Plans (EMP's)	23
Integrated Environmental Management (IEM)	24
<i>International Environmental Instruments (IEI)</i>	25
<i>Public duty of care</i>	25
<i>Locus standi</i>	26
<i>Alternative Dispute Resolution (ADR) Tools</i>	26
Environmental Management Co-operation Agreements (EMCA)	27
Water Resources Management Tools	27
Water Management Strategies	27
<i>The National Water Resource Strategy</i>	27
<i>Catchment Management Strategies</i>	28
Measures to protect water resources	28
<i>The Water Resources Classification System and Resource Quality Objectives</i>	28
<i>Reserve</i>	28
<i>Pollution control measures</i>	29
<i>Controlled Activities</i>	29
Measures to control water use	29
<i>Water Use Authorization</i>	29
<i>Pricing Strategy</i>	30
<i>National monitoring and information systems</i>	30
Land Use and Development Management Tools	31
Land Development Objectives (LDOs) in terms of the DFA	31
Land development procedures for purposes of the DFA objectives	31
Policy and Structure Plans in terms of the Physical Planning Act, 1991	32
Controlled Areas under the Physical Planning Act, 1967	32
Protected areas	32
Agricultural, Forestry and Fishery Resources Management Tools	33
Conservation of Agricultural Resources Act	33
<i>Prescribed control measures</i>	33
<i>Schemes and government assistance</i>	33
<i>Expropriation</i>	33
<i>Internal appeals</i>	34
National Forests Act	34
<i>Sustainable forest management measures</i>	34
Marine Living Resources Act	35
Minerals	35
Authorization to mine and prospect	35
Environmental Management Programme (EMP)	35
Minerals and Petroleum Resources Development Bill	36
Heritage Resources	37

TOWARDS INTEGRATED RESOURCES MANAGEMENT

Heritage resource identification and classification	37
Heritage Impact Reports	38
MANAGEMENT INSTITUTIONS	39
Resources Management Structures under the Constitution	39
Spheres of Government	39
Supporting Institutions	40
NEMA	40
National Environmental Advisory Forum (NEAF)	40
Committee for Environmental Co-ordination (CEC)	40
Water management institutions	41
Catchment Management Agency (CMA)	41
Water User Associations (WUA)	42
Advisory Committees	43
Water Tribunal	43
Land use and development institutions	43
DFA	43
<i>Development and Planning Commission (DPA) and provincial commissions</i>	43
<i>Development Tribunals and Appeal Tribunals</i>	44
<i>Physical Planning Acts (PPA 1967 and PPA 1991)</i>	44
Agricultural, Forestry and Fishery Resources	44
Agricultural Resources Act	44
Conservation Committees	44
Conservation Advisory Board (CAB)	45
Forests Act	45
National Forests Advisory Council (NFAC)	45
<i>The Committee for Sustainable Forest Management</i>	45
<i>The Committee on Forest Access</i>	45
Other laws	45
Mineral Resources Institutions	46
Heritage Resources Institutions	46
CONCLUSIONS	47

TOWARDS INTEGRATED RESOURCES MANAGEMENT

CHAPTER II	48
THE EXTENT OF INTEGRATION OF EXISTING RESOURCES MANAGEMENT SYSTEMS	48
INTRODUCTION	48
Decision-making Tools.....	48
Framework tools	48
Management tools	48
Information tools	48
Auditing tools	49
Judicial tools	49
Education tools	49
Resources Management Institutions.....	49
Management bodies	49
Advisory bodies.....	49
Policy-making bodies	49
Strategy bodies.....	50
Utility organizations	50
Judicial bodies	50
Auditing and monitoring institutions.....	50
Coordinating institutions.....	50
Control Bodies	50
Consultative Bodies	51
Education bodies	51
Information institutions	51
Administration bodies.....	51
Stakeholder bodies	51
THE CONSTITUTIONAL FOUNDATION.....	52
NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (NEMA)	53
WATER RESOURCES	53
LAND USE AND DEVELOPMENT.....	54
AGRICULTURAL, FORESTRY AND FISHING RESOURCES.....	54
MINERALS	55
HERITAGE RESOURCES.....	55
CONCLUSION.....	56

TOWARDS INTEGRATED RESOURCES MANAGEMENT

CHAPTER III	57
WHAT ARE THE NORMS FOR INTEGRATED RESOURCES MANAGEMENT?	57
THE MEANING OF INTEGRATED RESOURCES MANAGEMENT: "INTEGRATION" AND "COORDINATION"	57
Swaziland	58
Canada and the USA	59
Australia and New Zealand	59
THE CORNERSTONES OF AN INTEGRATED RESOURCES MANAGEMENT SYSTEM	62
Catchment Management	62
Public participation	64
Institutionalizing	66
CONCLUSION	66
 CHAPTER IV	 67
HOW DO THE EXISTING RESOURCES MANAGEMENT SYSTEMS MEASURE UP TO THE PRINCIPLES OF INTEGRATED RESOURCES MANAGEMENT?	67
INTRODUCTION	67
EVALUATION OF EXISTING SYSTEMS	67
Resources Management Principles	67
Sustainability	67
Integration	68
Catchment Management	68
Public participation	68
Management Tools	70
Institutional Structures	71
The need to institutionalize	71
Institutionalizing under the resources laws	71
Environmental Resources	71
Committee for Environmental Co-ordination (CEC)	71
National Environmental Advisory Forum (NEAF)	72

TOWARDS INTEGRATED RESOURCES MANAGEMENT

Alternative Dispute Resolution (ADR).....	72
International Environmental Instruments (IEI).....	73
Environmental Management Cooperation Agreements (EMCA)	73
Conclusion	73
<i>Water Resources</i>	73
<i>Land use and development</i>	74
<i>Agricultural, forest and fish resources</i>	75
<i>Minerals</i>	75
<i>Heritage Resources</i>	75
CONCLUSIONS	76
CLOSE	77
TABLE OF AUTHORITIES	78

TOWARDS INTEGRATED RESOURCES MANAGEMENT

PREFACE

Many environmentalists have speculated on a South Africa divided into catchments where every activity in that catchment is regulated by environmentally sustainable management principles, providing for an integrated structure of properly empowered and capacitated authorities who apply these principles by means of well-developed statutory management tools. Within this context, nobody would establish or remove a plant, obtain or develop a piece of land, withdraw from or impact on a water resource, or utilize or impact on cultural heritage, air space, or any other environmental resource whether it be of natural or man-made origin, without a permit issued by the relevant authority acting in terms of its integrated administrative powers, based on an integrated resources management policy.

South Africa has shown tremendous progress towards sustainable environmental resources management during the last few years. Some of the obstacles in the way of integration of relevant policies, management tools and institutional structures include political priorities, conflicting management policies and legislation, existing institutional structures and scientific uncertainties regarding sustainable environmental management requirements.

In this study, an attempt was made to identify and evaluate the current legal-institutional context, and test the determined base criteria of IRM against this climate as a measure of the progress towards effective IRM.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

ABBREVIATIONS AND ACRONYMS

ACAP	Atlantic Coastal Action Programme (Canada)
ADR	Alternative Dispute Resolution
AWA	Australian Water Association
CAB	Conservation Advisory Board
CAF	Consultative Agency Forum (under MLRA)
CARA	Conservation of Agricultural Resources Act, 1983
CEC	Committee for Environmental Co-ordination
CMA	Catchment Management Agency
CMS	Catchment Management Strategy
COAG	Council of Australian Governments
DACST	Department of Arts, Culture, Science and Technology
DEAT	Department of Environmental Affairs and Tourism
DFA	Development Facilitation Act, 1996
DLA	Department of Land Affairs
DME	Department of Minerals and Energy
DMEA	Department of Mineral and Energy Affairs
DPC	Development and Planning Commission
DWAF	Department of Water Affairs and Forestry
EA	Environmental Assessment
ECA	Environment Conservation Act, 1989
EIP	Environmental Implementation Plan (under NEMA)
EMCA	Environmental Management Co-operation Agreement
EMP	Environmental Management Plan (under NEMA)
EMP	Environmental Management Programme
EMPR	Environmental Management Programme Report
EPA	Environmental Planning Authority (USA)
GG	Government Gazette
GN	General Notice
ICM	Integrated Catchment Management
ICT	Integrated Catchment Tribunal
IEI	International Environmental Instrument (under NEMA)
IEM	Integrated Environmental Management
IRM	Integrated Resources Management
LDO	Land Development Objective
LDT	Land Development Tribunal
MA	Minerals Act, 1991
MEC	Member of the Executive Council
MINMEC	Committee for Ministers and Members of the Executive Council
MLRA	Marine Living Resources Act, 1998
MPRDA	Mineral and Petroleum Resources Act, 2002
MPRDA	Minerals and Petroleum Resources Development Act, 2002

TOWARDS INTEGRATED RESOURCES MANAGEMENT

NEAF	National Environmental Advisory Forum
NEMA	National Environmental Management Act, 1998
NFA	National Forests Act, 1998
NFAC	National Forests Advisory Council
NHRA	National Heritage Resources Act, 1999
NRCan	Natural Resources Canada
NWA	National Water Act, 1998
NWAC	National Water Advisory Committee
NWRS	National Water Resource Strategy
PAIA	Promotion of Access to Information Act, 2000
PAJA	Promotion of Administrative Justice Act, 2000
PPA 1967	Physical Planning Act, 1967
PPA 1991	Physical Planning Act, 1991
RBA	River Basin Authority (Swaziland)
RHP	River Health Programme
SAHRA	South African Heritage Resources Agency
SALA	Subdivision of Agricultural Land Act, 1970
SEAA	Swaziland Environmental Authority Act, 1992
SEMA	Swaziland Environmental Management Act, 2002
SSA	Sea-Shore Act, 1935
SWA	Swaziland Water Act, 1967
SWB	Swaziland Water Bill, 2001
WCMP	Whaingaroa Catchment Management Project
WMA	Water Management Area
WRC	Water Research Commission
WT	Water Tribunal
WUA	Water User Association

CHAPTER I

HOW ARE RESOURCES MANAGED IN SOUTH AFRICA?

1 EXTENT OF RESOURCES MANAGEMENT

1.1 Resources

"Resources" may be defined as those components of the environment which have value for people, in that they can be used or developed to enhance human quality of life. Natural resources will then be those resources which belong to the earth in its original state, and that which are not originally created or maintained by man, but including those created by man which have become an inherent part of nature through time or attachment, such as forests and lakes.

In this report, focus is placed on "natural resources". It should be noted that the distinction between natural and other environmental resources is somewhat artificial, as the ideal of a study of this kind is integration of the management of all environmental resources. However, the purpose of this study is to initiate thinking towards the integration of environmental resources, and the extent and scope of the study simply does not allow for an attempt to evaluate all the fields of law where environmental elements of all kinds are implicated. The distinction was therefore drawn to act as a starting point for eventual all-encompassing integration.

Heritage resources are included in this study. The reason for this is that some heritage resources included in the national estate, as defined, are so closely related with nature, (such as historical sites, objects and sites of scientific, archaeological and palaeontological value, graves and burial grounds, and natural features of cultural significance) that it would be an injustice to exclude these resources from the category of natural resources.

The environment is defined in the National Environmental Management Act, 1998 (NEMA) as "the surroundings in which humans exist and that are made up of (i) the land, water and atmosphere of the earth, (ii) micro-organisms, plant and animal life; (3) any part or combination of (i) and (ii) and the interrelationships among and between them; and (iv) the physical, chemical and aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being (NEMA)."

The Environment Conservation Act (ECA), 1989 defines "environment" as "the aggregate of surrounding objects, conditions and influences that influence the life and habits of man or any other organism or collection of organisms (Holmes)."

The true definitions of environmental terminology are still debatable. The ECA definition has been found to be accommodating to an understanding of an environment which includes non-natural resources, such as health and human resources, while the NEMA definition is restricted to natural elements. Glazewski is of the opinion that environmental law should cover land use planning and

TOWARDS INTEGRATED RESOURCES MANAGEMENT

development, resource conservation and utilization, waste management and pollution control, while resources include natural resources, being water, flora and fauna (including the conservation of biodiversity and habitat), as well as non-natural resources (cultural heritage, scientific resources etc) (Glazewski J).

1.2 Management

The management of the environment encompasses all or any of the following:

- a) "the preservation of the integrity, stability, and beauty of the biotic community (Glazewski J)";
- b) "ecologically sustainable development; (World Commission on Environment and Development)";
- c) "development that meets the needs of the present without compromising the ability of future generations to meet their own needs; (World Commission on Environment and Development)";
- d) "integration of social, economic and environmental factors into planning, implementation, and decision-making so as to ensure that development serves present and future generations (NEMA)".

These definitions all converge towards the concept of sustainable development, which means that environmental resources are administered, controlled, used, managed, conserved and protected in a way that will ensure that future generations will continuously be in a position to sustain their quality of life through the use and development of these resources. This is the primary goal of resources management.

1.3 Sustainability

Reference to the concept of sustainability in the environmental context, is rather young. The 1982 version of Henderson's Dictionary of Biological Terms did not yet contain this word (Holmes).

In 1987, the World Commission on Environment and Development defined the term as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Brundtland Report)."

In 1992, the United Nations Conference on Environment and Development (Rio Earth Summit) adopted the Rio Declaration, in terms of which "the right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations (UN Conference on Environment and Development)."

The term is defined in NEMA as "the integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations (NEMA s1(1) "sustainable development")".

TOWARDS INTEGRATED RESOURCES MANAGEMENT

1.4 Integrated Environmental Management

Through the development of environmental management systems it can be seen that there is an attempt to ensure that environmental considerations are fully integrated into all stages of the resources' use and development processes, in order to achieve a desirable balance between conservation and development. This may be regarded as a tool to achieve sustainable development. The hindrance is that South Africa has a complex legislative and executive system where resource use is politically sensitive and contentious.

The basis for IRM has been laid: the Constitution establishes a human right "to an environment that is not harmful to [their] health or well-being, and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation, promote conservation and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development" (SA Constitution, s24). This human right does not necessarily require the integration of laws, but rather effective steps towards co-ordination or alignment of legislation.

Constitutional provision is made for co-operative environmental governance, towards which goal the principles and tools of various laws have been directed. In environmental law, this is especially true for NEMA, which makes use of progressive management tools to attempt to co-ordinate decision-making towards co-operative governance. Although the provisions of NEMA are far-reaching and encompassing, affecting the utilization and development of all resources, the implementation of co-operative governance for resources management is not, as yet, well-established.

The challenge is therefore to streamline these principles to establish a management system where sustainable development principles, tools and institutions are integrated; to avoid duplication of mechanisms; and to simplify the management process for both the decision-maker and the user.

This study evaluates the existing resources management systems applicable in South Africa, by analyzing and evaluating the current management principles, tools and institutional structures that manage the use and development of resources for sustainability.

2 RESOURCES MANAGEMENT PRINCIPLES

2.1 The Constitution

The basic constitutional principle for the management of resources is that contained in the bill of rights, stating that "everyone has the right to an environment that is not harmful to their health or well-being, and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation, promote conservation and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development (SA Constitution, s24)."

TOWARDS INTEGRATED RESOURCES MANAGEMENT

The concept of sustainable development of resources is fundamental to the constitutional environmental conservation principle, and it places an obligation on the legislature to enact or align laws to achieve this goal.

2.2 The National Environmental Management Act (NEMA)

2.2.1 Goals

This Act was promulgated to implement the constitutional right to a healthy and protected environment (Constitution s24), and therefore to give practical effect to the constitutional principle of sustainable development. Its objectives are summarized in the preamble, and include the following:

- a) integration of social, economic and environmental factors in decision-making;
- b) integration of legislative input from all spheres of government;
- c) integration of good environmental management into all development activities.

The implication of these objectives is that statutory provision for effective integrated environmental management structures is created. Appropriate management tools or mechanisms are placed in the hands of these institutions, in order to enable them to give effect to the constitutional environmental management principles.

2.2.2 Principles

The principles of the NEMA are contained in section 2 (NEMA Chap 1), serving as the framework for decision-making by all organs of state where the decisions significantly affect the environment. The principles further provide a basis for the interpretation and administration of all laws that affect environmental protection and management (s2(1)). The NEMA principles include the following:

- a) development must be socially, environmentally and economically sustainable;
- b) environmental management must be integrated, and accepting of the inter-relatedness of all environmental elements (including all natural resources and all the physical, chemical, aesthetic and cultural properties and conditions thereof which affect human health and well-being);
- c) decision-making must consider the interests, needs and values of all interested and affected parties;
- d) the social, environmental and economic impacts of activities must be assessed before they are authorized;
- e) there must be inter-governmental co-ordination and harmonization of policies, laws and actions relating to the environment;

TOWARDS INTEGRATED RESOURCES MANAGEMENT

- f) because the environment is held in public trust for the people, the permitted use of environmental resources must serve the *public interest*;
- a) sensitive or stressed ecosystems require specific attention in management and planning (NEMA ss2(3)-2(4)).

2.3 Other resources management legislation

2.3.1 Water

National Water Act (NWA), 1998

Management of the use and protection of water resources is regulated by the provisions of the National Water Act. The stated purpose of the Act is to ensure that the nation's water resources, under trusteeship of the National Government, are used, protected, developed, conserved, managed and controlled in a sustainable and equitable manner, for the benefit of all, while the allocation thereof must promote equity, beneficial use in the public interest, and environmental values (Ss2 and 3).

The preamble stresses the need for the integrated management of all aspects of water resources, as well as the need to delegate management functions to regional or catchment level to facilitate participatory management. It does, however, not make provision for the integration of water resources management with the management of other natural resources.

2.3.2 Land use and development

Development Facilitation Act, 1995

Section 3(1) of the DFA states that policy; administrative practice and laws should give content to the fundamental rights of the Constitution. The effect is that environmental health should be pursued in the implementation of land development planning and decision-making.

Physical Planning Acts (PPA) 1967; and 1991

The 1967 Act provides for the establishment of statutory control measures to promote coordinated environmental planning and the utilization of resources (PPA, 1967, the Preamble, while the 1991 Act goes further by providing for the promotion and co-ordination of physical planning on a national and regional basis (PPA, 1991 s2(2)).

2.3.3 Agricultural Fisheries and Fishery Resources

Agricultural Resources

Natural agricultural resources are defined in the Conservation of Agricultural Resources Act (CARA), 1983 as soil, water courses (where a water course is a natural flow path in which run-off water is

TOWARDS INTEGRATED RESOURCES MANAGEMENT

concentrated and along which it is carried away) and vegetation, excluding weeds and invader plants (CARA s1).

The Conservation of Agricultural Resources Act is aimed at conserving natural resources by maintenance of the production potential of land, erosion prevention, protection of water resources and natural vegetation, and combating of declared invader plants (CARA s3).

Marine Resources

The Sea-Shore Act (SSA) of 1935 provides for the protection of the sea and sea-shore through regulations for the control of the removal of material therefrom; and for the control of activities which pose health risks (SSA s10(1)(c) and (d)). Also see the regulations published in GN 1720 GG5542 of 2 September 1955; GN R2513 GG7318 of 5 December 1980. Section 38 of the Sea Fisheries Act (SFA), 12 of 1988 also provides for controlled removal of materials from the sea and shore).

The Marine Living Resources Act of 1998 (MLRA) is aimed at the conservation of the marine ecosystem, and contains the following principles and objectives:

- a) to achieve optimum utilization and ecologically sustainable development of marine living resources;
- b) to conserve marine living resources for present and future generations;
- c) to utilize marine living resources for economic growth, human resource development and sound ecological balancing consistent with the development objectives of national government;
- d) to protect marine biodiversity (MLRA, s2. Certain provisions of the Sea Fisheries Act (see note 34) were retained when this Act came into effect).

Forests

The National Forests Act (NFA), 1998 is aimed at the promotion of sustainable management and development of forests for the benefit of all; and the promotion of the sustainable use of forests for environmental, economic, educational, recreational, cultural, health and spiritual purposes (NFA, s1).

Decision-making and the exercise of powers and the making of policy in terms of the Act must be based on the following principles:

- a) natural forests may only be destroyed where a new land use is preferable in terms of its economic, social and environmental benefits;
- b) a minimum area of each woodland type should be conserved, as determined by the Minister;
- c) the basis of scientific advice; and

TOWARDS INTEGRATED RESOURCES MANAGEMENT

- d) forests must be developed and managed to conserve biological diversity, ecosystems and habitats, to sustain the potential yield of their economic, social and environmental benefits, to promote their health and vitality, to conserve natural resources, especially soil and water, to conserve heritage resources and promote aesthetic, cultural and spiritual values, and to advance persons disadvantaged by unfair discrimination (NFA, s3).

A policy for the management of forests must be developed and implemented by the Minister (NFA, s46). He may also develop criteria for measuring forest management against the principles of the Act (NFA, s4). These management tools are still in formative stages.

2.3.4 Mineral Resources

The Minerals Act (MA), 1991 regulates the optimal exploitation, processing and utilization of minerals and the orderly utilization and rehabilitation of the surface of land after mining operations in accordance with an environmental management programme, which must be approved by each department charged with the administration of any law relating to any matter affecting the environment.

Regulations under the Minerals Act have been issued to address, inter alia, environmental matters (GN R992/2741/1, as amended). A White Paper on a Minerals and Mining Policy was published in 1998 (DME *A Minerals and Mining Policy for South Africa* (White Paper) 1998), in which the environmental impact of mining activities is addressed, based on the following:

- a) The utilization of the mineral resources of the country, within a framework of responsible environmental management, is essential.
- b) Development in South Africa requires the optimum and environmentally sustainable use of all the natural resources of the country. A balance must therefore be attained between a cost-effective and competitive mining industry and the imperative to protect the environment.
- c) The complex nature, both underground and above ground, of on- and offshore mining operations requires a dedicated approach and specific skills from controlling authorities. Adequate personnel who are qualified in the earth, biological and environmental sciences, and who have been subjected to specialist training relevant to environmental management and mineral extraction, are therefore required by the controlling authority.
- d) Government will have to ensure that the costs of environmental impacts of the mining industry are not passed over to the community. This calls for a coordinated and integrated environmental management approach to the planning, management and use of all natural resources; increased public involvement to ensure pro-active and informed decision-making; the implementation of effective and affordable measures and standards for environmental impact management, for the prevention or efficient management of water, soil and atmospheric pollution, and for the rehabilitation of areas affected by past mining operations;

TOWARDS INTEGRATED RESOURCES MANAGEMENT

and ongoing research with a view to improving and strengthening the measures, standards and practices applied to managing the impacts on the environment and to control pollution.

- e) Government, in recognition of the responsibility of the State as custodian of the nation's natural resources, will ensure that the essential development of the country's mineral resources will take place within a framework of sustainable development and in accordance with national environmental policy, norms and standards.

The Mineral and Petroleum Resources Development Act, 2002 (MPRDA), was recently published (GG 23922 of 10 October 2002). The objectives of this Act include the giving of effect to the state's sovereignty and custodianship over all mineral resources, and also the constitutional principle to ensure that the nation's mineral resources are developed and managed in an orderly and ecologically sustainable manner, while optimizing justifiable social and economic development (MPRDA s2(a), (b) and (h)).

This Act specifically accepts the application of the principles contained in section 2 of NEMA, which will apply to all prospecting and mining operations, and will serve as guidelines for the implementation, interpretation and administration of all environmental requirements under the proposed Act (MPRDA s37).

It states further that all mining operations must be conducted in accordance with the generally accepted principles of sustainable development by integrating social, economic and environmental factors into the planning and implementation of projects, to ensure that the exploitation of mineral resources serves present and future generations (MPRDA s37(2)).

2.3.5 Heritage Resources

The general principles for heritage resources (National Heritage Resources Act 25 of 1999 (NHRA) s2) management include an obligation on the State (by participative management) to carefully manage heritage resources to ensure their survival in the interests of all South Africans, and to promote, by policy, administrative practice and legislation, the integration of heritage resources conservation in urban and rural planning and social and economic development (NHRA s5).

No specific provision is made in the National Heritage Resources Act, 1999 for the integration of the management of cultural resources with management of natural resources. Emphasis is placed on the conservation (protection, maintenance, preservation and sustainable use) of heritage resources in spite of socio-economic development. Reference is, however, made to the principle that laws, procedures and administrative practices relating to heritage resources management must give content to the constitutional fundamental rights (NHRA s5(3)(c)).

2.3.6 Ad hoc conservation laws

Various laws exist with ad hoc conservation purposes, such as the Game Theft Act 105 of 1991, Lake Areas Development Act 39 of 1975, Mountain Catchment Areas Act 63 of 1970, National Parks Act 57 of 1976, Sea Birds and Seals Protection Act 46 of 1973, Sea-Shore Act 21 of 1935, Antarctic Treaties

TOWARDS INTEGRATED RESOURCES MANAGEMENT

Act 60 of 1996, Maritime Zones Act 15 of 1994, World Heritage Convention Act 49 of 1999, Atmospheric Pollution Prevention Act 45 of 1965, Hazardous Substances Act 15 of 1973, Dumping at Sea Control Act 73 of 1980, Marine Pollution Acts 6 of 1981, 2 of 1986 and 64 of 1987; Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act 36 of 1947, and the provincial environmental and resources laws.

These Acts will not be separately addressed, but will be referred to where relevant.

Management *tools* is used to refer to the instruments provided by law and policy and which are used by decision-makers and management authorities to execute their functions under the law; while management *institutions* are the statutory or other bodies and authorities which are established and empowered by law to manage the resources according to the respective laws. The following sections seek to identify and review management tools and management institutions.

3 MANAGEMENT TOOLS

3.1 Constitution

The Constitution prescribes, as a human right, "reasonable legislative and *other measures*", *inter alia* "to secure ecologically sustainable development and use of natural resources, while promoting justifiable economical and social development" (S24(b)).

The Constitution provides the following tools to be used to achieve its goals, including the goal to secure sustainable development:

3.1.1 Legislative measures

National parliament may pass legislation on any matter, including a matter in Schedule 4, but excluding the matters of Schedule 5 to the Constitution, in respect of which the provinces have exclusive legislative authority.

Schedule 4 contains the functional areas of concurrent national and provincial legislative powers, including the environment, indigenous forests, agriculture, cultural matters, nature conservation, pollution control and soil conservation. Schedule 5 contains the functional areas where the provinces have exclusive legislative powers, including cultural affairs, municipal parks and recreation, veterinary services, noise pollution, sewerage etc. Legislation on matters excluded from these schedules, which include water, marine resources, minerals and national parks may only be passed by the national parliament.

National legislation prevails over provincial legislation where it is, *inter alia*, necessary for the protection of the environment (s146(2)). National parliament may also intervene in provincial legislation when it is necessary to maintain essential national standards or to prevent unreasonable and prejudicial action to the country (s44(2)).

TOWARDS INTEGRATED RESOURCES MANAGEMENT

Local government, the legislative and executive authority of which is represented by the municipal councils, may make and execute laws, but these are subject to national and provincial legislation. The national and provincial laws and executive must, however, advance and support municipal capacity (s154).

The attempt to achieve the constitutional principle of legislating to secure sustainable development and use of resources, and therefore the attempt to legislate on resources management in an integrated manner is facilitated by the legislative authority bestowed on the different spheres of government.

3.1.2 Other measures

Executive powers

Powers to execute legislation are vested in all the spheres of government, and these functions and powers must be exercised in a manner that is consistent with the Constitution.

The provincial premiers, in whom executive powers are vested, together with the Members of the Executive Councils (MEC), must implement provincial laws, as well as the national laws within the functional areas of Schedules 4 and 5 (where capacity exists), and other national laws whose administration was assigned to the provinces. They must also develop and implement provincial policy and co-ordinate provincial administration (s125).

Provincial government must supervise local government administration, and may intervene in, or even assume, the executive powers of local government where necessary, e.g. to maintain essential national standards (s139).

Supremacy of the Constitution

Section 2 of the Constitution provides that the supremacy of the Constitution in that all laws or conduct must be consistent with the Constitution in order to be valid. All legislative authorities, whether national, provincial or local, must therefore test legislation against constitutional principles and objectives (s8(1)).

In terms of environmental principles, all national and provincial laws must secure ecological sustainable development and use of natural resources. If there is conflicting legislation, national legislation will prevail as far as this is necessary to protect the environment, or parliament may intervene in provincial law-making to maintain national standards. All laws may be challenged and tested in the Constitutional Court.

Intergovernmental relations

TOWARDS INTEGRATED RESOURCES MANAGEMENT

The different spheres of government are distinctive, interdependent and interrelated. They are obliged to adhere to the principles of co-operative government as contained in Chapter 3 of the Constitution (s40). These include the following:

All spheres of government must:

- a) respect the constitutional status, institutions, powers and functions of government in the other spheres (s41(1)(e).);
- b) assume only those powers assigned to them (s41(1)(f).);
- c) exercise their powers and functions so as not to encroach on the geographical or functional or institutional integrity of government in another sphere (s41(1)(g).);
- d) co-operate with one another in mutual trust and good faith by fostering friendly relations, assisting and supporting one another, informing and consulting one another on matters of mutual interest, coordinating their actions and legislation, adhering to agreed procedures and avoiding legal procedures (s41(1)(h), s 41(3));

The structures to promote intergovernmental relations and to facilitate the settlement of intergovernmental disputes, must be established by legislation (s41(2)).

Co-operative facilitation

Various MINMEC's (The term for an ad hoc Committee of Ministers and Members of the Executive Council) have been established to facilitate co-operative governance, where national Ministers and provincial members of the executive committees strive to co-ordinate management issues amongst the spheres of government.

The national department of Constitutional Development focuses on the facilitation of co-operative governance between provincial and local spheres of government, and the building of local government capacity in order to achieve constitutional goals.

Just administrative action

According to the Constitution, everyone has a right to administrative action which is lawful, reasonable and procedurally fair, as well as a right to claim written reasons for administrative actions that adversely affect their rights (s33). The Promotion of Administrative Justice Act, 2000 (PAJA, Act 3 of 2000), was enacted to give effect to this protected human right. In terms of this act, the fairness of administrative action may be judicially reviewed.

The right to just administrative action is complemented by a right to information, which is protected by section 32 of the Constitution, and implemented by the Promotion of Access to Information Act (PAIA) of 2000. This law facilitates the attempt to achieve sustainable development and environmental

TOWARDS INTEGRATED RESOURCES MANAGEMENT

protection, in that it gives interested parties access to all information which could assist to enforce decision-making that will promote environmental conservation principles.

Locus standi

A further mechanism that advances the attempt to achieve sustainable development is the constitutional provision that anyone, acting in the public interest, may enforce the bill of rights. Previously this right was only limited to persons who held a direct personal interest in the matter.

The Constitutional mechanisms or tools for IRM can be summarized as follows:

- a) Legislative powers on two governance levels, in terms of which the legislatures must pass laws to secure the sustainable development and use of resources, while all laws must be integrated towards the principles of co-operative governance;
- b) Executive powers on three government levels, in terms of which administrative organs of state must apply rules and policy in a fair and open way for the benefit of all, and in a co-operative way which reflects integration with all human rights (including the right to sustainable development) and with all other organs of state.
- c) Judicial powers of administrative review to control both legislative and executive conduct, and to measure these against the principles of the Constitution as well as against principles of simple fairness and justice and in the public interest.

3.2 National Environmental Management Act, 1998 (NEMA)

The NEMA may be regarded as the Act which gives definition to section 24 of the Constitution. The Act aims at integrating environmental laws, policies and administration to secure good environmental management for the development and use of environmental resources. To achieve the goals of the Act, certain management tools and processes were developed. These are described below.

3.2.1 *Environmental Implementation Plans (EIPs) and Environmental Management Plans (EMP's)*

The national departments of Water Affairs and Forestry, Environmental Affairs and Tourism, Land Affairs, Housing, Agriculture, Trade and Industry, Transport and Defense, as well as all provincial governments, must prepare Environmental Implementation Plans (EIPs), while the national departments of Water Affairs and Forestry, Environmental Affairs and Tourism, Minerals and Energy, Land Affairs, Health, Labour must prepare Environmental Management Plans (EMPs) in accordance with Chapter 3 of NEMA.

The purpose of these EIPs and EMPs is to co-ordinate processes so as to minimize duplication, promote consistency in environmental management, and to facilitate co-operative decision-making and optimal control over the goal of sustainable environmental governance (NEMA s12).

TOWARDS INTEGRATED RESOURCES MANAGEMENT

The plans are submitted to the Committee for Environmental Co-ordination (CEC) (NEMA s7), for evaluation and recommendations, after which it is approved by the Minister.

From the date of publication in the Gazette in terms of section 15, the plan becomes effective and the relevant organ of state is then bound to exercise every environmentally related administrative function substantially in accordance with the plan. Compliance is controlled by the Director-General of Environment Affairs and Tourism, who may take steps to enforce compliance, or he may refer the dispute for conciliation in terms of Chapter 4 of NEMA, or for final determination by the Minister, acting in consultation with the Ministers of Water Affairs and Forestry, Land Affairs, Minerals and Energy and Constitutional Development. Monitoring compliance to the plans will be the responsibility of the Director-General.

Provincial governments must ensure that all municipalities within their provinces exercise all functions in accordance with their respective EIP's and EMP's.

3.2.2 Integrated Environmental Management (IEM)

IEM, as a tool to implement the objectives of NEMA, was developed to promote the integration of environmental management principles into coordinated and effective decision-making (NEMA s23, 24(1)). This requires evaluating the impact of activities on the environment, on socio-economic conditions, and on the cultural heritage in order to balance the negative and beneficial impacts; and the promotion of public participation in decision-making (NEMA s23).

The Director-General of the Department of Environmental Affairs and Tourism must co-ordinate activities of organs of state, and facilitate the achievement of objectives by provision of support in the form of training, the development of manuals and guidelines, and the co-ordination of procedures (NEMA s23(3)).

The IEM system is implemented as follows (NEMA s24):

- Activities which may affect the environment and which require permission in terms of law must, before commencement of the activity, be assessed, considered and then approved by permit.
- The Minister as well as the provincial MECs may, in concurrence with each other, identify activities which require permission, or geographical areas in which activities require permission, provided that where authorization for such an activity falls under the jurisdiction of another Minister, the identification of the activity must be done in consultation with such Minister.
- Thereafter, regulations may be made on the assessment processes by each head of department charged with authorizing any of these activities, which processes must comply with the requirements of section 24(7), and which draft processes must be submitted to the CEC to eliminate possible duplications.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

- For any activity which has been identified, the proponent must comply with the prescribed environmental assessment procedure. However, this does not negate the need to obtain authorization for that activity from another organ of state which may also require authorization of the same activity (NEMA s24(5)). This condition may be regarded as the very crux of the issue discussed in this report: although measures for inter-governmental co-operation and the co-ordination of functions and mechanisms exist, the constitutional requirement is one that requires more, namely *integration*, and not merely *co-ordination*.

According to the ideal application of IEM, the environmental management principles of the NEMA will be integrated into all decision-making, through co-ordination of the authorization processes of all departments by way of training, education, the publication of manuals and guidelines and the integration of procedures. This management tool is, therefore, not only aimed at a process of the evaluation and authorization of identified activities by a control institution under NEMA, but it is also aimed at development of a streamlined authorization system to all departments who have statutory powers to authorize environmental impacting activities. The practical effect is that each department will need to be capacitated to develop its own procedures for the authorization of identified activities (while the identification of activities is done centrally). These procedures require scrutiny for duplication and evaluation by the CEC, after which they may be approved and will be binding on the respective authorities.

Until activities are identified and the environmental assessment processes for the undertaking thereof have been prescribed, as provided for in section 24, existing measures remain effective. Regulations which have been published in terms of the Environmental Conservation Act of 1989 are, therefore, still effective. These provide that a prescribed environmental assessment process must be followed by independent consultants in respect of identified activities, to obtain the permission from the Minister of Environment Affairs or the authorities to whom he has assigned the powers in order to undertake any of these activities (Regulations 1182-1184 GG18261 of 5 September 1997).

International Environmental Instruments (IEI)

Accession to and ratification of IEIs may be undertaken, and the provisions thereof may be adopted and integrated with South African environmental management (NEMA s25).

No IEIs have, as yet, been accessed to and incorporated with existing SA management tools.

The duty of the Minister to annually report on progress towards assessment and integration of IEIs emphasizes the importance of international benchmarking within SA environmental management policy.

Public duty of care

A statutory onus (being the counterpart of every person's constitutional right to environmental protection), is placed on every person who causes degradation of the environment to prevent, minimize or rectify such harm (NEMA s28(1)). The Director-General may enforce this obligation

TOWARDS INTEGRATED RESOURCES MANAGEMENT

through directives where non-compliance may result in the directed actions being undertaken on the person's behalf, and at his expense.

This provision is aimed at obtaining public participation in the attempt to implement the constitutional principle of sustainable environmental management, by introducing the "polluter pays" principle into law. Although this provision covers "significant" pollution or degradation only, it extends the environmental assessment mechanism to a category of activities larger than those listed in terms of regulation. Although formal authorization following an assessment process is not necessarily required for "significant pollution or degradation of the environment", such activities may not be undertaken unless steps are taken to prevent or minimize or remedy environmental damage.

Locus standi

The changed position on locus standi, as mentioned above, now allows any person to implement or enforce any statutory provision concerned with the protection of the environment or the use of natural resources, not only for personal interest, but for the protection of public interest or the protection of the environment (NEMA s32(1)).

Any person may also institute and conduct a prosecution in respect of a breach or threatened breach of any statutory government or public duty concerned with the protection of the environment, where such breach is an offence, as long as this is done in the public interest or in the interest of the protection of the environment (NEMA s33).

These provisions involve members of the public in the duty to achieve the goals of sustainable environmental management, by placing statutory monitoring, auditing, and policing functions on every person.

The issue of locus standi, as a management tool, substantially improves on the previous legislative position where third parties could not become involved in the implementation of the environmental management principles in this way, and represents a progressive step in the direction of participative integration of resources management.

Alternative Dispute Resolution (ADR) Tools

In order to facilitate decision-making, the NEMA provides for disagreements regarding the protection of the environment to be referred to conciliation or arbitration, according to a prescribed process (NEMA ss17-19). Reference of disputes may be preceded by a facilitating process where interested and affected parties are consulted. These processes are aimed at implementing the principles of co-operative governance and avoidance of litigation, as espoused in Chapter 3 of the Constitution.

Provision is also made by NEMA for the collection of information and the investigation of issues to facilitate decision-making on the protection of the environment and settling of disputes (NEMA s20).

TOWARDS INTEGRATED RESOURCES MANAGEMENT

3.2.3 Environmental Management Co-operation Agreements (EMCA)

Chapter 8 of NEMA provides for the Minister, every MEC and municipality to enter into EMCAs with any person or community for the purpose of promoting compliance with the environmental management principles (NEMA s35). These agreements require the ratification by every organ of state with jurisdiction over any activity to which such EMCA relates, as well as the relevant Minister or MEC. They also require compliance with Ministerially prescribed public participation procedures, as well as procedure regulations under section 45 (NEMA s35(2)).

The agreements are aimed at co-operative measures to improve environmental protection standards, and may contain the targets and procedures necessary to achieve these mutual goals.

3.3 Water Resources Management Tools

3.3.1 Water Management Strategies (NWA, Ch2)

The NWA makes provision for the development of a national water resource strategy (NWRS) and catchment management strategies (CMS), to serve as the framework for decision-making, and to which all water management institutions, and water users, generally, are bound.

The National Water Resource Strategy

The National Water Resource Strategy (NWRS) is developed and formulated by the Minister, but must give opportunity for public input. It must establish the practical strategies, objectives, plans, guidelines and procedures relating to the protection, use, development, conservation, management and control of water resources. This strategy will constitute one of the principal tools to achieve the purpose of the Act, and it must, inter alia, determine the inter-relationship between water management institutions (NWA s6(1)(k)), and "promote the management of catchments within a water management area in a holistic and integrated manner" (NWA s6(1)(l)).

As the purpose of the Act is to ensure that water resources are managed to promote the sustainable use of water in the public interest, and to protect aquatic ecosystems and their biological diversity, and to allocate water in a way that will promote environmental values (which will include the human right to a healthy environment and sustainable environmental development), the NWRS must establish the procedures and strategies which will facilitate decision-making to promote these values. However, the principles and objectives of water resources management (WRM) as set out in the NWA, do not specifically mention a duty to integrate water management procedures with environmental management procedures. This has the result that this duty remains under NEMA, and water management systems will be bound to sustainable environmental management not through its own management strategy, but only by being bound constitutionally and in terms of the NEMA management mechanisms.

However, the NWRS is sophisticated and encompassing, which makes it a key management tool to be enhanced and developed towards IRM.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

Catchment Management Strategies

Catchment Management Strategies (CMS) are developed for water management areas by Catchment Management Agencies (CMA) for the protection, use, development, conservation, management and control of water resources within each water management area (WMA) (NWA ss8, 9, 10).

These strategies must be in consonance with the NWRS. Their development must allow for public and stakeholder participation and must *take into account* the needs and expectations of water users. The incorporation of public interest is done by the prior consultation of interested and affected parties, as prescribed by section 10. Once a CMS has been approved, both the Minister and relevant CMA are bound by it and must give effect to it during decision-making.

The inclusive development process of water strategies illustrates the principle of subsidiarity, which is to devolve decision-making to the lowest appropriate level. This decentralization of WRM is in line with international environmental management trends.

3.3.2 Measures to protect Water Resources

The Water Resources Classification System and Resource Quality Objectives

A system for the classification of water resources must be developed, in terms of which each significant water resource must be classified. The purpose of this is to facilitate the determination of the Reserve, to balance user requirements with natural water quality characteristics, and to advance protection of the resource by regulating water-related activities (NWA s12).

As soon as a water resource has been classified in terms of the classification system, the resource quality objectives must be determined, which are practical criteria to balance water use with the need to protect water resources, in order to achieve the objective of sustainable development and use of water resources.

The class and resource quality objectives bind all decision-making, by the Minister, the Director-General and all water management institutions.

Reserve

Based on the water resource class, and through a public consultation process, the Minister must determine the quantity and quality of water which is required to satisfy basic human needs and to protect aquatic ecosystems in each water resource, in order to secure ecologically sustainable development and use of water resources.

The Reserve determination can be regarded as a primary suspensive condition upon which all decisions on water management, use and development is based.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

Pollution Control Measures

A public duty of care exists in terms of NWA, where any person, who causes pollution of water resources, must report this, as well as prevent or remedy the pollution, failing which the CMA may remedy at the expense of the polluter. The "polluter pays" principle underlies this provision, which once again decentralizes the responsibility for WRM in terms of water quality (NWA s20).

Controlled Activities

Certain activities, such as irrigation with water containing waste, the modification of atmospheric precipitation, power generation activities which alter flow regimes of water resources, and others which may be declared by the Minister, require additional central control due to their potentially detrimental impact on water resources (NWA ss37, 38).

3.3.3 Measures to control Water Use

Water Use Authorization

The NWA, substantially changing the previous water use management system as regulated by the Water Act of 1956, introduced a centralized control system in terms of which water use may only take place in accordance with an authorization, whether it be a licence, a declared lawful existing water use, a general authorization, or a Schedule 1 use (NWA s22).

Water uses have been defined to include a wide spectrum of direct uses such as abstraction or discharging waste into water resources, as well as activities which have an impact on water resources, such as the storing of water, impeding or diverting flow, altering bed and banks of a watercourse, stream flow reduction and recreational use of water (NWA s21). The implication is that any activity in which water resources are used or affected, is controlled by the authorization system, giving effect to the Minister's statutory custodianship over all water resources.

The authorization of water use is strictly controlled by the various WRM instruments which are prescribed in the Act: authorization is subject to the conditions of the strategies (including water allocation plans), the class, the resource quality objectives, the Reserve, as well to various other statutory conditions included in the Act, such as the consideration of other existing uses, the public interest, redressing the results of past discrimination. Socio-economic impact, strategic importance, and the duration of and investment made in the proposed use, are also to be considered (NWA s27).

The Minister may also make regulations to further regulate the authorization process, regarding, *inter alia*, limiting or restricting the purpose or manner of water use; requiring monitoring, measuring and recording of water use; prescribing procedural requirements for licence applications and the authorization of transactions with water use entitlements, and prescribing the use and construction of water works (NWA s26).

The Act further prescribes essential requirements for licences, including the contents of licences, the termination thereof, licence periods and the extension thereof. Some discretion vests in the responsible authority, viz. to attach conditions to licences, relating to the protection of water

TOWARDS INTEGRATED RESOURCES MANAGEMENT

resources, stream flow regimes and other users; water conservation measures, monitoring of and reporting on water use; adherence to water management plans; return flow and waste discharge, etc (NWA s29).

As far as environmental considerations are concerned, the authorization of water use is an inclusive decision-making process, which is subject to all the conditions of the Constitution and NEMA, including the environmental assessment of activities, the duty of care, and the implementation of the EMP and EIP by the Department of Water Affairs and Forestry.

The Minister may further may make regulations relating to environmental conditions and processes in respect of water use, such as prohibiting or regulating any activities in order to protect a water resource or aquatic habitat; prescribing waste standards which specify the quantity, quality and temperature of waste which may be discharged into water resources, as well as the goals of management practices for the treatment of waste before discharge, and to monitor and analyze waste (NWA s26).

The responsible authority that considers the authorization of a water use, may further, in the interests of co-operative governance, promote arrangements with other authorities to combine all licence requirements into a single permit (NWA s22(4)).

Pricing Strategy

A strategy for the pricing of water was established by the Minister (In terms of NWA, Ch5. It was established by GN1353/20615 of 12 November 1999, and a revised draft has been published on 1 July 2005 (GG 27732)), in respect of which the use of water is charged according to prescribed criteria. This system promotes the principle that the user should pay for the use of a water resource, with the aim of promoting efficient water use and sustainability.

National monitoring and information systems

National monitoring systems for water resources must be established by the Minister, providing for the collection of data and information necessary to assess, *inter alia*, resource health. The Minister must also establish mechanisms and procedures to co-ordinate the monitoring of water resources.

The Minister must establish national information systems to store and provide data and information for the protection, sustainable use and management of water resources, to provide information for purposes of the development of the NWRS, and to provide information to water management institutions, water users and the public for purposes of research, development, planning, environmental impact assessments, public safety and disaster management, and the status of water resources (NWA ss139, 140).

The Minister may require that any person must provide him with information for purposes of the system and for protection of water resources. The Act is not prescriptive on specific institutional structures to undertake monitoring. Some initiatives are already underway for monitoring and data

TOWARDS INTEGRATED RESOURCES MANAGEMENT

collection on water resources, such as the River Health Programme of the CSIR, which has been adopted by the Department of Water Affairs and Forestry as an official monitoring system.

3.4 Land Use and Development Management Tools

The objectives of integrating land use and development processes to optimize sustainable resource development, as envisaged in the principles of the Development Facilitation Act of 1995 (DFA) and Physical Planning laws, are pursued by various management tools, including

- a) traditional tools such as conditions of title, which have existed for many years and are transferred from title to title, until removed in the prescribed manner (See the Deeds Registries Act 47 of 1937 and the Subdivision of Agricultural Land Act 70 of 1970 (SALA)1975); land use management plans such as zoning and town-planning schemes; and conditions of establishment, which are imposed on developers prior to approval of land and township development schemes. Decision-makers in terms of the various laws (including ordinances) which regulate these conditions, are bound by constitutional and environmental principles as set out in the above paragraphs (Van Wyk *Planning Law* 13 et seq); and
- b) new statutory devices, contained especially in the development facilitation and physical planning laws, including the following:

3.4.1 Land Development Objectives (LDOs) in terms of the DFA

Objectives for residential land use must be developed by local authorities and MECs, as practical goals and criteria relating to rural and urban growth in relation to sustained utilization of the environment, the co-ordination of land development in consultation with other authorities, and the optimum utilization of natural resources (Section 28(1)(b) of the DFA).

No land development scheme, for which an application is lodged under any law relating to land development areas, may be approved unless it complies with the LDO which is applicable in the area.

LDOs in terms of the DFA prevail over plans (as defined) in terms of the Physical Planning Act, 1991.

3.4.2 Land Development Procedures for purposes of the DFA Objectives

Land development applications must be done in a prescribed manner, and submitted to a tribunal for consideration and approval, which tribunal may impose conditions relating to, inter alia, the environment or environmental evaluations, and the need for and manner of public consultation (DFA s33).

Although the IEM procedure of NEMA is applicable to many land development schemes for which application is made under the DFA, and the authorities concerned with the consideration and approval of these developments are bound by environmental requirements under NEMA (such as the EMP and EIP of the Department of Land Affairs), the discretion as to the need for and way of environmental monitoring of the scheme lies with these decision-makers.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

3.4.3 Policy and Structure Plans in terms of the PPA 1991

In terms of the PPA 1991, South Africa must be divided into regions, and a national development plan, as well as regional development plans for each region, must be prepared. The Act also makes provision for the preparation of urban structure plans. These plans are broad guidelines for the orderly future physical development in the area, and they may restrict the purpose for which land in the area may be used (PPA 1991 ss4-6). The plans bind decision-makers as to land use in terms of any law, excluding decisions under the Subdivision of Agricultural Land Act, 1970 (SALA) and the Minerals Act, 1991 (MA) (MA, Act 50 of 1991 s 27(1)(c)).

Provision is not made for the streamlining of these plans with the EIP's and EMP's which must be drafted and which bind decision-making in terms of NEMA, although there is a requirement that the plans may not be inconsistent with the EMP's and EIP's.

3.4.4 Controlled Areas under the PPA 1967

In terms of this Act, the Minister may declare controlled areas, in which the land may not be used for any other than specified purposes, except by Ministerial permit (PPA 1967 ss5, 6, 8). These provisions are not applicable to the use of land in municipal areas, for agriculture, forestry or road and railway purposes.

The purposes for which these areas are restricted, are under the discretion of the Minister, and he is not bound to any inter-departmental consultation prior to such declaration of controlled areas. He must, however, consult with the affected provinces before so declaring (PPA 1967 s5(2)).

3.4.5 Protected areas

Various protected areas exist under national and provincial laws. Although the official classes of protected areas, endorsed by NEMA, include scientific reserves, wilderness areas, monuments and cultural areas, habitat and wildlife management areas, protected land and seascapes and sustainable use areas, the following protected areas exist, and are regulated in terms of various national and provincial laws: national parks, mountain catchment areas, lake development areas, protected natural environments, special nature reserves, limited development areas, protected areas under international instruments, natural forests, state forests, national botanic gardens, provincial, local and private nature reserves, heritage sites and marine protected areas (Henderson).

The use of resources, and the activities which may be undertaken within and in respect of these areas, are controlled by the regulating laws, and vary from prohibitions to restrictions on land use rights to authorizations and allocations. While indigenous forests, nature conservation, the environment and soil conservation are functional areas of concurrent national and provincial legislation, national parks, botanical gardens and marine resources fall under the exclusive functional area of national legislative competency.

The management of these areas is aimed at the conservation of various resources, including cultural resources, water, soil, wildlife or plants. Although the Constitutional human rights and the

TOWARDS INTEGRATED RESOURCES MANAGEMENT

management tools of NEMA bind administrative decision-making relating to activities in these areas which affect the environment, the management tools are not integrated, and decision-making and discretions in respect of these areas originate from the empowering laws at national, provincial and local levels.

3.5 Agricultural, Forestry and Fishery Resources Management Tools

3.5.1 *Conservation of Agricultural Resources Act, 1983 (CARA)*

Prescribed Control Measures

The Minister may prescribe control measures with which land users must comply, failure of which is an offence. These measures may be of a prescriptive nature, and provisions may be made for exemption to these measures by written consent. These include measures related to the utilization and protection of cultivated land, water sources, vegetation or burnt veld, the control of weeds or invader plants, the prevention and remedying of pollution and erosion, or any other measures necessary to achieve the goals of the Act (CARA s6).

Control measures on the majority of these subjects have been declared by GN R1048, and are still supplemented from time to time (GN R1048/9238/1 of 25 May 1984 as amended by GN2687/10029/9 of 6 January 1985 and GN R280/22166/29 of 30 March 2001).

Schemes and Government Assistance

Financial schemes to assist land users to construct soil conservation works, to repair or manage flood, drought or other damage by natural disaster, to remedy and prevent erosion, and to combat weeds and invader plants, may be introduced by the Minister in terms of the Conservation of Agricultural Resources Act (CARA s8, 9). Bush-control, flood relief, soil conservation, irrigation improvement and weed-control schemes have been established in terms of this provision (GN R1045/9238/41 of 24 May 1984; GN 1046/9238/30 of 25 May 1984 as amended; GN 47/11097/1 of 15 January 1988 as amended; GN R1047/9238/20 of 25 May 1984; GN R1044/9238/50 of 25 May 1984; GN R1487/16686/80 of 29 September 1995). Authorized persons may also render advice on the utilization and conservation of natural agricultural resources, or the control of weeds or invader plants (S10. In terms of the Working for Water Programme which is undertaken under the NWA, teams who destroy invader plants and weeds in order to optimize the natural drainage of water to water resources extend this conservation measure).

The Minister has wide powers to undertake activities for the conservation of agricultural resources on private land, and the costs thereof may partly be carried by the Department (CARA s11).

Expropriation

If the Minister regards it necessary to expropriate land in order to achieve the goals of the Act, ie. to effectively conserve natural resources, he may do so by application of the Expropriation Act, 1975 (CARA s14).

TOWARDS INTEGRATED RESOURCES MANAGEMENT

Internal appeals

Provision is made in the Conservation of Agricultural Resources Act for appeals against administrative decisions in terms of the Act, to the Minister, who may confirm or set aside the decision (CARA s21. The procedure is set out in Regulation 29 in GN R1048 of 1984).

3.5.2 *National Forests Act, 1998 (NFA)*

Sustainable forest management measures

In order to achieve the objectives of the Act to develop and manage forests for sustainability, the Minister may determine criteria, indicators and standards to monitor the sustainability of forest management, taking into account regional, economic, social and environmental conditions (NFA s4); carry out research (NFA s5); and monitor forests for purposes of reporting thereon to parliament. The Minister may declare protected forest areas (forest nature reserves, forest wilderness areas and internationally recognized forest areas) for purposes of special centralized control, where he then assumes discretionary management functions (NFA ss9-11).

It is submitted that the Ministerial discretion as to the management rules for such areas, is subject not only to the principles which guide decisions affecting forests, but also to the EMP and EIP of the Department of Water Affairs and Forestry as well as the provinces to which the administration of the Forests Act is assigned in terms of the Constitution, and the environmental management principles of NEMA. However, no consultation with other authorities is statutorily required when management rules are established.

The Minister may declare natural forests (which are defined as groups of indigenous trees with largely contiguous crowns, or forests which have been declared to be natural forests by the Minister of Water Affairs and Forestry (NFA s2 "natural forest")), where nobody may disturb, damage or destroy indigenous trees, except under permit (NFA s7). He may also declare trees to be protected on a temporary (emergency) or permanent basis (NFA ss12-15), and he may register these as conditions against title deeds (NFA ss12-16). The Minister may also, to prevent deforestation or to rehabilitate natural forests, declare controlled forest areas, or enter into agreements with the respective land owners to take steps to rehabilitate or prevent deforestation.

In State forests (As defined in NFA s2 "state forest"), activities such as the establishment of plantations, the felling of trees or removal of timber, or the use of the state forest or its produce for any purpose which is consistent with the sustainable management of the forest, may be licensed. The undertaking of mining operations for which rights in terms of the Minerals Act, 1991 exist, may be continued in state forests, but such rights are subject to the sustainable forest management principles of section 3(3) of the NFA. Provision is made in the Act for the granting of servitudes through state forests, the leasing of state forests, agreements to sell produce in state forests, and the conclusion of community forestry agreements related to state forests (NFA ss26-31).

Various tools to achieve the goals of sustainable forest management have been enacted, and are used to implement the fundamental objective of sustainable forest management. Ministerial discretion

TOWARDS INTEGRATED RESOURCES MANAGEMENT

is subject to the principles of forestry management, including that natural forests must be protected and that forests must be developed and managed to conserve biological diversity, ecosystems and habitats. No provision is made for the monitoring of Ministerial decision-making or the auditing of management, except by the Minister himself, and through the reporting system to parliament.

3.5.3 Marine Living Resources Act, 1998 (MLRA)

In terms of this Act, the Minister may declare marine protected areas, for the protection of fauna and flora or the physical features on which they depend to, inter alia, facilitate fishery management by protecting spawning stock, and by providing pristine communities for research (MLRA s43).

No person may fish take or destroy fauna and flora, extract sand or gravel, deposit waste or polluted matter, disturb or alter a natural environment, build or carry on any activity which may adversely impact on the ecosystems of that area, without written permission (MLRA s43). The Act also makes provision for the prohibition of certain fishing methods and fishing gear and devices, in order to protect marine living resources (MLRA, Ch5).

3.6 Minerals

The optimal exploitation and utilization of minerals, as contemplated by the Minerals Act, 1991 (MA) (Act 50 of 1991), is implemented through the following management tools:

3.6.1 Authorization to mine and prospect

Authorization to mine or prospect is subject to the issuance of permits, which are issued in line with the statutory requirements and conditions, provided for in Chapter 3 of the Act.

The rehabilitation of the land surface is an integral part of mining and prospecting operations, and must be done in accordance with an EMP. Mining operations may not commence prior to approval of the EMP.

3.6.2 Environmental Management Programme (EMP)

The requirement that an EMP be submitted for approval before a mining operation may commence, is the primary management tool for implementing the principles of the Act.

Under the Act, prospecting and mining operations may not be conducted without an approved EMP. To assist prospecting and mining companies to comply with this requirement, the Environmental Management Programme Report (EMPR) process was developed and has been approved for use in the mining industry. The EMPR covers a description of the pre-mining environment, a motivation for and detailed description of the proposed project, an environmental impact assessment (EIA), and an indication of how the impacts will be managed. Adequate consideration must be given to alternative methods of mining. The EMP, furthermore, requires adequate provision for financial guarantees for rehabilitation and arrangements for monitoring and auditing.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

Before an EMP is approved by the Director: Mineral Development, he must consult with each department charged with the administration of any law which relates to any matter affecting the environment (MA s7).

The process and contents of EMPs are set out in a guideline document which is applied by the department (*DMEA Aide-memoire for the preparation of environmental management programme reports for prospecting and mining 1992 (as revised)*), which makes provision for the drafting of EMPRs, which must contain details of the EIA in the construction phase, operational phase, decommissioning phase, as well as the residual impacts after closure, and details of the EMP which will be followed to manage these impacts. In the EMPR, reference must be made to the situation relating to other natural resources which might be impacted, including ecology, cultural sites and the socio-economic structure of the affected area of operation.

The auditing and monitoring of EMPs is addressed in regulations under the Act "Performance assessment and monitoring of environmental management programmes" R801 GG20219 of 25 June 1999). These regulations require holders of mining rights to conduct monitoring and performance assessments of the EMP on an ongoing basis, to conduct performance assessments of the EMP according to prescriptions, and to submit an EMPR on the performance assessment of the EMP (Regulations 5.17, 5.18). This section on performance assessment and monitoring was inserted into the Regulations in 1999, providing statutory authority to the Aide-Memoire.

Because operations under the Minerals Act are excluded from the integrated environmental management procedure required under NEMA, which could possibly draw criticism relating to the attempt to integrate resources management procedures, attempts have been made in the administration of the EMP procedures to streamline these and co-ordinate with other resources management processes. The Department of Water Affairs and Forestry (DWAF) has issued a guideline to assist DME with the implementation of EMPs (*DWAF Operational Guideline for the DWAF to assist the DME with Environmental Management Programmes in terms of the Minerals Act 1998*); as well as regulations on the use of water for mining which are aimed at the protection of water resources (R704 GG20119 dated 4 June 1999).

3.6.3 Minerals and Petroleum Resources Development Act, 2000 (MPRDA)

The MPRDA, which replaced the Minerals Act, gives effect to the principles and mechanisms contained in the Aide-Memoire referred to above, additionally requires that a holder of mining right in terms of the Act must at all times give effect to the general objectives of integrated environmental management in terms of Chapter 5 of NEMA, ie. inter alia, to promote the integration of all decision-making which may affect the environment. These persons must also consider, investigate, assess and communicate the impact of their activities on the environment, as required in terms of section 24(7) of NEMA. They must manage all environmental impacts in accordance with their EIPs or EMPs rehabilitate the land as far as possible to its natural state, and they are held responsible for environmental harm (MPRDA s38).

TOWARDS INTEGRATED RESOURCES MANAGEMENT

The Act makes provision for an authorization system, in terms of which reconnaissance permissions, prospecting and mining rights, and retention permits may be issued for mineral exploitation. Holders of authorizations must give effect to the objectives of IEM as stipulated under NEMA, and must manage the environmental impacts of their activities according to their EIPs and EMPs, and as an integral part of their mineral rights (MPRDA s39).

EIAs must be undertaken on receipt of notice by the relevant regional manager of DME, after acceptance of applications for mining rights (MPRDA s22, 39). The term "environmental impact assessment" is not defined, and it is not certain whether this carries the meaning of such an assessment under NEMA. Clause 37 states that the principles of NEMA apply to all operations under the MPRDA, and serve as guidelines for the interpretation, administration and implementation of the environmental requirements under the Act, with the probable implication that the regulations on IEM are similarly applicable.

EMPs for the rehabilitation of the affected areas, as well as environmental management programmes for the commissioning, operational and decommissioning phases, are also required from all holders of authorizations under the Act. All activities related to the mining or prospecting operations must be undertaken in accordance with these plans, which are approved by the Minister after consultation with the Regional Mining Development and Environmental Committee, as well as any state department charged with the administration of any law relating to the environment. Before approval, it is required that the applicant provide security for potential environmental harm (MPRDA s41).

Although no provision is made for external auditing and control of the continued compliance with the programme, the Minister is empowered to take steps including directives and even closure, should the user fail to comply with the EMP (MPRDA s37).

3.7 Heritage Resources

3.7.1 *Heritage resource identification and classification*

A system for the management of national heritage resources was established in terms of Chapter 1 of the National Heritage Resources Act, 1999 (NHRA) (Act 25 of 1999), which serves as the general framework and guideline for decision-making by heritage resources authorities and all other decision-makers whose decisions affect heritage resources (NHRA ss3, 4).

This management system is based on a grading system for places and objects which form part of the national estate. It distinguishes between categories of significance, and it prescribes heritage resources assessment criteria for the effective assessment of protection values which must be established by the South African Heritage Resources Agency (SAHRA) (NHRA ss3, 7). A heritage resources authority may then prescribe assessment criteria for provincial resources.

Certain heritage resources may be declared as national heritage sites. These sites must be marked in a prescribed way and protected and managed so as to ensure that nobody destroys, damages, defaces, excavates, alters, removes, subdivides or changes the planning status of the site without

TOWARDS INTEGRATED RESOURCES MANAGEMENT

authorization, and further to ensure that any additional conservation rules established by regulation, are applied (NHRA s27).

Other management tools include the following:

- a) Protected areas may be declared to ensure the protection and enjoyment of national heritage sites, wrecks and mine dumps (NHRA s28);
- b) Heritage areas may be declared to protect any place of environmental or cultural interest (NHRA s31);
- c) Heritage objects may be declared when it is regarded necessary to control the use thereof (NHRA s32);
- d) Nobody may alter or demolish any structure older than 60 years without a permit (NHRA s34);
- e) All archeological objects, palaeontological sites and material, wrecks and meteorites are state property, and its use is under authorization of the state (NHRA s35);
- f) Burial grounds and graves must be protected and conserved and managed by SAHRA, and nobody may use or damage these without permission (NHRA s36).

3.7.2 Heritage Impact Reports

Any person who intends to undertake a listed activity, including the construction of specified roads, power lines, pipelines, canals, or similar linear structures, as well as bridges exceeding 50m in length, and structures or developments of significant extent, as well as any other developments which are identified by regulation, must, at the earliest planning stages of the project, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development (NHRA s38).

If there is reason to believe that the proposed project will impact on heritage resources, the developer will be notified and required to submit an impact assessment report, to include specified information. This information must include the identification and mapping of all affected heritage resources; an assessment of their significance in terms of the heritage assessment criteria; the impact thereon and a socio-economic evaluation thereof; the results of community consultation; alternative options for the development; and mitigation plans to be implemented during and after the completion of the development.

This report must be considered by the heritage resources authority, and a decision must be made whether the project may proceed, what limitations and conditions must apply, what compensatory action is required, and whether specialists must be appointed to undertake any specialist work as a condition of approval (NHRA s38).

This procedure does not apply where an environmental assessment is nevertheless required in terms of NEMA or the Minerals Act, provided that the heritage resources authority gives the necessary input to such other environmental assessment procedure.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

4 MANAGEMENT INSTITUTIONS

4.1 Structures under the Constitution

4.1.1 Spheres of Government

Government is constituted as national, provincial and local spheres which are distinctive, interdependent and interrelated (S40 of the SA Constitution). National Government consists of the legislature, executive and the judiciary:

The national legislative authority is empowered to legislate on any matter, including matters within the functional areas in Schedule 4, which powers are concurrent with those of the provincial legislatures. It may also intervene in provincial legislation on exclusively provincial functional areas listed in Schedule 5, to *inter alia* maintain national standards (SA Constitution s44). The National Legislature confers its powers on the National Assembly and the National Council of Provinces.

The national executive is headed by the President, who is the head of state and in whom vests the executive authority. The executive authority is exercised by the Cabinet by implementing national legislation, developing and implementing national policy, coordinating the functions of state departments and administrations, and preparing and initiating legislation (SA Constitution, Ch5). The cabinet consists of the president, the deputy president and national Ministers. Members of the Cabinet are collectively and individually accountable to Parliament for the performing of their functions and duties. The national departments which exercise functions which affect or involve the management of the environment include the departments of Environmental Affairs and Tourism, Land Affairs, Agriculture, Housing, Trade and Industry, Water Affairs and Forestry, Transport, Defense, Minerals and Energy, Health and Labour (Schedules 1 and 2 of NEMA). Provincial environmental and nature conservation departments exist in various forms and under various names and grouped in various ways in the different provinces. These are supported in some provinces by statutory boards such as the Mpumalanga Parks Board and the Kwazulu-Natal Nature Conservation Service. In the Northern Cape, there are two separate departments - one for nature conservation and one for environmental affairs (Glazewski pages 130-1).

Judicial authority is vested in the courts (Including the Constitutional Court, Supreme Court of Appeal, High Courts and Magistrates Courts), who are independent and subject only to the constitution and the law.

Provincial Government comprises

- a) the provincial legislatures, who may pass provincial constitutions and provincial legislation with regard to Schedule 4 and 5 functional matters;
- b) the provincial executives, headed by the provincial premiers who exercise their functions together with the members of the executive councils (MECs) to, *inter alia*, implement legislation and policy and co-ordinate the functions of the provincial administration and its departments (SA Constitution s125).

TOWARDS INTEGRATED RESOURCES MANAGEMENT

Local government consists of municipalities, whose legislative and executive authorities are both vested in the municipal councils. One of the functions of municipalities is to promote a safe and healthy environment, and the exercising of their powers is subject to national and provincial laws.

4.1.2 Supporting Institutions (SA Constitution, Ch9)

The Constitution establishes several state institutions to strengthen constitutional democracy: the Public Protector, the Human Rights Commission, the Commission for the Promotion and Protection of the Rights of Cultural, Religious and Linguistic Communities, the Commission for Gender Equality, the Auditor-general, the Electoral Commission and a Broadcasting Authority.

The Public Protector must investigate any conduct in state affairs which is suspected to be improper or which may cause impropriety or prejudice, and he must report on it and take remedial action.

The Human Rights Commission promotes, *inter alia*, the protection, development and attainment of human rights.

The Constitution also provides for security services, viz. the police service, defense force and intelligence services (SA Constitution, Ch11).

Traditional leadership is acknowledged, and a traditional authority at local government level, as well as a national council of traditional leaders may be established, to observe and effect a system of customary laws (SA Constitution, Ch12).

4.2 National Environmental Management Act, 1998 (NEMA)

4.2.1 National Environmental Advisory Forum (NEAF)

The NEAF is established by the NEMA to advise the Minister mainly in relation to environmental management to achieve the objectives of the Act, including the setting and achievement of objectives and priorities for environmental governance, and methods for monitoring compliance with the statutory principles (NEMA s3). It functions according to a Ministerially established constitution, and consists of Ministerially appointed members (NEMA ss4-6). This forum also has a function to inform the Minister on stakeholder views regarding the application of the principles, and could play an important role in the integration of environmental management as far as public participation is concerned (NEMA ss4-6).

4.2.2 Committee for Environmental Co-ordination (CEC)

The CEC is established by section 7 of the Act, to promote the integration and co-ordination of environmental functions and to promote the achievement of EIP's and EMP's (NEMA s7(2)).

The functions of the CEC include the following:

- a) to scrutinize and report on EIPs;

TOWARDS INTEGRATED RESOURCES MANAGEMENT

- b) to investigate the assignment and delegation of functions of state organs under all environmental laws and memoranda;
- c) to investigate the establishment of provincial mechanisms to provide a single point for the receipt of applications for permissions in terms of various laws;
- d) to make recommendations on the co-ordination of the application of IEM, for purposes of streamlining environmental assessment procedures;
- e) to make recommendations on measures to secure compliance with the principles of the NEMA and the constitutional national standards and norms (s146(2)(b)(i) of the Constitution);
- f) to make recommendations on the harmonization of environmental functions of all organs of state;
- g) to advise on law reform towards promoting human interests according to section 2(2) (NEMA s7(3)).

The CEC consists of the Directors-General of the Departments of Environmental Affairs and Tourism, Water Affairs and Forestry, Minerals and Energy, Land Affairs, Arts Culture Science and Technology, Housing, Agriculture, Labour, Constitutional Development, and Health (NEMA s8). The CEC may co-opt persons to assist with its functions, but it may also appoint ad hoc sub-committees and working groups. It must submit an annual report to the Minister (NEMA ss8-10. After unsuccessful attempts of pursuing information on the direct operations of the CEC, a possible conclusion that the CEC is not yet actively pursuing its statutory functions, can not be excluded).

The CEC is an important body in the institutional structure which must implement the principles of sustainable environmental management. However, it is not certain whether the CEC is already functioning optimally. The CEC is seen to be a critical component in the move towards IRM.

4.3 Water management institutions

The NWA defines a water management institution as a Catchment Management Agency, a Water User Association, a body responsible for international water management or any persons who fulfill the function of a water management institution. The Act also makes provision for other institutions, viz. Advisory Committees and a Water Tribunal.

4.3.1 Catchment Management Agency (CMA)

The Minister may, on his own initiative or after receiving a proposal, establish a CMA for any of the declared water management areas (in terms of the NWRS) (These areas have been declared by GN1160 of 1 October 1999), in order to conduct the protection, use, development, conservation, management and control of water resources in such an area (NWA s78 read with s1(1) "water management area"). The legal status and structure of a CMA is provided for in Chapter 7 of the NWA, read with Schedule 4.

The functions of the CMA include investigating and advising on the protection and control of water resources; developing a catchment management strategy; coordinating the activities of water users

TOWARDS INTEGRATED RESOURCES MANAGEMENT

and water management institutions, and promoting community participation in water resources management (NWA s80).

The Minister may also assign to the CMA any powers of a responsible authority (A responsible authority is defined in the NWA as either the Minister or a delegated CMA, and the effect of s73(1)(a) in terms of which the powers of a responsible authority may be delegated to a CMA, is that the Minister may delegate his/her own powers to the CMA), and any powers in terms of Schedule 3.

A responsible authority bears the decision-making powers relating to the authorization of water use under the Act (These powers are set out in NWA Chapter 4 "Use of Water"), including licensing (and the amendment, renewal, suspension and review thereof), general authorizations, exemptions from licensing, approval of water entitlement transfers, declarations of existing lawful water use, verification of water use, and rectification of contravention of water use conditions.

Schedule 3 provides for the following powers: to manage and monitor permitted water use; to conserve water resources; to develop and operate waterworks; to implement catchment management strategies; to limit Schedule 1 water use; to make rules regulating water use relating to times when, places where and the manner in which water may be used; to establish recording and monitoring systems and devices; to direct or undertake alterations to waterworks, and to manage water use during droughts.

The Minister has the discretion to assign the above powers depending on the desirability and the capacity to exercise these powers, but the Minister must promote the management of water resources at catchment level by assigning these powers and duties to CMA's when it is desirable and where capacity exists to do so (NWA s73(4)). The aim is for CMAs to eventually become institutions with full water use authorization and water resources control responsibilities, leaving the Minister and his Department to policy-, strategy- and regulation-making functions.

Because public participation is an important part of the functions and structure of a CMA, the eventual assignment of full powers as provided for in the Act, will create powerful and empowered catchment management structures, which may rightfully be regarded as the very basis of integrated catchment management in its ideal sense.

4.3.2 Water User Associations (WUA)

These water management institutions are established in terms of Chapter 8 of the Act. They are in essence co-operative associations of individual water users that have joined together for mutual benefit. They are established by the Minister, on his own initiative or on application, or they are created through the transformation of the erstwhile Irrigation Boards and Subterranean Water Control Boards (Chapter 8 of the NWA).

A WUA functions according to its constitution, which must be approved by the Minister, and it has the legal status of a body corporate with full powers of a natural person of full capacity, unless the exercise of the powers is inconsistent with the Act.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

WUAs are not statutorily linked to the institutional water management system, and may be seen as ad hoc associations aimed at the promotion of individual water users' interests, and whose representative participation in water resources management is restricted to local and purposive basis, and to acting as spokesperson or pressure group for its members at the CMA. They may also act as utility bodies on a contractual basis, to undertake water management functions for the CMA or the Minister, such as recovering of water use charges, keeping and supply of data and information on their areas of operation (serving as institutions that facilitate monitoring of water use control), training and education, and acting as spokesperson between the water resource managers and the water users. The Minister may also delegate certain water use control functions to WUAs.

4.3.3 Advisory Committees

The Minister may establish advisory committees for particular purposes and with particular functions, and he may regulate their membership, powers, duties and operation by regulation (NWA ss99-100). A National Water Advisory Committee exists, which was converted from the National Water Advisory Council established under the Water Act, 1956 (Act 54 of 1956; See s101 of the NWA).

4.3.4 Water Tribunal

The Water Tribunal, established in terms of Chapter 15 (NWA ss146-149), is an independent administrative appeals tribunal aimed at hearing appeals against certain decisions made by a responsible authority, CMA or water management institution.

Although various tribunals exist under modern South African laws, the Water Tribunal is one of the first in its kind, being an administrative appeals tribunal, and not a review tribunal.

A party to a Water Tribunal case may, on a question of law, appeal to a High Court against a decision of the Tribunal. The decisions of the Water Tribunal may, however, also be taken on review, as decisions by the Tribunal are subject to the legislation on administrative justice.

4.4 Land Use and Development Institutions

4.4.1 Development Facilitation Act, 1995 (DFA)

Development and Planning Commission (DPC) and Provincial Commissions

The DPC was established by section 5 of the DFA, to advise the Minister on policy and laws relating to , *inter alia*, planning and land development, and also relating to land development procedures, environmental sustainability, and heritage conservation (DFA ss5, 14). It functions according to a constitution and may employ or consult administrative and research persons. The Minister will debate, consider, co-ordinate and implement the advice at his discretion.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

The provincial premiers may establish provincial development and planning commissions, or they may recognize any boards, commissions or bodies of persons to be provincial development and planning commissions. These commissions have similar advisory functions to those of the DPC (DFA s11).

Development Tribunals and Appeal Tribunals

A development tribunal is established for each province in terms of Chapter 3 of the DFA, mainly to deal with and decide matters relating to the authorization of land development applications (DFA s16). A development appeal tribunal must be established by the premier for each province, to hear appeals against decisions by the development tribunals (DFA ss23, 24). The procedural rules for both these forms of tribunals are made by the Minister, and the decisions of the appeal tribunals are subject to review by the High Court (DFA ss25-26).

Physical Planning Acts (PPA 1967 and PPA 1991)

The 1991 Physical Planning Act makes provision for the establishment of planning committees to prepare draft policy plans, being the predecessors of the policy plans (national and regional development plans and regional structure plans) which must be prepared by the planning authority.

The planning committees consist of representatives of departments and organizations which the planning authority regards necessary in order to prepare the draft policy plans. The plans are drafted by inviting public input, investigations (where necessary by ad hoc investigating committees which may be established by the planning authority) and the eventual submission of the drafts to the planning authority for approval.

4.5 Agricultural, Forestry and Fishery Resources

4.5.1 Conservation of Agricultural Resources Act

Conservation Committees

The Minister may, in terms of this Act, establish Conservation Committees in respect of determined areas, to promote the conservation of the natural agricultural resources in the area in order to achieve the objects of the act, and to advise the department on any matters aimed at achieving the objects of the act, or to exercise whatever powers the Minister may impose on it in terms of the act (CARA s15). Membership of these committees consists of land users in the areas for which the committees are appointed.

The Minister may also establish regional conservation committees to advise the conservation committees on any matters related to achieving the objectives of the act within the specific region (CARA s16).

Regulations relating to the operation of conservation committees have been published under GN R1048 dated 25 May 1984, as amended.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

Conservation Advisory Board (CAB)

The CAB is established by section 17 of the Act to advise the Minister on matters concerning the desirability of prescribing control measures, establishing schemes, or any other matter which is regarded necessary in order to achieve the objects of the Act. Membership of the CAB consists of departmental officers, non-departmental members of the conservation committees, and AgriSA (AgriSA is a national forum representing organized agriculture (the erstwhile South African Agricultural Union)).

4.5.2 National Forests Act, 1998 (NFA)

National Forests Advisory Council (NFAC)

Under the NFA, a National Forests Advisory Council (NFAC) is established, to advise the Minister on any matters related to forestry. Membership of the NFAC is determined by the Minister, but he is bound to do so by balancing the various interest groups through a nomination process (NFA ss33-35).

The Council may elect an executive committee, and it must also establish a Committee for Sustainable Forest Management, and a Committee on Forest Access as permanent committees of the NFAC, as well as any other committees necessary to assist with achieving its functions.

The Committee for Sustainable Forest Management

This statutory committee advises the NFAC, the department and the Minister on all aspects of sustainable forest management, and on the determination of criteria indicators and standards for sustainable forest management, and on convening forums for interested persons to participate in the operation of the Committee. A representative of DEAT must be included as a member of this Committee.

The Committee on Forest Access

This committee advises the Minister on, inter alia, the promotion of education on the sustainable management and use of forests.

4.5.3 Other laws

Under the Marine Living Resources Act, 1998 (MLRA), the Minister must establish the Consultative Advisory Forum for Marine Living Resources (CAF), to advise the Minister on, inter alia, the management and development of the fishing industry, the management of marine living resources, and multi-disciplinary research (MLRA, Ch2).

A Fisheries Transformation Council is also established under section 29, to facilitate the achievement of fair and equitable access to commercial fishing, subsistence fishing, mariculture or fish processing. This is done by the leasing of such rights and the determination of the conditions thereof (MLRA s32).

TOWARDS INTEGRATED RESOURCES MANAGEMENT

4.6 Mineral Resources Institutions

The Minerals Act is executed largely by the Minister and his delegates, including the Director-General of Mineral and Energy Affairs, the Director of Mineral Development, regional directors, and regional mining engineers. No provision is made for public participation in the administrative process, or for the establishment of advisory committees or management institutions on middle level.

In terms of the Minerals and Petroleum Resources Development Act (MPRDA), where the custodianship of minerals is reserved in the Minister, provision is made for a Minerals and Mining Development Board to advise the Minister on, inter alia, the sustainable development of the nation's mineral resources, and to ensure the promotion of human resource development in the minerals and mining industry, and to enquire into and report to the Minister on matters concerning the objects of the Act (MPRDA s58). Membership of the Board must be representative as prescribed (MPRDA s59).

The Board must establish a Regional Development and Environmental Committee for each region, as well as other permanent or ad hoc committees as it deems necessary to assist it in the performance of its functions (MPRDA s64).

4.7 Heritage Resources Institutions

The most important institutional structure under modern heritage resources management law is the South African Heritage Resources Agency (SAHRA), established by the National Heritage Resources Act (NHRA), inter alia to establish national principles, standards and policy for the identification, recording and management of the national estate, in terms of which the respective authorities must function to co-ordinate the management of the national estate by all organs of state, and to monitor their activities to ensure that they comply with national principles (NHRA ss11-14).

The affairs of SAHRA are under control of a Council, appointed to represent sectoral interests, with the functions of advising the Minister on matters concerning heritage resources management, advising SAHRA in the performance of its functions, promoting the co-ordination of policy formulation and planning for the management of the national estate at national and provincial levels, and furnishing the Minister with information. The Council may establish committees to assist it in its functions and provide it with expert advice (NHRA s14-20).

Provincial heritage resources authorities may be established, which are responsible for the management of the relevant heritage resources within the province (NHRA s23). They must advise the MEC on the implementation of all heritage resources laws, protect and manage Grade II heritage resources, keep and supply resources data, establish provincial heritage resources management strategies and plans, and co-ordinate local government functions relating to heritage resources management (NHRA ss24, 25).

TOWARDS INTEGRATED RESOURCES MANAGEMENT

5 CONCLUSIONS

Modern resources management laws contain a wide range of principles, management tools and institutional structures aimed at the sustainable use and development of resources. Many of these measures are developed to make provision not only for the co-ordination of resources management between national, provincial and local government levels, but also for inter-departmental and multi-disciplinary co-ordination, and for co-operative governance.

In order to evaluate the efficiency of attempted IRM through all of the identified tools, institutions and principles, it is necessary to attempt to tie these together and measure their effectiveness.

CHAPTER II

THE EXTENT OF INTEGRATION OF EXISTING RESOURCES MANAGEMENT SYSTEMS

1 INTRODUCTION

In this chapter, an attempt will be made to ascertain whether the present resources management systems as contained in the various laws, discussed in Chapter I, offer a functional basis for IRM. The approach taken is to first distinguish between the types of management tools and management institutions (In this report, the term *management tools* is used to refer to the instruments provided by law and policy and which are used by decision-makers and management authorities to execute their functions under the law; while *management institutions* are the statutory or other bodies and authorities which are established and empowered by law to manage the resources according to the respective laws).

1.1 Decision-making Tools

The following management or decision-making tools can be distinguished (The classification system produced here, is for purposes of this report, and not based on any existing classification system for management tools and institutions. Tools and institutions may also sometimes overlap):

1.1.1 *Framework tools*

These represent strategies, objectives, guidelines and procedures that are used to steer decision-making, and are issued in terms of the different enabling laws. These are developed by appointed institutions in terms of the various laws, but they also include plans, systems and programmes which must be submitted by resources users and which must be approved prior to obtaining legal binding force.

1.1.2 *Management tools*

These represent powers by decision-makers to authorize activities where resources are used or developed, and include licensing systems, permissions, approvals, and directives, as well as systems to support decision-making, such as environmental assessments, impact evaluations and forecasting.

1.1.3 *Information tools*

These tools are used to build the information base which is necessary for effective resources management, and include user and use registration systems, research systems, information gathering systems, expert advice, and databases.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

1.1.4 Auditing tools

These tools are used to monitor activities where resources are used or developed, and include norms and standards, monitoring systems, criteria such as public responsibilities (e.g. duty of care), public and private informants and prosecution, whistle blowing, Environmental Management Systems (such as the environmental management programmes under mining law) and environmental reporting systems.

1.1.5 Judicial tools

These include judicial appeals and reviews, administrative appeals, internal appeals, reviews and objections, prosecution (for declared statutory offences) and alternative dispute resolution (ADR) mechanisms.

1.1.6 Education tools

These include programmes to educate the public, to train the decision-makers, to equip and build the capacity within institutions to perform their functions and to use the available management tools for which the respective laws make provision.

1.2 Resources Management Institutions

The following types of management institutions can be distinguished in resources laws:

1.2.1 Management bodies

These structures are used for decision-making, and consist of national, provincial and local government officials with original statutory or delegated or assigned powers, statutory bodies or bodies established through official discretion.

1.2.2 Advisory bodies

These bodies, established in terms of law and on an ad hoc basis by other institutions or decision-makers, have no decision-making powers, but merely provide advice based on research, investigations or expert opinion, to the decision-makers to whom they are responsible.

1.2.3 Policy-making bodies

These bodies are established to develop policies and to evaluate and streamline laws to dynamically comply with changing principles and objectives and statutory and international guidelines.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

1.2.4 Strategy bodies

These institutions must develop policy-based guidelines, strategies, objectives, procedures and other measures to facilitate decision-making and the achievement of statutory principles. They are often permanent bodies with additional functions to streamline the exercise of management functions, to scrutinize or evaluate programmes and plans, and to undertake strategic planning towards improved legislation. They are often integrated with policy-making bodies, although the latter should function on a higher level, where external legal requirements are considered to amend internal policies, while strategy bodies should promote efficient functioning of management systems relating to internal legal requirements.

1.2.5 Utility organizations

These institutions are established for ad hoc purposes, and are of either permanent or temporary nature. They are employed on contractual basis to collect data, supply information, give administrative support, keep records, recover monies, investigate matters or prepare reports. They are often representative of stakeholder interests and operate between the decision-making level and the ground level. They may include provincial government offices, community stakeholder bodies or private consultancy organizations.

1.2.6 Judicial bodies

These bodies are established by statute and act to hear internal appeals against decisions in terms of the specific law, or they are independent, yet statutory, bodies hearing administrative appeals or reviews.

1.2.7 Auditing and monitoring institutions

These bodies are established, often as part of monitoring systems, to develop and apply systems for monitoring of resources use, in order to evaluate compliance with authorizations or management principles or strategies.

1.2.8 Coordinating institutions

These bodies include those that are empowered to evaluate policies, procedures and strategies against the principles and objectives of the empowering, as well as other resources management, legislation. They may also make recommendations towards streamlining and co-ordinate management functions to avoid duplication (e.g. the CECs).

1.2.9 Control Bodies

TOWARDS INTEGRATED RESOURCES MANAGEMENT

These bodies, often a statutorily appointed ombudsman or commissioner or public protector, hear complaints regarding the implementation of the legislation in question, which they may investigate and report on or remedy.

1.2.10 Consultative Bodies

These institutions are established to advance and undertake consultation with the public to facilitate decision-making. These are often not statutorily established and private consultants are usually utilised to manage the consultation process. In view of the onerous and compliance-based nature of incorporating proper consultation into decision-making processes, such consultative bodies may well become necessary as part of the permanent resources management systems (DWAF, for instance, runs its NWRS development consultation process through an appointed consultant).

1.2.11 Education bodies

These bodies are used for public education, the training of decision-makers, and capacity-building. Although use is often made of consultants in the respective fields of expertise to undertake these functions, the need to establish such bodies as part of the institutional structure for the purposes of implementing resources law, might become apparent. These often overlap with consultative bodies.

1.2.12 Information institutions

These structures are used to undertake research and investigations, to collect data and to provide expert input. Use is often made of the appointment of ad hoc commissions or committees to undertake these duties.

1.2.13 Administration bodies

These bodies are offices where administration is done for purposes of the procedures under an act. Utility bodies may be used for this, or permanent bodies may be established, such as provincial administrative support offices which assist in the implementation of national legislation.

1.2.14 Stakeholder bodies

These bodies are user-driven community bodies established to advance local mutual interests or to serve as representative communication canals between the authorities and the users.

Often the functions of institutional structures do not strictly accord to the above classification system; monitoring and information systems could be combined, or different bodies are responsible for policy development and the determination of strategy. It will, however, be seen that the classification of management tools and institutions is necessary for effective IRM systems.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

2 THE CONSTITUTIONAL FOUNDATION

The Constitution provides the basis for IRM. It establishes a statutory right to a healthy environment, where resources must be protected for sustainable use and development, which right must be given effect to by fair, coordinated decision-making processes in terms of all laws. A public right and a duty on the decision-maker is the basis of the integration of resources management, and is supported by various other measures to facilitate the integration of resources management, contained in the management tools and institutions.

The Constitution does not confer powers on various institutions to undertake resources management activities, but sets the institutional structure which underlies all statutory resources management systems.

Against this constitutional background, the various legislatures may enact laws containing principles, management tools and institutions of an extensive and rather unrestricted range, without any provision for inter-departmental consultation or streamlining prior to enacting (Although s41(1)(h)(iv) of the SA Constitution requires that organs of state must co-operate with one another in mutual trust and good faith by coordinating their actions and legislation with one another, there are as yet no procedures or standards for meeting this requirement). Although draft legislation is considered by parliament and the cabinet before promulgation, the process is not fastidious, and not steered by guidelines or criteria which will necessitate the integration of such new laws with others. The onus is, afterwards, placed on the executive to guide the implementation of the laws in a manner which will integrate decision-making.

The Constitution is not prescriptive as to the making of laws, as long as the measures provided for in these laws are in accordance with the principles of the Constitution. There are no constitutional conditions relating to the processes to streamline proposed laws and policies. Once these measures are prescribed and the functions assigned, the decision-makers must comply with the requirement of co-operative governance, in order to integrate and facilitate decision-making towards environmental sustainability. They are bound by constitutional guidelines in terms of their own laws.

The probable reason for the lack of systemization of management tools and institutional restructuring is to avoid interference with the discretion of the legislature, who should consult widely in order to pass laws which are best suited to regulate the respective functional areas of legislation.

Institutions which currently operate for purposes of implementing the principles of co-operative government are the Department of Constitutional Development, which focuses on co-operative governance between local and provincial government, and the MINMECs, which facilitate co-operative governance between national and provincial spheres of government, and the public protector and human rights commission.

As far as the basis laid by the Constitution for IRM, there is provision for the different spheres of government and the various departments empowered jurisdictionally in terms of relevant functional areas, with the powers to make laws to achieve the principles of sustainable resources management,

TOWARDS INTEGRATED RESOURCES MANAGEMENT

the implementation of which must be coordinated to give effect to the principle of the interrelatedness and interdependence of government.

3 NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (NEMA)

The objective of NEMA is to integrate legislation, decision-making and activities relating to environmental laws, with the aim of achieving sustainable development and use of resources.

This externalization of environmental impact regulation measures holds for both the assessment of potential impact of proposed activities, and the ongoing administration of impacts during the undertaking of the activity:

- a) To perform environmental impact assessment, the Minister of Environment Affairs identifies the controlled activities, and then passes the responsibility to regulate the processes for the undertaking of these activities to the responsible national and provincial departments by the development of regulations. These draft processes are evaluated, streamlined and approved by the CEC, and then published and returned to the departments to administer.
- b) To perform environmental impact management, the affected departments must prepare and submit management and implementation plans which are once again evaluated and streamlined and approved through the CEC, and passed back to the departments to administer, yet under supervision of the DEAT, whose Director-General is empowered to monitor and enforce compliance, by using directives or ADR methods.

In this way, the administration of environmental management is externalized, while the control is centralized. The DEAT, largely through the CEC, acts as coordinator for policy-making and monitoring, while the day-to-day management functions are vested in the affected departments.

Although an advisory body exists in terms of the NEMA, who may propose monitoring methods and objectives for environmental management, the responsibility for formulation and development of policies, strategies, objectives and guidelines to steer the environmental management processes, is vested in the Minister. The auditing and monitoring functions are vested in the Minister and Director-General. No direct provision is made for review or appeal bodies, or for the establishment vehicles to advance public participation.

4 WATER RESOURCES

The objective of the NWA to effect sustainable use and development of water resources is pursued by focusing on the management of water resources on a catchment basis, and by the centralization of regulation with simultaneous decentralization of management functions, and with optimal public participation in all management processes.

The tools which are provided include framework tools (the establishment of sophisticated strategies, objectives and classification systems at national and catchment levels), control tools (the imposition of authorization requirements on all water uses, which include licences, permits, authorizations of

TOWARDS INTEGRATED RESOURCES MANAGEMENT

various kinds, charges for water use and environmental assessments), auditing tools (monitoring systems, public responsibilities (user and polluter pays)), judicial tools (appeals and ADR) and information tools.

The institutions for which the Act makes provision include management, advisory and policy making bodies (CMA), utility bodies (WUA), and judicial bodies (Water Tribunal). Provision is also made for the development of a national monitoring system. Education and training as management tools are the responsibilities of the CMAs and the Minister.

The extensive institutional restructuring which is provided for to manage water resources, and in which individual water users and water managers can participate, opens water resources management for integration with the management of other resources.

5 LAND USE AND DEVELOPMENT

The combined objective of the land use and development laws is to regulate land use and development practices for the sustainable development of land while protecting the environment, by coordinating environmental planning and the use of resources.

Although the DLA is bound to the environmental assessment processes (IEM and the Plans) of NEMA, no provision is made for the streamlining of the LDO's and other internal strategies with the NEMA requirements.

Provision is made for an institutional structure consisting of a national advisory body (DPA) as well as provincial planning commissions. These bodies have both advisory and strategic planning functions, although the proposed strategies are eventually laid down by the Minister. Provincial development (authorizing functions) and development appeal tribunals (administrative appeal functions) are established in terms of the DFA. The tribunals include members of the public, which allows public participation in the land development system.

Although the principles of the laws aim at the integration of environmental resources protection into decision-making on land development and use issues, little provision is made for tools and institutions to co-ordinate resources management measures. The assessment procedures provided for in NEMA remain the primary tools for the integration of environmental considerations into the land management system.

6 AGRICULTURAL, FORESTRY AND FISHING RESOURCES

Agricultural Resources legislation is prescriptive in nature, where all management tools are vested in the Minister who may prescribe control measures, issue directives for non-compliance and hear appeals against administrative decisions relating to the control of resources. The institutional structure in terms of the Act consists of regional and ad hoc conservation committees and a national Conservation Advisory Board, yet these bodies, although they may accommodate resources users in their membership, are of advisory nature only.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

The more recently promulgated forestry management legislation similarly retains management tools (licensing, protected areas management, determination of standards and norms), as well as monitoring tools within the Ministerial range of powers. However, the advisory bodies for which the Act makes provision are representative of public interests and have powers of strategy-formulating nature as well. In the exercise of the functions of these advisory bodies, much emphasis is placed on public participation, education and information.

The duty to achieve sustainable forest management ultimately vests in the Minister. No specific provision is made for integration of forest management with other resources.

The marine resources legislation, aimed at the sustainable use and conservation of marine living resources, makes use of an advisory body (CAF) to steer the management of living resources, and a control body (Fisheries Transformation Council) to manage commercial fishing rights. Monitoring is effected through government officials. No specific provision is made for the integration of resources management systems.

Since marine resources are managed by the DEAT, the plans and IEM measures relating to NEMA will also cover the marine resources management system.

7 MINERALS

There is a sophisticated and well-established system of EMP in place under minerals legislation. Environmental programmes will be accepted as compliance with the requirements of section 24(3)(b) of NEMA.

The basis of the minerals resources management system is the authorization system. Powers are centralized in the Minister and the officials under his delegation. The new Act retains this central authorization system, but provides for a series of advisory committees to investigate and recommend on improvement of the management processes.

8 HERITAGE RESOURCES

The tools provided by legislation on the management of heritage resources, include a classification system for resources, assessment criteria for the protection of each resource class, and an authorization system for proposed development activities that may impact on heritage resources.

A comprehensive management institution (SAHRA) exists in terms of the law, to co-ordinate the functions of all organs of state in control of activities which could impact on heritage resources, and to develop standards and norms and strategies for heritage resources management, as well provincial advisory and coordinating committees. The membership of SAHRA is representative of sectoral interests, promoting public participation in heritage resources management.

Since the objective of heritage resource management is not the use and development of heritage resources, but rather controlling the impact of the development and use of other resources on

TOWARDS INTEGRATED RESOURCES MANAGEMENT

heritage resources, the management tools can hardly be effectively employed towards IRM without extensive co-ordination of governance of resources in general.

9 CONCLUSION

An IRM system based on the current suite of laws, management tools and management institutions is complicated by the following factors:

- a) The lack of criteria for the decentralization of management tools;
- b) The desirability and willingness towards institutional restructuring;
- c) The disparity in emphasis placed on public participation;
- d) Uncertainty about the practical meaning and implication of the integration (as opposed to co-ordination) of laws and co-operative governance;
- e) The complexities of governance at different levels of government through concurrent and exclusive legislative functional areas;
- f) The potential negative impacts of interference with existing and well-functioning systems;
- g) The lack of management units for effective resources management;
- h) The difficulties within socio-economic, political and environmental culture;
- i) The influence of sensitivities and uncertainties based on the perceived 'newness' of IRM

Although the principles are directed towards sustainable use and development, the tools and institutions provided for within the various sector legislation, are inadequately linked.

Extensive social, economic, political, legal-institutional and environmental research is necessary prior to effectively engaging in IRM.

CHAPTER 3

CRITERIA FOR INTEGRATED RESOURCES MANAGEMENT

1 INTRODUCTION

In the attempt to evaluate the existing South African resources management system, and especially the extent to which it is and can be integrated, it was necessary to analyze the system (Chapter I), and attempt to extract some form of streamlined vision from the identified management institutions and management tools (Chapter II). The ensuing chapter focuses on a proposed criteria basis for effective IRM. These will then serve as the norms to identify and evaluate the strengths and weaknesses within the present system of resources management, as well as its state of progress towards integration.

2 THE MEANING OF INTEGRATED RESOURCES MANAGEMENT: "INTEGRATION" AND "CO-ORDINATION"

Due to the lack of a uniform legislatively-accepted meaning for the concept of integration relating to resources management in the South African context, it is beneficial to investigate contemporary resources management systems abroad.

The NEMA recognizes that all environmental elements are linked and interrelated, and that management of the environment must therefore be integrated by intergovernmental co-ordination of policies, laws and actions (NEMA s2).

In general, IRM can be said to be based on co-ordination of interrelated elements in a sustainable manner that recognizes the interdependence and interrelatedness of each sector component with environmental elements. This is difficult to achieve where there exists conflicting and overlapping management systems for each element. A streamlined system must therefore be developed, within which the different components of the management system, i.e. management principles, management tools and institutional structures, are coordinated. However, this co-ordination phase can be seen to be an initial step towards integration, i.e. true IRM.

The difference between the two concepts is analysed below.

- While co-ordination is defined as to "bring (various parts, movements, etc) into a proper or required relation to ensure harmony or effective operation", integration is defined as "to combine parts into a whole, or to unify" (*The Concise Oxford Dictionary*).
- When management systems are coordinated, they are streamlined in an attempt to make them work separately, yet in harmony.
- When management systems are integrated, they are unified so that there is one system arising from the variety, which contains all the essential principles, tools and institutions

TOWARDS INTEGRATED RESOURCES MANAGEMENT

necessary to manage the use and development of all the resources which had previously been managed separately.

The institutional restructuring which is required for IRM will necessarily differ from that which is needed for coordinated resources management. In the coordinating attempt, a central government body which streamlines the different systems to avoid duplication, overlapping and conflict, is probably the optimal manner of management while, in the integration attempt, ample provision should be made for establishing institutions where management systems of the different resources departments can be brought together in order to unify functions.

The dictionary distinction is, however, not clearly reflected in the different management systems which have been investigated.

2.1 Swaziland

In the Swaziland Environmental Management Act (SEMA) (Act 5 of 2002), the memorandum of objectives and reasons refers to the establishment of a framework for environmental protection and the integrated management of natural resources on a sustainable basis. However, the Act does not refer to integration in its defined meaning. The provisions of the Act strive at co-ordination of the different management systems, making provision for co-operation in the IEM, strategic environmental assessment, and planning processes by all the government departments (SEMA ss7, 29-33).

The Act does, however, provide for the Minister to make regulations to bring the laws of Swaziland into conformity with laws, standards, guidelines and practices applied internationally or in the region (SEMA s49(5)(b)). This clause is the most progressive provision relating to the integration of environmental laws which could be found in all countries reviewed.

The Swaziland Environment Authority created in terms of the Environment Authority Act, 1992 (SEAA) (Act 15 of 1992), is empowered to co-operate with departments to develop streamlined management measures, and to co-ordinate activities and to serve as main channel of communication between government departments, but does not specifically refer to integration of management systems. The SEAA also prevails over any other laws which affect the environment (SEAA s19).

The Swaziland Water Bill, 2001 (SWB) has strong provisions for institutional development, and also attempts to co-ordinate water resource management with that of other affected countries, but does not contain provisions relating to the co-ordination or integration of the management of water resources with other resources. However, the Water Resources Master Plan which, according to the SWB, must be developed and adopted by the National Water Authority in stages, should include the "generally accepted principles of river basin management" (SWB Clause 10(3)), while one of the objects of this plan must be "to set down provisions for integrating water management with land and other resources" (SWB Clause 10(6)(f)). The phased development of this Plan may eventually bring about measures and principles for integration.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

The draft National Water Policy of Swaziland contains various defined resources integration terms, including the "environmental reserve", "the hydrological continuum", "the natural environment", and specifically "integrated water resources management- the holistic water resources management philosophy that seeks to integrate water resources planning, development and traditional management across all use sectors". Much emphasis is placed on the duty to co-ordinate water use and development with other activities, as well as coordinating the functions and interests of water authorities and stakeholders. Any guide as to the implementation of the defined concept of integrated water resources management is, however, not pursued in the provisions of the policy.

The Swaziland Water Act of 1967 (SWA) (Act 25 of 1967) contains no provisions or definitions or principles relating to the integration of resources management systems.

2.2 Canada and the USA

Since 1997, the Ministry of Natural Resources Canada (NRCan) has issued a series of Sustainable Development Strategies in terms of the Natural Resources Act, which obliges the Minister to "have regard to the sustainable development of Canada's natural resources and the integrated management thereof". The meaning of integration in terms of Canadian policy goes deeper than attempts to streamline decision-making: it is founded in the attempt to practically integrate knowledge and technology at ground-level with environmental conservation principles, in order to negate the need for top-down control. The ideal espoused is that "ultimately, sustainable development will result from individual and collective efforts to find solutions to resources development challenges that are good for our communities, good for the economy and good for the environment" (NRCan *Sustainable Development Strategy: Now and for the Future* Annual Report 2002, 5).

At government level, NRCan has adopted a set of operating principles to guide its work in promoting the sustainable development of natural resources, and it has complemented this by working with other government departments in Canada to develop a common set of principles which departments must respect in promoting sustainable development, including accountability, transparency, partnerships and consultation, integrated decision-making, ecosystem integrity, and shared responsibilities. These are being reduced to practical targets and projects for integrated resources management, starting at catchment level with the participation of the resources users.

In America, the concept of integration of resources management efforts is also a practical one, where laws are not necessarily streamlined, but where a central Environment Protection Authority safeguards the natural environment by strategy development, running of environmental protection programmes and auditing of environmental protection, which is undertaken through public participation. It works closely with other federal agencies, state and local governments and native tribes to develop and enforce regulations under existing environmental laws (U.S. EPA web page). This form of streamlining is a combination of co-ordination (of laws) and integration (of regulations).

The ground-level implementation of integration of environmental management is also used in many Latin-American states, such as Chile, Mexico, Brazil and Argentina, where catchment management systems have been established and tested (Biswas A K and Totajada C).

2.3 Australia and New Zealand

TOWARDS INTEGRATED RESOURCES MANAGEMENT

In New Zealand, the attempt to integrate resources management is relatively young, and goes hand-in-hand with the decentralization of resources management functions to the catchment level, where cross-sectoral interest groups are brought together on community levels, to build common ground as the basis for resources management efforts.

This bottom-up approach is the initial basis for eventual integration of laws, where what is called the "snowball-technique" is used to gather stakeholders in sub-catchments in "kitchen workshops", to encourage participation and mutual strategy-formulation to pursue the achievement of targets for environmental conservation. Once this co-operation of stakeholders has been achieved, the attempt can proceed to the formulation of catchment strategies, which will be the fore-runners of eventual legislation and policies (Landcare Research web page).

This horizontal cooperation is also complemented by vertical cooperation, where capacity is built within management institutions and agencies in order to support improved participatory processes among their own staff as well as among the different community stakeholder groups.

The principle beyond this social "learning by doing" or "adaptive management" approach in New Zealand is that "all social development activities must be seen primarily as experiments and dealt with as complex and uncertain ventures in which the participation of those who are expected to benefit is essential" (Allen W). It is argued that this learning process will eventually facilitate policy-making and legislation (Massey University Natural Resources Management Programme web page).

In Australia, the bottom-up and top-down approaches encountered so far are both used in the attempt to integrate resources management, although the bottom-up approach of participative experimentation on regional (sub-catchment) level dominates.

Integrated environmental management is defined as "a holistic natural resources management system comprising interrelated elements of land and water in a river basin, managed on an ecological and economic basis. The system favors the integration of environmental policy across government, community and industry sectors through partnerships and extensive stakeholder inclusion" (The Australian Water Association (AWA) Annual Report 2002).

In general, the concept of integration in the Australian environmental context refers to co-ordination of the management of land and water resources with the objective of controlling or conserving natural resources, ensuring biodiversity, minimizing land and water degradation and achieving specified and agreed land and water management and social objectives (Hooper B P).

Integrated catchment management is described by Hooper as:

The thrust of [integrated catchment management] is coordinated land and water resources and environmental management amongst often competing jurisdictions. The catchment is frequently the locus of management, but other jurisdictions are sometimes used, such as bioregions or cultural or economic regions. Various names are used (Total Catchment Management, Integrated Catchment Management, the Watershed Approach, Ecosystem Management) but they all share common elements - engaging stakeholders through a partnership approach, coordinating action

TOWARDS INTEGRATED RESOURCES MANAGEMENT

across jurisdictions, systems thinking, and using a balanced approach to weigh concerns for sustainability against development. The integrated approach differs from a comprehensive approach. The integrated approach directs attention to key issues and variables, and the linkages among key issues and variables, rather than being inclusive of all issues and variables (Hooper Bruce P).

In 1994, the Council of Australian Governments (COAG) established a strategic framework for sustainable use and integrated water management approaches, while the national government agency Environment Australia audits environmental management and produces State of the Environment Reports.

In the Australian federal states, environmental laws regulate the establishment of institutions towards integration of management systems, which are usually a three-tier structure: ground-level participatory bodies in sub-catchments, regional catchment management committees, and government coordinating committees (The New South Wales Catchment Management Act 235 of 1989 (soon to be replaced by the Catchment Management Authorities Act 104 of 2003); Victoria Catchment and Land Protection (Amendment) Act 39 of 1998).

From the above investigation, it is clear that although both the terms integration and co-ordination are used in other countries' systems, there has been little attempt to define or distinguish these terms. Often the concept of integration is used in the principles and objectives of laws, while the provisions for management tools and institutions pursue little more than co-ordination of the management systems of the different departments regulating resources. The establishment of united institutions and management tools to attain the objectives of a united set of principles remains a mere ideal which is referred to in strategies and policies. At ground-level, however, the concept of integration is gaining acceptance and understanding, where, in Canada, the USA, Australia and New Zealand, sub-regional stakeholder bodies are formed to pursue conservation targets for their mutual benefit.

Integration at policy- and legislative governance levels seems therefore to be in the very initial stages of development, while the co-ordination of legal principles, management tools and the functions of institutional structures are addressed as a first step towards eventual integration. In the meanwhile, some governments are placing emphasis on practical bottom-up integration of stakeholder participation in resources management, even prior to legislative streamlining of resources management.

Internationally, the combined approach appears to be followed as the path towards effective IRM.

In South Africa, environmental policy does not as yet recognize this combined co-ordination and integration need, and much emphasis is placed on governance streamlining and policy-making. Once regional projects are established to educate resource users to combine efforts and to take responsibility for resources conservation, law-making will probably also become ready to progress from coordinating management systems to integrating them.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

3 THE BASE CRITERIA FOR AN IRM SYSTEM

From an international review on the progress towards IRM, three base criteria for IRM emerge. These are discussed below.

3.1 Catchment Management

The management of water resources on a catchment basis has, in the last decade, become firmly vested in many legal systems. However, the catchment has not as yet become the legal basis for the management of other resources. This is complicated by conflicting units of management used for other resources: in South Africa, attempts are made to manage many natural resources on a regional or provincial basis, where social patterns or political demarcation prescribe management units.

Abroad, the concept of the catchment as the basis for resources management is accepted in laws and practice to varying degrees:

- Environmental laws and policies in Swaziland do not refer to catchments, and management of the environment is done according to national restructuring. Management tools, institutions and applicable strategies apply to the entire country, and do not distinguish between the major basins or their sub-catchments. Water laws and policies, on the other hand, acknowledge the river basin as management unit, by making provision for the progressive establishment of five River Basin Authorities (RBA) to deal with regional management plans under the Master Water Resources Management Plan (The Swaziland Water Bill (referred to in par 2.1 of this chapter), Clause 33). The RBAs will have advisory, investigation, monitoring, arbitration and control functions, but not management functions with decision-making or authorization powers. They are user representative bodies with functions imposed by the Minister. The recognition of basins as management units is, however, merely for purposes of regional water administration, and not to facilitate the integration of resources management.
- In Canada, researchers recommend "a source protection system that includes a planning component on an ecologically meaningful scale - that is at the watershed level" (*Walkerton Inquiry Report Part II* by Justice D O'Connor). Management structures consist of conservation authorities acting to unite and link stakeholders in watersheds, while co-operative multi-stakeholder management teams in bigger catchments, and ecosystem initiatives based on community planning and decision-making in smaller catchments, represent stakeholders at ground level. This concept of devolving community-driven management to the sub-catchments level was derived from a government initiative to a sensitive coastal area in 1991, where an attempt was made to develop a blueprint for environmental restoration of certain resources (In 1991, faced with an urgent need to restore damaged coastal environments, Environment Canada initiated ACAP, the Atlantic Coastal Action Program, as a means of mobilizing local communities to address their own environmental and developmental challenges. While Environment Canada contributes to project funding, community stakeholders contribute most of the resources through volunteer labor, in-kind contributions, and financial support. A guide under the title "Sharing the

TOWARDS INTEGRATED RESOURCES MANAGEMENT

Challenge: A Guide for Community-Based Environmental Planning" was created on the web site <http://atlantic-web1.ns.ec.gc.ca/community/acap>, where experience in community-based environmental planning is shared). Small community groups, initially driven by government officials (who later withdrew and remained only as observers) were established to negotiate and develop a comprehensive environmental management plan.

- The American move towards managing natural resources on a catchment (watershed) basis commenced in the late 1980's, when watershed agreements were entered into as a solution for the problems relating to domestic water supply in urban areas. It was hoped that scaling down management to the catchment level would prevent contamination, protect public health, and save costs since this would emphasise the need for healthy functioning wetlands and aquatic ecosystems which could act as natural water filters. Although the practice of maintaining natural catchment systems for human benefit is still the order of the day, the concept of watershed management has not as yet been followed through to environmental management policy. The U.S. EPA, established in 1970, initially to rehabilitate damaged environmental elements, is currently an umbrella institution undertaking resource management and protection research in order to recommend and oversee improved integrated resources management. This authority operates at national level, but according to regions which are not necessarily related to, or based on, watersheds.
- In New Zealand, the Canadian ACAP example was imported to serve as the basis for a case study in the application of local catchment management practices; this is referred to as the Whaingaroa Catchment Management Project (WCMP) (Kilvington M). This project was initiated and originally driven in a top-down manner, where government input was gradually phased out to leave the responsibilities of implementing the catchment strategy to the stakeholders' steering group. Funding was obtained from the government's Sustainable Management Fund. The project is still in the implementation phase.
- In Australia, the COAG established a strategic framework in 1994 for sustainable use and integrated water management, based on the concept of catchment management. This was implemented through the practical commencement of the management of catchments. The largest of these projects is the management of the Murray-Darling basin, which affected five federal states and more than 200 local governments. These government departments manage the basin in agreement with numerous catchment bodies and community organizations (This can be compared with the EMCAs under NEMA). This is complemented by extensive research into the concept of basin management, as well as committed auditing, strategy-formulation and public participation.
- In New South Wales, the concept of Total Catchment Management is applied under the auspices of the Department of Land and Water Conservation, based on the principle that natural resources are closely linked and activities which affect one resource will impact on the other. This requires the department to take a coordinated approach which involves the consideration of decision-making impacting soil, water, vegetation and fauna, and taking into account their effect on the whole catchment. It is argued that the health of a catchment, being the area supplying surface water to a common watercourse, is influenced by everyone that

TOWARDS INTEGRATED RESOURCES MANAGEMENT

lives and works in it, and the aim to ensure the continued productive land, clean water and a diversity of vegetation and wildlife, is dependent on the co-ordination of community efforts within such a catchment. In this state, there are 18 Catchment Management Boards, which are user representative and assume various management functions.

- Current Australian research indicates "a need for sub-basin (river-basin) organizations to co-ordinate natural resources and environmental management. This will not be similar to regional government, but will involve organizations with cross-jurisdictional powers to co-ordinate state and local government activities and citizen efforts in natural resources management and environmental planning." Although these bodies are not yet created under law, this is strongly advised by researchers: "there is the opportunity for Commonwealth Government in Australia to establish mechanisms to create these regional river basin organizations at the sub-state level, to enact regional planning on a catchment basis". It is recommended that this will require formation and funding of these bodies in terms of law, leadership training, the establishment of institutes for training and catchment management research, and the establishment of information management systems.
- In the UK, the watershed is regarded as the appropriate spatial unit for the sustainable management of water (EU Framework Directive on Water (Directive 2000/60/EC), which includes a detailed classification system for water resources, based on ecological conditions). This requires understanding of the implications of integrating policies with respect to land use, point source pollution regulation, riverine and fisheries management and the consequences of trade-offs among production, environmental and social objectives. For this purpose, a research programme was established by the European Union, to facilitate strategy and policy-making towards management of these catchments for sustainability. The management of resources is not currently performed on this basis, but the concept has been officially accepted, and planning is now directed at decision-making on an integrated catchment basis.
- In South Africa, some examples of catchment initiatives do exist: in the Upper Crocodile River catchment in Mpumalanga, the water users in the sub-catchment above the Kwena dam have initiated a multi-sectoral water users association in order to attempt to co-ordinate activities, decision-making, projects and development regarding the natural resources in the sub-catchment. The rationale provided for positioning this initiative in terms of the water law institutional climate is that little other statutory provision is made for the establishment of user-initiated legitimate bodies which would be able to influence development.

3.2 Public participation

The concept of public participation, from a legal viewpoint, originates from the widely accepted principle of administrative justice: those affected by management must be allowed to be treated in a fair way, while receiving the opportunity to be heard. In South Africa, as in many other countries, this right to administrative justice is constitutionally protected, allowing for direct public involvement and the representation of public interest in the management process.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

In environmental management, this public right has been implemented in various forms where the scope of involvement ranges from incorporating members of the public into effective decision-making institutions; to allowing public consultation; to granting rights to object; to protecting whistle blowers.

Abroad, public participation in environmental management is viewed from another perspective: a bottom-up approach (where resource users actively and permanently become involved in management through the establishment of ground-level (community) stakeholder bodies which pursue practical environmental conservation targets that eventually lead to the development of management strategy and policy- and law-making) is combined with a top-down approach (where draft strategies, policies and laws are formulated by government and its consultants and then made available for public input).

The bottom-up public participation method of decision-making is generally regarded as problematic, consisting of "elaborate procedures which may result in irksome delays" (Burns Y): However, even the top-down approach, where public input is considered by giving opportunity to comment only, is described as "tiresome, especially when, broadly speaking, it is acting in what it considers to be the public interest" (Steyn J). Administrative decision-making can no longer be undertaken without some form of public participation.

In the previous discussion relating to the concept of integration, it can be seen that the concept is, in itself, integrated with the requirement of public participation. A prevailing view worldwide is that the integration of resources management systems cannot be achieved unless it is undertaken through an exercise of creating awareness within grassroots resources users of public responsibility for environmental management. This is seen to be effectively attainable by extensive public education and awareness programmes, as well as directive involvement in participative stakeholder organizations at the very lowest community level so as to practically let resources users teach themselves, and eventually also the law-makers and policy-developers, how to manage resources in a co-operative and integrated manner.

The extent to which members of the public are involved in environmental management differs from system to system, yet there is a move towards devolving management functions to the lowest levels, in order to involve stakeholders in planning, the formulation of strategies and undertaking projects to actively allow full-scale public participation. This is facilitated by initially allowing for external champions (drivers) and funding to initiate projects.

Public participation in the environmental management process, specifically, is statutorily catered for in many less extensive ways: in Swaziland's environmental law, provision is made for the rights of the public to have access to information on decision-making, public reviews, public hearings, notices of comment on licence applications, review, civil actions, prosecutions and orders, which are all different tools through which the public can become involved in the decision-making process.

Many sources through the legal review have produced the conclusion that public participation is a cornerstone for successful IRM. However, the analysis of the required and desired extent and form of public participation for IRM is a study in its own right.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

3.3 Institutionalizing

A third identified base criterion of IRM is the establishment of adequate institutional networks to undertake all the functions associated with such management.

The establishment of catchment authorities in isolation will probably not be successful, especially if these are decision-making or strategy-forming bodies constituted of purely sector concerned stakeholders, unless ample provision is made for supporting institutions which are statutorily connected, including monitoring and auditing bodies, information and research bodies, review and ADR mechanisms, utility bodies (administration, etc), strategy and policy bodies, etc.

What is therefore required is:

- a) A dynamic statutory system for IRM wherein the institutional development, functionality, and responsibility for the co-ordination and integration of available management tools and management institutions is provided for;
- b) Ongoing awareness raising, education and capacitation of the public;
- c) The establishment of stakeholder fora which are aimed at evolving into appropriate institutions within the statutory system mentioned in a) above.

4 CONCLUSION

From the above exploration of a minimum criteria basis for effective IRM, the following relevant considerations emerge:

- a) The objective of sustainability
- b) Initial co-ordination and eventual integration of management principles, tools and bodies
- c) The desirability and effectiveness of the catchment as the unit of management
- d) Public participation
- e) Institutional restructuring

Sustainability, as an objective, is indisputable; and the co-ordination versus (or combined with) integration debate will require much more in depth analysis (which analysis does not fall within the scope of this report but was highlighted and discussed briefly as an identified salient issue for ongoing study). As such, the three criteria that have received prioritized focus as the base criteria for effective IRM are the last three listed above.

To determine how far the South African resources management system has progressed on the path towards IRM, such system will be evaluated in light of the three base criteria. This evaluation is discussed in Chapter IV below.

CHAPTER IV

HOW THE EXISTING RESOURCES MANAGEMENT SYSTEMS MEASURE UP TO THE BASE CRITERIA OF IRM

1 INTRODUCTION

The existing progress towards sustainable IRM has not only practical considerations; it also finds definition based on theoretical and philosophical considerations. For purposes of this study, an examination of the practical issues will be undertaken by measuring progress against the recognized norms and standards of sustainable environmental management.

In this chapter, the existing South African resources management systems will be measured against the fundamental principles for IRM which were identified in the preceding chapter as sustainability, integration versus co-ordination, catchments as management units, public participation and institutional restructuring. The outcomes of the evaluation will be discussed through the use of practical examples, where relevant.

2 EVALUATION OF EXISTING SYSTEMS

2.1 Resources Management Principles

2.1.1 Sustainability

The Constitution as the supreme law in South Africa, together with NEMA as the primary environmental management law, contains an integrated set of binding principles for resources management, with which all use and development decisions relating to environmental resources must comply. Other resources management laws contain sets of management principles relating to the specific resource which is the subject of the law.

The object of managing for sustainability is fundamental to the principles and objectives of the Constitution and NEMA, as well as the different laws which have been reviewed. Each law, however, centers its principles around the sustainable management of the resource upon which that Act is based, and not necessarily around the concept in its wider definition, which necessarily requires integration for all-encompassing sustainability of all natural resources management. By illustration, sustainable forest management is therefore a concept removed from sustainable management of living marine or water or agricultural resources.

Accordingly, the concept of sustainability in its wider meaning should be incorporated into the objectives and principles of all legislation relating to resources management, before progress can be made towards the integration of these systems.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

2.1.2 Integration

The constitutional principle of ecologically sustainable environmental management, read with the principles of NEMA wherein the inter-relatedness of environmental elements is emphasized, calls for the integration of resources management systems. This is specifically required under section 2(4)(b) of NEMA: "environmental management must be integrated." Integration is, however, not defined, and it is not sure whether this use of the term "integrated" is aimed at integration in its broader definition, or whether it is intended to be restricted to the co-ordination of functions.

Reference to the concept of integration is found only twice in the NWA, viz. first in the preamble, where the need for the integrated management of all aspects of water resources is recognized, and secondly in section 6, where it is required that catchments must be managed in an integrated manner. The term is not defined, and no criteria for integration are prescribed (DWAF/WRC *The Philosophy and Practice of Integrated Catchment Management: Implications for water resource management in South Africa* WRC Report No TT 81/96 2002).

Land use and development principles require the promotion of coordinated environmental planning and the utilization of resources. There is no reference to integration.

The only other law which refers, in its principles, to integration, is the MPRDA, requiring that all mining operations must be conducted in accordance with the generally accepted principles of sustainable development by integrating social, economic and environmental factors into the planning and implementation of projects, to ensure that the exploitation of mineral resources serves present and future generations. It is significant that this requirement is not aimed at a process of integrating laws, but rather at integrating certain considerations into decision-making.

2.1.3 Catchment Management

The concept of catchment management is not included in the principles of any of the acts under review, save for the NWA. This Act is, however, does not expand on the concept so as to give it definition and application towards IRM initiatives.

On the other hand, it is provided that the NWRS "must, inter alia, promote the management of catchments within a water management area in a holistic and integrated manner" (NWA s6(1)(l)). The Minister is further obliged to "promote the management of water resources at the catchment management level by assigning powers and duties to catchment management agencies (NWA s73(4))".

2.1.4 Public participation

The concept of public participation is also fundamental to the principles and objectives of the resources management laws, although the extent and nature of public participation required is not defined legislatively. While the Constitution provides for the right of the public to access to information and to just administrative action, it does not grant a right to any person to participate in decision-making or in the processes of the management of resources.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

NEMA provides that the participation of all interested and affected parties in environmental governance must be promoted, and that all people must have an opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, while participation by vulnerable and disadvantaged persons must be ensured (NEMA s2(4)(f)).

The EMCA (Environmental Management Co-operation Agreement) mechanism provided for in the NEMA, is therefore the key to public participation, in that it is a practical tool to establish ground-level system for co-operation between the government and society (the definition of 'society' in NEMA includes water users, industry, affected parties, interest groups, etc) to effect integration of water resources management.

The NWA requires, inter alia, in the attempt to ensure that the water resources management goals are achieved, that "suitable institutions be established which have appropriate community, racial and gender representation (NWA s2). The NWRS must further contain objectives for the establishment of these bodies, as well as for the inter-relationships between them.

Besides the practical participation in decision-making, by accommodating the stakeholders in water management institutions, the 'notice-for-comment-approach' is also used in water law for strategy development, involving the public in the law-making process as well. This double (top-down and bottom-up) approach is progressive and reflects serious public participation attempts.

Land development laws make ample provision for involving the public in decision-making, which unfolds in the tools and institutions of the applicable laws. On the other hand, LDOs may be formulated without any duty to consult the public.

Statutory minerals management principles refer to "an increased public involvement to ensure proactive and informed decision-making". However, the new Act does not specifically require public participation.

The MLRA includes in its principles and objectives the need for "broad and accountable participation in the decision-making processes provided for in the Act" (MLRA s 2(h).

In view of the above, it is submitted that legislative principles endorsing or pursuing the norms or criteria of IRM, namely:

- a) sustainable resources management;
- b) the integration of management systems by coordinating functions, integrating environmental considerations into decision-making, and eventually fully integrating the decision-making system;
- c) catchment management;
- d) public participation in decision-making;
- e) institutional restructuring;

TOWARDS INTEGRATED RESOURCES MANAGEMENT

are scattered through resources laws to varying degrees of effectiveness. The concept of sustainability is generally referred to in these sets of principles. The concept of integration, however, is nowhere defined and the term is loosely used in some of the laws' principles and objectives, often referring to co-operation or co-ordination rather than to integration in its pure meaning. The concept of catchment management is under-developed and exists, comprehensively, in water law only; the concept of public participation scattered through the laws with little effort to demarcate its application, leaving the degree and manner of such participation to the discretion of the strategy-formulating authorities in respect of each of the acts; and finally institutional reform objectives is seldom contained in the principles that provide clarity as to such objectives.

2.2 Management Tools

Although various management tools from the range which was discussed above, are provided for by the different laws, each aiming to achieve optimal management of the resource in question, the SA Constitution (Chapter 3) and NEMA (section 2(4)) prescribe intergovernmental co-ordination and harmonization of, inter alia, "actions" relating to the environment, including:

- a) Public participation (especially by women and youth) in governance (NEMA s2(4)(f), (q));
- b) Training, education, empowerment and capacity-building (NEMA s2(4)(f), (h));
- c) Consultation of interested and affected parties in order to take all interests, needs and values into account when decisions are made (NEMA s2(4)(g));
- d) Social, economic and environmental impact evaluation of all activities (NEMA s2(4)(i));
- e) Alternative dispute resolution procedures (NEMA s2(4)(m));
- f) User responsibility for environmental health and safety consequences of activities, must be monitored (NEMA s2(4)(e));
- g) User responsibility for the prevention, controlling and minimizing of pollution, environmental damage or adverse health effects through the polluter pays principle (NEMA s2(4)(o));
- h) Special measures for the protection and conservation of stressed areas (NEMA s 2(4)(r)).

The effect of this is that each resources law should make provision for these mechanisms (including auditing, questioning and education tools) to be incorporated in its management process. Once this is achieved, streamlining and co-ordination of functions become possible on a 'level playing field' basis.

Minimum management tools have been prescribed by NEMA. The challenge, however, is that provision for these tools in other laws have not been made due to the relative immaturity of our new environmental management system.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

A further significant reason for the lack of sufficient management tools, is the lack of sufficient management institutions to implement the resources management objectives through the use of these tools. Substantial institutional capacity is currently used to comply with the EIP and EMP requirements, and the process to institutionalize will possibly follow. Because the tools required in section 2(4) of NEMA necessitate expansive institutional restructuring to comply, and because it is further required that decision-making must accommodate public participation, these objectives will take time for realization.

Although many management tools are amply provided for in the different resources laws, including framework-, advisory-, management-, auditing-, judicial- and educational tools, many of these are retained at government level, ie. they are rarely localised. The statutory availability of the tools is therefore not the issue, but rather the fact that these tools are of little practical value for IRM until they are integrated into a statutory IRM system, to become utilisable by those who are tasked to implement the principles and objectives of the Acts.

The NWA has taken the lead in this regard, where tools and institutions are fairly linked, by making provision for the devolving of these tools to the lowest appropriate level institutional capacity exists.

The point of departure towards IRM is allowing for adequate institutional structures to undertake the resources management functions to achieve the objectives of the laws, by making use of the available tools, through assignment.

In view hereof, the institutional restructuring of resources management laws will be evaluated.

2.3 Institutional Structures

2.3.1 *The need to institutionalize*

The management of resources through government departments only, without the establishment of statutory institutional structures where members of the public who are interested and affected may participate in decision-making in an equitable and effective manner, is difficult to justify.

Institutional restructuring, not only to distribute the tools to ease the heavy administrative burden of auditing, managing, advising, researching, education, coordinating, building capacity, developing policy and formulating strategy, but to allow members of the public who are interested in or affected by administrative decisions, to contribute in an active way, is essential for IRM.

2.3.2 *Institutionalizing under the resources laws*

Environmental Resources

2.3.2.1.1. *Committee for Environmental Coordination (CEC)*

It was said above that NEMA focuses on advisory and control bodies. The CEC is the most important institution under NEMA, with the function to promote the integration and co-ordination of

TOWARDS INTEGRATED RESOURCES MANAGEMENT

environmental management functions. To achieve this, it uses information and advisory tools. It can be said to be an advisory and strategy body as well as a coordinating institution. It consists of government officials, and although it may co-opt persons to assist in carrying out its functions and appoint sub-committees on an *ad hoc* basis, no provision is made for public participation in the use of its management tools.

No provision is made in the Act for other institutional restructuring. The tools for which the Act makes provision, being the environmental assessment process which consists of the IEM and EMP/EIP, allow other resources management departments to institutionalize these for purposes of the implementation of their EIA processes.

The CEC may, however, investigate and recommend the establishment of provincial mechanisms for providing a single point for the receipt of licensing applications where more than one department's authorization is required. This could be a utility body established in terms of law, or a consultant with contractual administrative powers, or a permanent administration office. This will not be a management body, as provision is not made for the assignment of authorization powers to this institution (NEMA s7(3)(c)).

The CEC may also investigate and recommend procedures for the coordinated consideration of applications where the authorization of more than one authority is required. No provision is, however, made for recommendations as to the establishment of bodies to undertake this task of combined decision-making (NEMA s7(3)(c)).

It is significant that the functions of the CEC are focused on co-ordination of decisions and co-operative governance, and not necessarily on the integration of management systems. The only function which, in its practical application, is aimed at the integration of systems, is in section 7(3)(e), where the CEC is required to make recommendations at securing compliance with the principles of NEMA, as well as with the national norms and standards referred to in section 146(2)(b)(i) of the Constitution. These norms and standards must be laid down by legislation to effectively deal with a matter which requires uniformity across the nation.

It may therefore be submitted that the CEC is empowered to investigate and make recommendations on the integration of environmental management systems, but that it is not empowered to implement any integration measures.

2.3.2.1.2. *National Environmental Advisory Forum (NEAF)*

The purpose of the NEAF is to form objectives, to advise, to investigate, to promote public participation, and to inform the Minister of stakeholder views.

2.3.2.1.3. *Alternative Dispute Resolution (ADR)*

The ADR measures under Chapter 4 of NEMA do not make provision for the establishment of structures to undertake conciliation, facilitation and arbitration functions. These management tools are implemented by appointing experts in these fields on contractual basis.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

2.3.2.1.4. *International Environmental Instruments (IEI)*

Decision-making regarding the incorporation of IEIs is done by the Minister, and no provision is made to have this assigned, delegated or out-sourced to capacitated institutions.

2.3.2.1.5. *Environmental Management Cooperation Agreements (EMCA)*

The provision for the conclusion of EMCAs may be regarded as providing an opportunity for the establishment of institutions to pursue these objectives. It was seen above that this mechanism for effecting environmental management goals is used frequently in other countries, providing opportunity for users and government to share responsibilities for achieving policy goals. These bodies mostly set targets for integrated or coordinated environment conservation, and lodge projects to achieve the goals thereof. They can also act as utility bodies to undertake certain functions on ground-level, such as the recovery of charges and penalties, monitoring, information gathering, data-bases, registration of uses, etc.

Conclusion

It is seen here that NEMA, although its principles and objectives require both integration and co-ordination (which concepts are not defined), mainly focuses on co-ordination, and not on integration. But because its principles call for more than co-ordination, and in fact for effective integration, there is a burden on the Minister to make the necessary arrangements, on advice from the CEC, to integrate resources management systems. In order to do this, the necessary tools and institutions should be provided by law.

Water Resources

The water resources management system is the single system which can be distinguished for its extensive institutionalizing, especially as far as it is done to achieve public participation in water resources management. Although the principles and tools of the NWA do not extend to other resources management systems, and the aim is to use and develop only water resources for sustainability, the provisions for the establishment of management bodies are of such an extent that the possibilities for integration of other resources management systems are not necessarily excluded.

The Act makes provision for management bodies, advisory bodies, policy-making and strategy bodies, judicial bodies, utility bodies, education bodies and monitoring and information systems.

The Minister is advised in his actions by a National Water Advisory Committee (which is the transformed National Water Advisory Council), which is the major advisory committee established so far (although provision is made for the establishment of advisory committees for various purposes). The Act is not prescriptive as to the membership of these committees, and the Minister has the discretion to make regulations in respect thereof, and make the appointments.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

Water resources management will ideally, in terms of the principles, be implemented on a catchment level. As soon as desirability and capacity at this level is established, the Minister will assign the functions of responsible authorities to CMAs, which are bodies established in respect of each declared water management area.

An independent Water Tribunal, as well as ADR processes, is available in terms of the Act, in order to review administrative decisions by responsible authorities. Although these are also advanced bodies and processes in view of modern international views on effective administration, there might be room for the establishment of an ombudsman or public protector to watch over water management. Currently, the CEC in terms of NEMA is the only institution which is empowered to watch over the functions of the water institutions, to control environmentally sound decision-making in line with the EMP and EIP. Consideration should be given to internal auditing mechanisms and institutions similar to the EMP in terms of mining laws.

The ongoing development of internal strategies is undertaken and continuously reviewed by the Minister, as well as the CMAs. Although the development of the NWRS is undertaken by the department, use is made of consultants to promote public participation in the development thereof, to ensure that stakeholders' views are considered.

On ground level, the Act makes provision for utility bodies, including the provincial DWAF offices and the water user associations. It is envisaged that these institutions will the information and monitoring functions on ground level. They will also act as contractual recovery institutions for water use charges, and to implement control measures (water measuring and policing) at water user level.

Important non-statutory progress in the institutional development of the water law, is the establishment of catchment fora, of which almost 70 have already been established country-wide, and which stakeholders may join within their sub-catchments, to pursue water-related targets. These community-based bodies may well be one of the most innovative steps which have been taken to implement the principles of public participation and catchment management and institutionalization. They are, however, not yet aimed at crossing the departmental boundaries to act as multi-resources stakeholder fora.

The function of policy-making vests in the Minister, who will use advisory committees to develop policy.

From an IRM perspective, the institutional arrangements in terms of the NWA are progressive, not only in terms of the system of management on a catchment basis, but the strategic placing of the types of institutions.

Land use and development

The institutions under the land use and development laws are sophisticated from an IRM perspective, in that the DFA caters for both public participation (in the development appeals tribunals) as well as the assignment of authoritative powers to lower-level authorities.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

It is not certain whether the administrative tribunals, whose decisions are reviewable by the independent appeals tribunals and to whom mediation as ADR is available prior to decision-making, will function effectively in view of the lack of provision for capacity-building prior to the assumption of decision-making functions, as well as a lack of supporting organizations. Several such administrative tribunals have already been established.

The management units for the functioning of these tribunals are based on political boundaries, and not related to natural resource boundaries. In view of the far-reaching multi-resource oriented objectives of land use management, there may be a need to redress the issue of boundary determination.

Agricultural, forest and fish resources

Conservation Committees under the Agricultural Resources Act function within areas determined for them. They are representative of user interests, and have not only investigatory and advisory powers, but can also receive assigned decision-making powers. The optimal use of these representative, low-level management bodies should be considered: they are well positioned, yet they lack institutional and strategic support.

The forest and fishing management systems have restricted institutional restructuring, where ad hoc advisory bodies are the only structures under the respective ministries, which are representative of relevant interests and which bind stakeholder needs with decision-making.

Although indigenous forests are strongly related to and dependent from other natural resources such as water, soil, and wildlife, the management thereof has not been integrated in any way.

Minerals

The current system for minerals management is centralized, and the new system in the new Act bill makes provision for the establishment of various levels of advisory bodies. Management is, however, not delegated or assigned.

Heritage Resources

Functions of advising, coordinating, strategy-development, monitoring, investigation and control are all vested in SAHRA, yet no provision is made for more extensive institutional restructuring.

The probable reason is the need to manage the national estate centrally due to its often social and politically sensitive national conservation value. However, the control or protection of the estate will not necessarily be lost when aspects of management is assigned, delegated, or outsourced. This will facilitate IRM.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

3. CONCLUSIONS

It was concluded in Chapter II above that no clear system which shows progress towards IRM can be deduced from the laws which have been reviewed, although progress towards the *co-ordination* of resources management systems can be seen.

In this chapter, an attempt was made to evaluate the various systems against the base criteria for IRM, and the following conclusions can be drawn:

- a) In the principles and objectives of the laws under reviewed, IRM principles can be traced, but not in a coordinated way, and with various degrees of efficiency: while the concept of sustainable development seems to have been well incorporated into the fundamental principles of these laws, the principle of integration of decision-making systems is inadequate, as are the principles of public participation in decision-making and especially the concept of catchment management.
- b) In the provision of management tools for resources management, various state-of-the-art mechanisms have been incorporated into the laws, yet in an uncoordinated manner, which complicates the effective use of these tools to attain the purpose of sustainable resources management.
- c) While NEMA prescribes the management tools which should be provided for in resources laws, many of the other (even recently renewed) laws still use only some of these, which negates the optimal effect thereof. Others have made many of these tools available, yet have not provided for the necessary networks of institutional structures to effectively implement these tools through public participation. It is submitted that the optimal use of management mechanisms, and especially the integration of the use of these tools, is largely dependent on proper institutionalizing.

Although the South African resources management system is therefore probably ready for IRM as far as the sophistication of the design of its management principles and tools is concerned, the statutory provision for the establishment of institutional structures designed for integration and the assumption of integrated functions, is not as yet in place.

TOWARDS INTEGRATED RESOURCES MANAGEMENT

CLOSE

South Africa is considered to be one of the countries which lead strategic developments in environmental law. However, there is still a long road ahead to IRM. This is because the current statutory environmental management system requires the *integration* of environmental management systems, yet it is structured to find application more along the lines of *coordinated* environmental governance, which is a critical step, but only the beginning of true integration.

The cornerstones of IRM for sustainability, include integration by the dovetailing of management principles, tools and institutional structures, catchment-based resources management, public participation and optimal institutionalizing.

South African water law has been found to be the most progressive management system to serve as the basis for IRM. The resource management principles, the range of management tools and the extensive provision for institutional restructuring largely comply with the majority of the recommended criteria for achieving IRM.

The practical and legal challenges of true integration should be evaluated against our socio-political conditions, in order to decide to what extent we, as a society are ready for participation in IRM, in a manner that combines a top-down approach with a significant stakeholder driven bottom-up approach.

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