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| 249 | National Environmental Management Act (107/1998): Environmental implementation plans and environmental management plans under section 15 (1) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) | 3 | 22022 |
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GENERAL NOTICE

NOTICE 249 OF 2001

NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998)

ENVIRONMENTAL IMPLEMENTATION PLANS AND ENVIRONMENTAL MANAGEMENT PLANS UNDER SECTION 15 (1) OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998)

I, Mosiuoa Lekota, Minister of Defence, in terms of section 15 (1) and Schedule 2 of the National Environmental Management Act, 1998 (Act No. 107 of 1998), hereby promulgate the First Edition Environmental Implementation Plan for Defence.

DEPARTMENT OF DEFENCE



FIRST EDITION

ENVIRONMENTAL IMPLEMENTATION PLAN



September 2000

FIRST EDITION
ENVIRONMENTAL IMPLEMENTATION PLAN FOR DEFENCE

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GLOSSARY

Base Environmental Management means the management of the built-up and urban environment including the interaction between man and surrounding environment. This includes waste management and pollution control.

Cultural Resource Management means the management and conservation of cultural resources, including archaeological finds, graves, historical buildings and other structures on military properties.

Ecological Management means the management of the natural environment including the interaction between plants, animals, humans, their actions (military activities) and other elements in their natural environment.

Environmental Education means making all members of the Department of Defence aware of their environmental responsibility.

Environmental Planning means the process of integrating environmental considerations into the planning and execution of military activities.

Environmental Research means the monitoring and observing of the environmental impacts of military activities so as to develop scientific guidelines for environmental planning and ecological management.

Environmental Training means a formal, structured process, which aims at enabling and empowering all members of the Department of Defence to execute military activities within the parameters of Defence policy, national and international environmental legislation, as well as in an environmentally sustainable and responsible manner.

Policy means a general course of action or proposed overall direction that is being pursued and which guides continuous decision-making.

Plan means a purposeful, projected strategy or design, often with co-ordinated priorities, options and measures that elaborate and implement policy.

Programme means a coherent, organised agenda or schedule of commitments, proposal instruments and/or activities that elaborate and implement policy.

Sustainable Development means 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.

LIST OF ACRONYMS

ARMSCOR	-	Armaments Corporation of South Africa
ATNS	-	Air Traffic and Navigation Service
BNC	-	Bi-National Commission
CARCOM	-	Civil Aviation Regulation Committee
CCMS	-	Committee on the Challenges of a Modern Society
CEC	-	Committee for Environmental Co-ordination
CFC	-	Chlorofluorocarbons
DEA&T	-	Department of Environmental Affairs and Tourism
DME	-	Department of Minerals and Energy
DOD	-	Department of Defence
DPW	-	Department of Public Works
DWAF	-	Department of Water Affairs and Forestry
EE&T	-	Environmental Education and Training
EIA	-	Environmental Impact Assessment
EIP	-	Environmental Implementation Plan
EMS	-	Environmental Management System
ERF	-	Environmental Review Forum
ESWG	-	Environmental Security Working Group
EWT	-	Endangered Wildlife Trust
GSB	-	General Support Base
IMO	-	International Maritime Organisation
ITAM	-	Integrated Training Area Management
LOAC	-	Law on Armed Conflict
MIEM	-	Military Integrated Environmental Management
NATO	-	North Atlantic Treaty Organisation
NEMA	-	National Environmental Management Act 107 of 1998
NGO	-	Non-governmental Organisation
NQF	-	National Qualifications Framework
OAG	-	Office of the Auditor-General
PDSC	-	Plenary Defence Staff Council
RDP	-	Reconstruction and Development Programme
RFIM	-	Regional Facilities Interface Manager
SAAF	-	South African Air Force
SAASCo	-	South African Aviation Safety Council
SABS	-	South African Bureau of Standards
SACAA	-	South African Civil Aviation Authority
SAMOAC	-	South African Manual for Outdoor Advertising Control
SAN	-	South African Navy
SANAE	-	South African National Antarctic Expedition
SANAP	-	South African National Antarctic Programme
SANDF	-	South African National Defence Force
SAPS	-	South African Police Service
SAQA	-	South African Qualifications Association
SD	-	Strategic Direction
SEWing Group	-	Strategic Environmental Working Group
SOFA	-	Status of Forces Agreement
UNCED	-	United Nations Conference on Environment and Development

EXECUTIVE SUMMARY

1. **Priorities:** Does the EIP prioritise policies, plans and programmes that may significantly affect the environment? The mandate and functions of the DOD are stated in chapter 1 as sourced from the White Paper on Defence and the Defence Review. This mandate and associated functions as encountered in the Constitution are stated in addition. The specific references in the mandate that drive environmental responsibility in the DOD are also discussed. The role of ARMSCOR and its association with the DOD as well as its functions in terms of the environment are briefly discussed. Some indication is provided of the organisation in terms of the Environmental Services function responsible for planning, formulating policy, execution and monitoring of environmental management within the DOD.
2. **Policies, Plans & Programmes:** Does the EIP systematically show how priority policies, plans and programmes will comply with NEMA Principles (Section 2) and any national norms and standards (Section 146(2)(b)(i) of the Constitution)? This section should include reference to current problems and constraints to achieving compliance. In chapter 3 the measures and mechanisms instituted by the DOD are evaluated against each of the Section 2 Principles of NEMA. Where deficiencies were isolated in the process of evaluation, these were listed as capacity gaps and limitations in chapter 2 and accordingly translated into appropriate recommendations in chapter 4. All the policies, plans and programmes of the DOD were listed in chapter 3 and those that foster the most significant potential for environmental impacts were identified and condensed to conform to three of the primary systems within Defence i.e. prepare forces, support forces and employ forces. These policies, plans and programmes are discussed in the context of the associated system followed by a list of some of the potential environmental impacts specific to each system. Owing to the vast spectrum of potential environmental impacts encountered in the business of Defence, concepts such as Military Integrated Environmental Management (MIEM), Integrated Training Area Management (ITAM) and Facilities & Environmental Management Guidelines for the Operation Planning Process are cited as the collective measures and mechanisms employed to manage these impacts.
3. **Functions:** Does the EIP show how the Department's functions (statutory authorisations or permits) are exercised to comply with environmental laws and any national environmental norms and standards (Section 146(2)(b)(i) of the Constitution)? In chapter 2 the EIP issues an overview of the measures and mechanisms that are in place to address national and international statutory requirements in terms of the environment. Once more, any capacity gaps and limitations in this regard were listed in chapter 2 and accordingly translated into appropriate recommendations in chapter 4.
4. **Implementation:** Are actions to achieve compliance with the NEMA Principles, environmental laws and environmental standards under the Constitution, clearly described in terms of targets/outputs, time-frames, performance indicators and resources? A section has been included in chapter 1 to define the environmental management capacity of the DOD as an element of resources. All actions contained in the EIP however, have been incorporated to allow for execution within the four-year time frame in which the first edition EIP is valid. Although the EIP process is most opportune in terms of incorporating measures and mechanisms for environmental management at a critical phase of transformation of the DOD, the process of transformation simultaneously creates uncertainties in such aspects as environmental capacity on the ground and available budget in the longer term.

5. **Performance Monitoring: Does the EIP clearly show how performance will be monitored?** Indicators for measurement of compliance, implementation and performance are to be developed as part of implementation of the EIP to transpire from such mechanisms as costing, Environmental Management System targets and objectives and three levels of auditing (internal and external). All of these actions are strongly recommended in chapter 4.
6. **Co-operation: Does the EIP describe arrangements for co-operation with other national departments and spheres of government and specifically areas of co-operation - is it explicit? Are the co-operative governance mechanisms sufficient? Does the EIP describe the role of outside stakeholders and opportunities for participation?** Chapter 2 deals with the aspect of external and internal relationships instituted by the DOD to address co-operative governance for the environment. The major capacity gap and limitation listed in this regard stems from the absence of the DOD as a member department of the Committee for Environmental Co-ordination (CEC). This is listed as a recommendation to secure re-admittance of the DOD to the CEC. The relationship between the DOD and the provincial departments are discussed in some detail and reference is made to liaison with local government.
7. **Integrated Environmental Management: Does the EIP describe how the objectives of chapter 5 of NEMA are being promoted?** The concept of MIEM advocated in the Strategy and Functional Strategies for Military Integrated Environmental Management (1992) as discussed in chapter 1 already deals with the aspect of integrated environmental management. The EIP strongly re-inforces the objectives of this strategy throughout its content and translates these to the new force design and structure. The integration of environmental considerations in the process of decision-making is further secured in a recommendation that environmental responsibility be included in the management directives and performance agreements of all General Officers Commanding, Commanding Officers and Commanders in the DOD. The magnitude of such a recommendation demanded that in addition, the required capacity be developed within the organisation through accredited environmental education and training programmes in MIEM in order to empower commanders to exercise environmental responsibility.
8. **Commission for Sustainable Development: Does the EIP link with/include information from the annual national report on sustainable development to the UN CSD?** The link with Sustainable Development Indicators must be further developed preferably as part of the National Strategy in this regard. Sustainable Development and participation by DOD is however, mandated as one of the recommended actions in chapter 4.
9. **Does the EIP for Defence Comply with any relevant EIP or EMP?** Following the completion of the earliest draft EIP of Departments of Land Affairs, Housing and EMP of Minerals & Energy, the Regional Communication Forums of Minerals & Energy have since been incorporated in the EIP for Defence as part of chapter 2 (Institutional Arrangements) whereas no significant direct interactions between DOD and Land Affairs could be identified for purposes of the EIP for Defence. The relationship between the DOD and Land Affairs and the role of the Department of Public Works however, is expounded in chapter 2.

INTRODUCTION

1. The National Environmental Management Act (NEMA) No 107 of 1998, which was promulgated by the Minister of Environmental Affairs & Tourism in January 1999, issues instruction to scheduled organs of the state to develop Environmental Implementation Plans (EIP's) and Environmental Management Plans (EMP's). The purpose of these plans is to co-ordinate and harmonise environmental policies, plans, programmes and decisions of the various national departments, provincial and local spheres of government that exercise functions that effect the environment or are entrusted with powers and duties aimed at the achievement, promotion and protection of a sustainable environment. The Department of Defence (DOD) is amongst these scheduled national departments and was destined therefore, to comply with the stipulations of NEMA by preparing an EIP against the 31 August 2000 deadline.
2. A strategy toward producing an EIP for Defence was designed and ultimately approved by the Plenary Defence Staff Council (PDSC) on 8 November 1999. The PDSC was required to approve the proposed strategy for development of an EIP for Defence in terms firstly, of the establishment of a Strategic Environmental Working Group for Defence (SEWing Group), secondly of the nomination of at least one designated representative by each corporate division to serve at SEWing Group and thirdly, the proposed proceedings of SEWing Group that would culminate amongst others in the First Edition EIP for Defence. The strategy toward the development of an EIP for Defence was designed to demonstrate predetermined features that would facilitate the assimilation of NEMA into contemporary defence policy and in addition, secure future implementation of measures for environmental performance.
3. The primary product of the strategy i.e. the First Edition EIP for Defence, is to represent an instrument for the promotion of co-operative governance around environmental management. It takes the first steps in the quest to align environmental management between the DOD and other national departments as well as provincial government. The ultimate pursuit would be to secure protection of the environment within the context of the national objectives for sustainable development once the national strategy in this regard has been decided. Future iterations of the EIP though, is expected to be more focused on this issue.
4. The EIP for Defence assumes a strategic perspective. Recommendations therefore, are not aimed at single, specific or localised objectives for environmental management as it pertains to Defence as a national department. Each action advocated in the final chapter has indeed been intended to mandate at the onset of the implementation phase, the development and pursuit of several related objectives aimed at achieving the single aim encapsulated by respectively recommended actions. The primary motive sustained throughout the document is to address the implementation of measures and mechanisms of environmental management to *enable* sustained environmental performance in accordance with the provisions of NEMA. The issue of sustained environmental performance *per se* is addressed separately and is of greater consequence to the implementation phase rather than the process of mandating such action by which it is preceded in the First Edition EIP for Defence.
5. In preparing the EIP it was considered important to mainstream the actions advocated in the final plan by means of a systematic approach toward implementation in all sectors of Defence. The EIP itself promotes the establishment of an environmental management system (EMS) for Defence as an explicit action whereas the preceding strategy for preparing the EIP for the department already secures the foundations for such a system through decisive measures. By creating the basis for systematic implementation prior to finalising the plan itself, it was endeavoured to foster a medium, which would both facilitate and ensure perpetuated execution of the First Edition EIP for Defence.

CHAPTER 1: MANDATE AND FUNCTIONS

INTRODUCTION

1. This chapter describes the mandate of Department of Defence (DOD) and lists the core functions of the department. The priority functions, in terms of their effect on the environment, are identified and briefly described based on the DOD Level 1 Plan and the Medium Term Expenditure Framework for the department. A brief description on the general structure of the department as well as its mandate and structure with respect to environmental management is also provided.

DESCRIPTION OF MANDATE IN RESPECT OF CORE FUNCTIONS

2. The Constitution, Act 108 of 1996 (clause 200 to 204), the Defence Act 44 of 1957 as amended, the White Paper on Defence and the Defence Review mandate the DOD. These laws and policies both direct and guide the execution of the defence function of the DOD and the South African National Defence Force (SANDF). All departmental policies and plans are derived from and executed in accordance with such direction.

3. The primary object of the DOD is to defend and protect the Republic, its territorial integrity and its people in accordance with the Constitution and the principles of international law regulating the use of force.

Constitution of the Republic of South Africa, Act 108 of 1996

4. According to the Constitution:

- a. "The defence force is the only lawful military force in the Republic",
- b. "The defence force must be structured and managed as a disciplined military force",
- c. "The primary object of the defence force is to defend and protect the Republic, its territorial integrity and its people in accordance with the Constitution and the principles of international law regulating the use of force",
- d. "The President as head of the national executive is Commander-in-Chief of the defence force, and must appoint the Military Command of the force", and
- e. "Command of the Defence Force must be exercised in accordance with the directions of the Minister of Defence under the authority of the President".

Defence Act 44 of 1957, as amended

5. The Defence Act regulates and provides for the defence of the Republic, the powers and responsibilities of the Chief of the SANDF and the Secretary for Defence and for matters incidental thereto.

White Paper on Defence, 1996

6. The White Paper on Defence makes provision for:

- a. The overarching challenge of transforming defence policy and the armed forces in the context of the Constitution, national security policy, the Reconstruction and Development Programme (RDP), and international law on armed conflict.
- b. Civil-military relations, with reference to the constitutional provisions on defence, transparency and freedom of information, defence intelligence, the structure of the DOD, military professionalism, civic education, responsibilities of government towards the SANDF and the rights and duties of military personnel.

- c. The external and internal strategic environment and the importance of promoting regional security.
- d. The primary and secondary functions of the SANDF.
- e. Human resources issues, including integration, maintenance of an all-volunteer force, rationalisation and demobilisation, equal opportunity, affirmative action, non-discrimination and gender relations and defence labour relations.
- f. Budgetary considerations.
- g. Arms control and the defence industry.
- h. Land and environmental issues.

Defence Review, 1998

7. The Defence Review addresses the following issues:

- a. Options with respect to the size, roles and structure of the SANDF.
- b. Addresses the implications of the core force approach for the size, doctrine, posture, weaponry, equipment and other features of the SANDF.
- c. Addresses the strategic and technical implications of the constitutional provision that the SANDF shall be primarily defensive in the exercise or performance of its powers and functions.
- d. Deals with the implications of the principles of defence in a democracy for the orientation and posture of the SANDF.
- e. Presents detailed and well-motivated budgetary forecasts and proposals, specific policies regarding the provisioning of logistic resources and the identification of appropriate technology to optimise the cost-effectiveness of the core force.
- f. Deals with the size and structure of the Part-time Component.
- g. Includes an examination of prevailing conditions in the SANDF with the view to rationalise current spending, eliminating waste, unnecessary duplication and determining the most cost-effective means of managing human and material resources.
- h. Provides details on the rationalisation, redesign and right sizing of the SANDF given the absence of a foreseeable conventional military threat.
- i. Outlines a formula and guidelines for ensuring that the former statutory and non-statutory forces are equitably represented in the SANDF, in the context of demobilisation and rationalisation.

PRIORITISATION AND DESCRIPTION OF CORE FUNCTIONS

8. The primary function of the department is to defend South Africa against external military aggression, to protect the sovereignty and the territory and the people of South Africa in accordance with the Constitution as well as the principles of international law regulating the use of force, in order to secure an environment of peace and prosperity for all. In order to execute this task, the DOD requires a variety of resources including land to accommodate infrastructure, to test weaponry and to train personnel.

9. Due to the unique capability of the DOD, the Constitution and the White Paper on Defence in addition, provides for the employment of the department in a range of secondary functions and activities such as:

- a. Service in compliance with the international obligations of the Republic with regard to international bodies and other states such as Regional and International Peace Support Operations.
- b. Service in the preservation of life, health or property such as search and rescue operations, disaster relief and evacuation of South African citizens from areas of high-threat.
- c. Service in the provision or maintenance of essential services which have been temporarily disrupted and where the capacity of the relevant civil authorities is exceeded.
- d. Service in upholding law and order in the Republic in co-operation with the South African Police Service (SAPS) under circumstances set out in legislation where the SAPS is unable to maintain law and order on its own such as Border Protection and Control as well as operations in terms of the National Crime Prevention Strategy, including Area Protection.
- e. Service in support of any department of state for the purpose of socio-economic upliftment. Although the DOD is not mandated for socio-economic upliftment, the department may be instructed by the Government to contribute to such ends.

10. The core functions of the DOD all have some effect on the environment as it includes activities such as military training, the execution of military operations and exercises. The functions mentioned and discussed in this section are very broad and therefore the impacts are diverse and differ for each of these functions. The impact of military activities which have been identified as having an effect on the environment are however discussed in Chapter 3.

TRANSFORMATION

11. In the new South Africa, national security is no longer viewed as a predominantly military and police problem. It has been broadened to incorporate political, economic, social and environmental matters. At the heart of this new approach is a paramount concern with the security of people. This new approach to security does not imply an expanded role for the armed forces. The SANDF may be employed in a range of secondary roles as mentioned previously, but its primary and essential function is service in defence of South Africa.

12. The SANDF, therefore, remains an important security instrument of last resort but is no longer the dominant security institution. The responsibility for ensuring the security of South Africa's people is now shared by many departments of government and ultimately vests in Parliament. In the light of these democratic changes, the new strategic international, regional and domestic environments and the history of the armed forces in the country, the formulation of a new defence policy and the transformation of the DOD was necessitated.

13. The transformation of the DOD takes place against the broader backdrop of the transformation process in South Africa generally. This includes aspects such as:

- a. Civil-military relations including constitutional and legal transformation and mechanisms for oversight,
- b. Normative and cultural transformation, and
- c. Organisational restructuring.

STRUCTURE OF DEPARTMENT OF DEFENCE

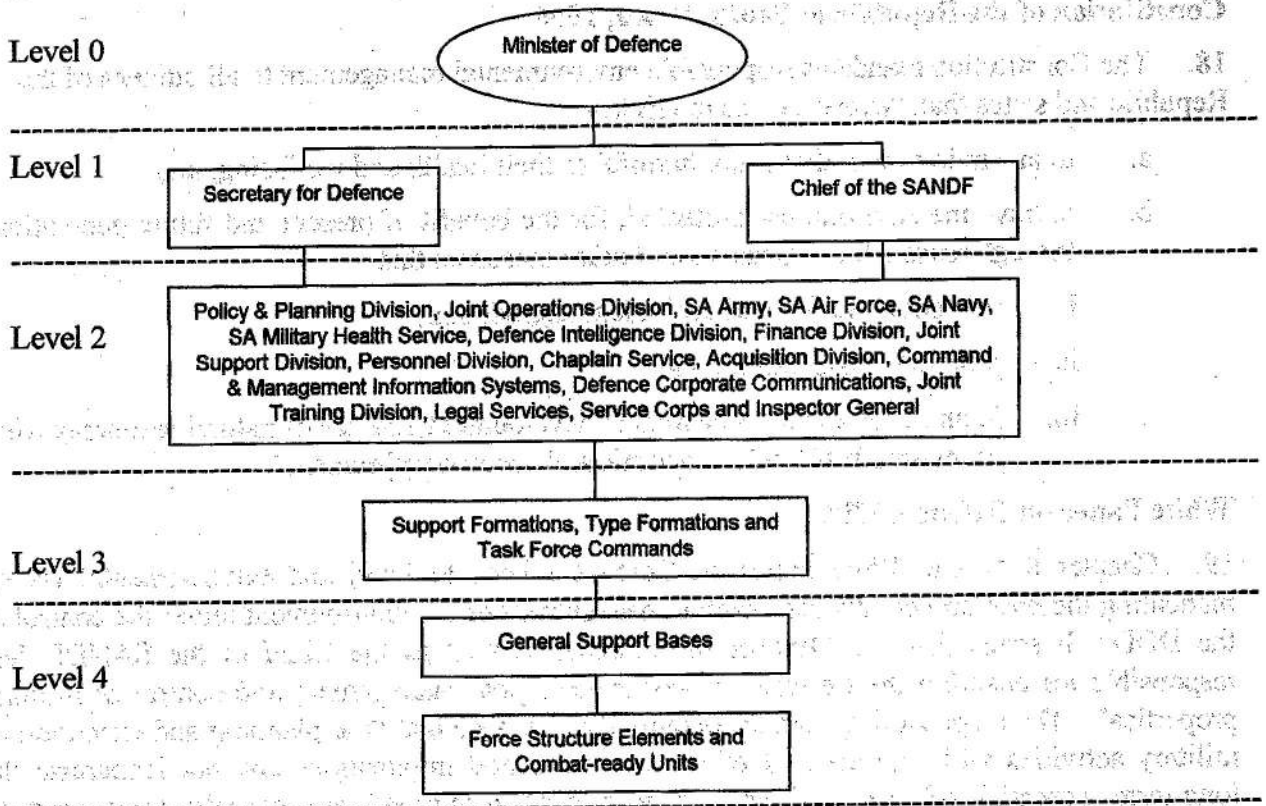


Figure 1: Structure of the DOD

14. The Constitution mandates the Minister of Defence to exercise control over and be accountable for the entire defence function (level 0). Government established civil control over the armed forces through the establishment of the Secretariat to support the Minister of Defence.

15. The DOD consists of a Defence Secretariat headed by the Secretary for Defence and the SANDF headed by the Chief of the SANDF (level 1). The Secretary exercises his functions and powers as Head of the Department and Accounting Officer with reference to the SANDF by providing C SANDF with comprehensive instructions for the issuing of orders and directives and the giving of commands. C SANDF is responsible for issuing such orders and commands and the giving of command, ensuring that such orders and commands are complied with, seeing to the execution of all budgetary programmes and supplying information and inputs with regard to the SANDF to the Secretary. Together the Secretary for Defence and C SANDF and their respective divisions (level 2) form the integrated head office.

16. The level 3 intermediate structures of the organisation consist of type formations responsible for the preparation and development of combat-ready units, support formations responsible for providing support to type formations and General Support Bases (GSB'S) and task forces responsible for the employment of combat-ready units. The DOD Logistic Support Formation has additional regional structures called the Regional Facilities Interface Management (RFIM) offices responsible for providing advice on and monitoring facilities and environmental matters in each of the nine regions. These offices are seated in Cape Town, Bloemfontein, Durban, Pretoria and Pietersburg.

17. The level 4 structures are the General Support Bases which provide support at unit level for units, force structure elements and satellite offices in a specific geographical location.

DESCRIPTION OF MANDATE IN RESPECT OF ENVIRONMENTAL MANAGEMENT**Constitution of the Republic of South Africa, 1996**

18. The Constitution mandates responsible environmental management to all citizens of the Republic and states that, "everyone has the right –
- a. to an environment that is not harmful to their health and wellbeing; and
 - b. to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that –
 - i. prevent pollution and ecological degradation;
 - ii. promote conservation; and
 - iii. secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development".

White Paper on Defence, 1996

19. Chapter 8 of the White Paper on Defence relates to Land and Environmental Issues, mandating the environmentally responsible management of the environment under the control of the DOD. It states that the Minister of Defence, as well as the Chief of the SANDF "are responsible for ensuring the exercise of proper ecological management and control of military properties". The responsibility and accountability to ensure that "the planning and execution of military activities will take account of the environmental implications and not jeopardise the long-term potential of the land and other natural resources" are directly transferred to Commanding Officers of military installations.

Defence Review, 1998

20. Chapter 12 of the Defence Review, 1998 on Land and Environment, addresses the environmentally responsible management of DOD controlled land in terms of clean-up of training areas, graves and burial sites, utilisation of external expertise, multiple use of facilities and disposal and closure of defence facilities.

Broad Strategy and Functional Strategies for Environmental Services in the SANDF, 1992

21. This broad strategy and functional strategies for Environmental Services Functional strategies on Environmental Planning, Environmental Research, Environmental Education & Training, Base Environmental Management, Ecological Management and Cultural Resource Management serves as the basis for the development and implementation of Environmental Services in the DOD. It was developed in 1992 to direct the environmental function in the DOD through the development of policies and capacities in terms of functional areas. Actions recommended have led to the development monitoring and compliance mechanisms.

POLICY FRAMEWORK

22. Defence policy on the environment is consistent with national policy and includes the following guidelines:
- a. the protection of species and habitats and the conservation of biodiversity and natural resources;
 - b. the protection of the environment against disturbance, deterioration, poisoning or destruction as a result of human activity and structures;
 - c. the maintenance and improvement of environments which contribute to the quality of life of South African citizens; and

- d. the provision of a healthy working environment for its personnel.

GUIDING PRINCIPLES FOR ENVIRONMENTAL MANAGEMENT

23. The DOD accepts the responsibility of stewardship for the environment under its control and within which it operates.
24. Land under military control is considered a National Asset. It is entrusted to the department by the nation and should therefore be used and managed wisely for as long as it is required for military purposes.
25. The handling of environmental matters should take place within the parameters of international, national and regional agreements, legislation and regulations, and should support national environmental objectives as well as the military mission.
26. The emphasis on environmental management should be on integrating environmental considerations into all military planning and activities, which could have an impact on the environment.
27. Every commanding officer is responsible to ensure that the activities, which take place under his/her control are carried out in an environmentally responsible manner.
28. Defence will have to accept responsibility for the environmental impacts of its activities over their entire life cycle.
29. Military utilisation of facilities should take place in such a way that the long-term suitability of these facilities for sustained military use as well as other use is not jeopardised.
30. Maximum use is to be made of external expertise.
31. All military properties are in principle considered as multiple-use conservation areas.
32. Although military properties are primarily used for military purposes, its utilisation for other compatible land-uses should be promoted.

ENVIRONMENTAL POLICY STATEMENT

33. The draft Corporate Environmental Policy Statement for Defence states that:

*The Department of Defence shall, in compliance with the
environmental obligations placed upon it by the Constitution,
national and international regulatory provisions
and within the constraints imposed from time to time
by nature of its business,*

*protect the environment through pro-active measures of
Military Integrated Environmental Management;*

accept responsibility for use of the environment entrusted to it;

*minimise the impacts of its operations on the environment
by means of a programme of continual improvement;*

*promote open communication on environmental issues to
all interested and affected parties;*

*train and motivate its members to regard environmental
considerations as an integral and vital element of their day-to-day activities*

MISSION OF ENVIRONMENTAL SERVICES

34. The mission of Environmental Services is to ensure the environmentally sustainable management of military activities and facilities.

STRUCTURE OF THE ENVIRONMENTAL SERVICES FUNCTION

35. The execution of the environmental function takes place at levels 2 to 4 of the department's organisational structure. At Joint Support Division (Directorate Facilities) on level 2, the sub-directorate Environmental Services consists of four dedicated environmental posts responsible for the overall management of the environmental function as well as developing, formulating and promulgating environmental policies, procedures and guidelines.

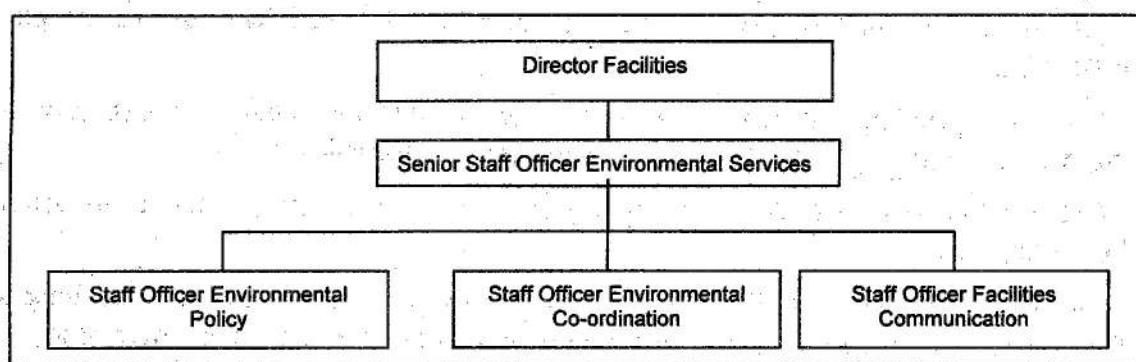


Figure 2: Structure of the Environmental Sub-directorate at Joint Support Division

36. At the DOD Logistic Support Formation on level 3, a section Specialist Environmental Services consists of 9 specialist posts namely:

- a. General Specialist Environmental Services,
- b. Environmental Planning Services,
- c. Botanical Services,
- d. Zoological Services,
- e. Waste Management Services,
- f. Pollution Control Services,
- g. Soil Science Services,
- h. Environmental Education and Training Services, and
- i. Cultural Resource Services.

37. This capability is extended at regional level by two dedicated environmental posts at each of the five RFIM offices, a further ten posts. These qualified personnel are responsible for the implementation and monitoring of military integrated environmental management at regional level. The regional office in Cape Town serves the Western Cape Province, the Bloemfontein office serves Northern Cape Province and the Free State, the Durban office serves KwaZulu-Natal and the Eastern Cape, the Pretoria office serves Gauteng and North West Province and the Pietersburg RFIM office serves Northern Province and Mpumalanga.

38. At level 4, the GSB's will have an environmental service centre of at least one dedicated environmental officer per GSB. This implies that at least 24 qualified personnel will be responsible to support units, force structure elements and satellite offices regarding the management of their environment. Therefore, to summarise the DOD has a total of 47 dedicated environmental posts, supplemented by staff to physically execute the environmental programmes.

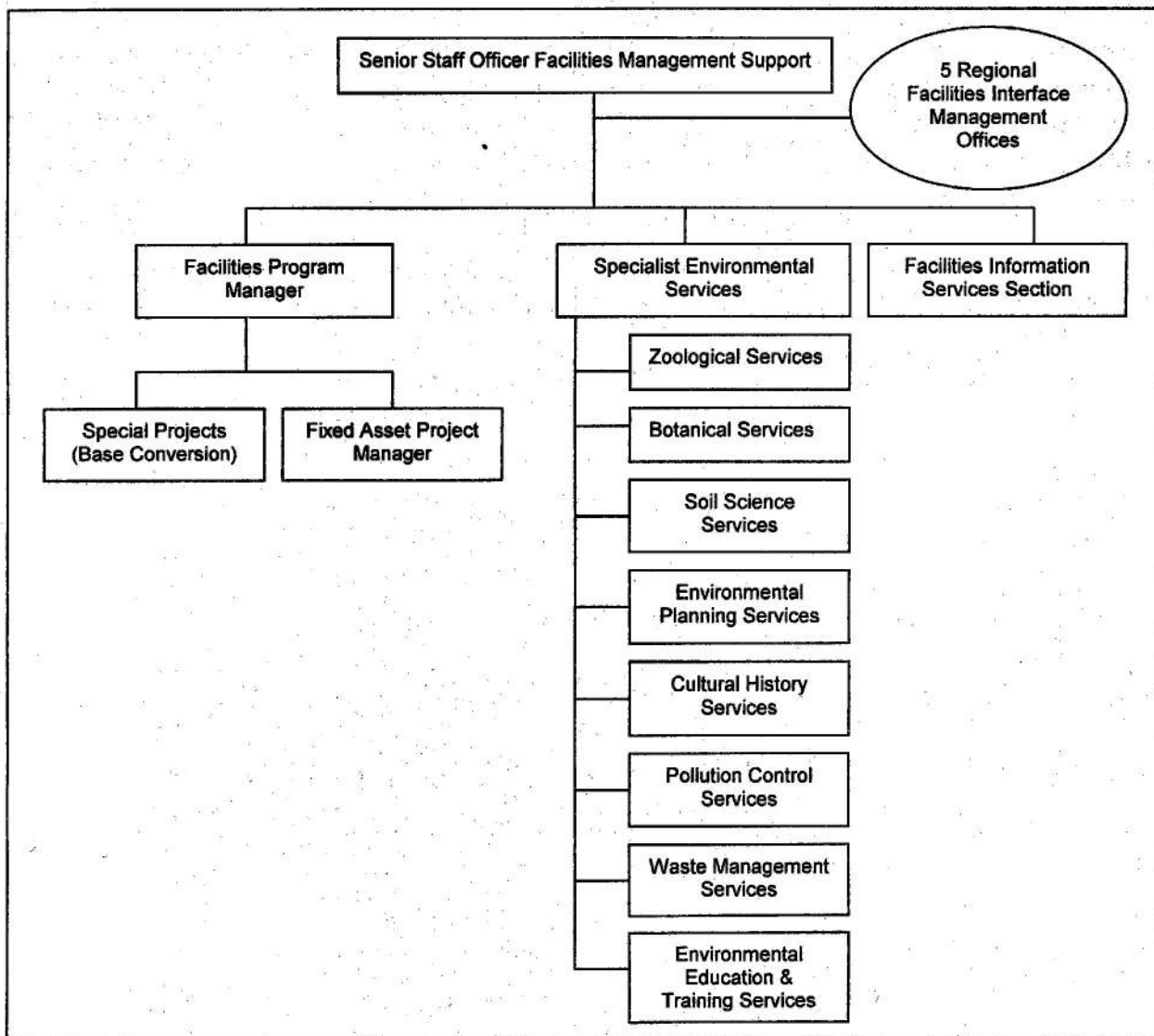


Figure 3: Structure of the Environmental Section at the DOD Logistic Support Formation

ROLE OF ARMSCOR

39. The Armaments Corporation of South Africa (ARMSCOR) is responsible for meeting the needs of the DOD and other government departments of the Republic of South Africa in terms of armaments and related products and services to maintain key industries and technologies. It is also responsible to market and promote the local defence-related industry.

40. ARMSCOR provides specialist guidance to clients who need cost-effective solutions without jeopardising the quality or capability of products and systems. It also offers clients a range of government-to-government contracting opportunities, development of technologies, test and evaluation and defence industrial participation. Furthermore, ARMSCOR is responsible for marketing and selling of surplus equipment for the DOD.

41. ARMSCOR's approach to its environment calls for continuous improvement in environmentally managed activities such as waste minimisation, pollution prevention and conservation. It is respected for its scientific approach to environmental management and conservation. A corporate culture of responsibility towards the environment, encompassing all the facilities within the ARMSCOR group, is now a well-established business philosophy.

42. Being fully aware of its environmental responsibilities, ARMSCOR is committed to the conservation of sites under its control. Special emphasis is placed on international protocols and conventions regarding environmental issues as well as meeting all future environmental legal requirements. ARMSCOR continuously strives to monitor and manage its activities to ensure that these are adhered to. Its activities are also aimed at educating its employees in environmental consciousness.

43. A holistic environmental approach addresses the entire environmental spectrum, people, plants, animals, soil, water and air, together with archaeological and cultural historical aspects.

CHAPTER 2: INSTITUTIONAL ARRANGEMENTS

INTRODUCTION

1. The institutional relationships, with respect to environmental management, between the DOD and other organs of state are presented in a diagrammatic format. These relationships focus on the identified priority functions of the DOD in terms of their effect on the environment. The external relationships have been separated from those internal to the department for purposes of discussion. Internal and external relationships have been distinguished as those relating to environmental management and those that are necessary to exercise the priority functions of the department.

2. This chapter also identifies and briefly describes the environmental legislative provisions governing the priority functions of the DOD, together with a brief description of the management systems and procedures that have been implemented to ensure compliance. An indication of the allocated responsibilities and available capacity to implement the mechanisms, management systems and procedures for co-operative governance are provided, identifying possible capacity caps or limitations.

EXTERNAL CO-OPERATIVE GOVERNANCE RELATIONSHIPS

3. The external co-operative governance relationships illustrated in Figure 1 are formal mechanisms of liaison between the DOD and other departments or spheres of government relating to environmental management as well as those relationships that are necessary to exercise the department's priority function. These relationships are discussed in more detail in the following section.

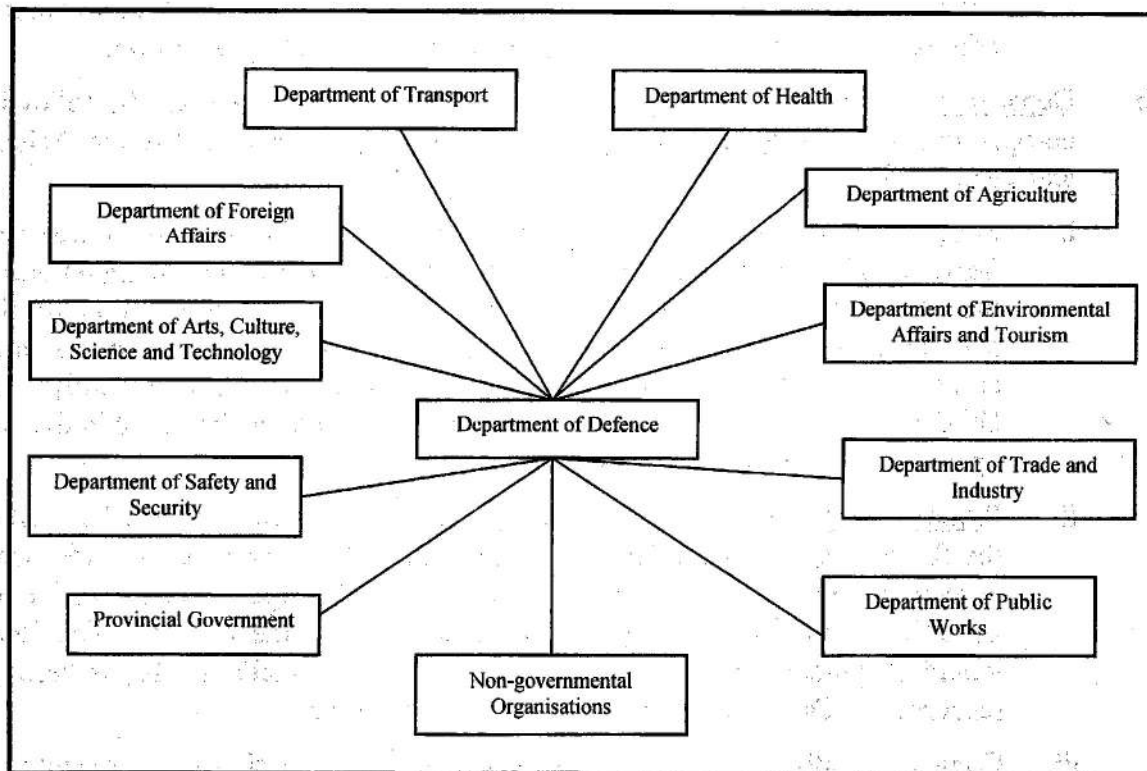


Figure 1: External Co-operative Governance Relationships for the DOD

MECHANISMS AND PROCEDURES FOR CO-OPERATIVE GOVERNANCE: EXTERNAL CO-OPERATIVE GOVERNANCE RELATIONSHIPS

4. The DOD has in the past, established informal liaison with a number of national and provincial departments relating to environmental management activities on DOD controlled properties. In this section however, only the formal mechanisms and procedures for co-operative governance will be discussed.

5. The following external co-operative governance relationships are formal co-ordinating mechanisms and procedures for co-operative governance within the DOD relating to environmental management:

- a. Department of Environmental Affairs and Tourism (DEA&T). The DOD has the following co-operative governance relationships with DEA&T:
 - i. Committee for Environmental Co-ordination (CEC). In previous years, the DOD was represented on the CEC and its various sub-committees. This representation served extensively as the primary mechanism to ensure inter-departmental co-ordination and harmonisation of policies, legislation and actions relating to the environment. This advantage was however, revoked by the provisions of NEMA in which the DOD was not scheduled as a representative on the CEC. Presently, the department must rely on *ad hoc* and isolated instances of liaison with other departments and organs of state to satisfy requirements for co-operative governance.
 - ii. DOD Environmental Awards Programme. This programme was established in the early 1980's and provides for an effective monitoring mechanism. A member of DEA&T is represented on the national adjudication panel as an adjudicator of the Ecological Management section of this programme. This proves to be an effective mechanism to formally liaise with DEA&T in order to address environmental management matters at the level of execution.
- b. Department of Arts, Culture, Science and Technology. The DOD has the following co-operative governance relationships with the Department of Arts, Culture, Science and Technology:
 - i. South African Museums Association. The Staff Officer Cultural Resource Services of the DOD Logistic Support Formation represents the DOD and is the Vice Chair of the Gauteng North Committee. The interests of this association are founded on developmental issues concerning cultural resources as defined in the concept of museums. Meetings are convened monthly. The DOD's involvement in this association is considered to be an effective co-operative governance mechanism.
 - ii. Regional Heritage Councils. These regional councils are established as part of the SA Heritage Resource Agency to manage and conserve heritage resources at regional level. At present the KwaZulu-Natal Heritage Council is active but the DOD is not yet involved in the proceedings of the council. The DOD would be pursuing representation on all of these councils insofar as heritage resources on DOD controlled properties are concerned.
 - iii. Commonwealth Wargraves Commission. This commission is responsible for the management of the graves at Delville Wood. A DOD representative serves on the commission to oversee the management of the graves of South African soldiers who perished in the battle. The funds for the maintenance of these

graves are provided by the Department of Public Works (DPW).

- c. Department of Minerals & Energy (DME). The DOD has the following *ad hoc* co-operative governance relationships with the DME:

- i. Regional Communication Forums. The Regional Communication Forums are convened by the regional offices of the DME within the nine regions to facilitate communication between the different authorities and concerned parties on matters regarding environmental policy, legislation, and other matters relating to mining and prospecting. The forums meet four times per year in each region and representation on the forums may include the relevant national and provincial government departments, local authorities and other affected parties. At present the DOD does not actively participate in this forum, but would be pursuing representation insofar as DOD controlled properties are concerned.

- d. Department of Water Affairs and Forestry (DWAF). The DOD has the following *ad hoc* co-operative governance relationships with the DWAF:

- i. Working for Water Programme Steering Group. With the inception of the Working for Water Programme, Defence was represented at the national Steering Group. Involvement on behalf of Defence was founded on the fact that this department presides over an extensive portfolio of land that could be made available consistent with the objectives of the programme. Proceedings of the Steering Group however, ceased during the course of 1999 and further liaison on behalf of Defence therefore, continues on an informal basis with elements of this programme that are still underway with the provincial governments.

- e. Provincial Governments. The DOD has the following co-operative governance relationships with the different provincial governments:

- i. DOD Regional Environmental Advisory Forums. The DOD Regional Environmental Advisory Forums were established in 1993. However, due to the transformation process within the DOD and associated staff shortages only a number of these forums continued to operate. At present, only two of the nine forums are currently active and operate effectively, namely the Western Cape and Northern Province Regional Environmental Advisory Forums. The primary objective of these forums is to involve Provincial Authorities in implementing and promoting Environmental Management at military facilities at regional level as well as to provide these authorities with insight into defence activities. The forums in the remaining seven provinces are in the process of being re-established. Forums are chaired by the Senior Staff Officers at the Regional Facilities Interface Management (RFIM) Offices in the respective regions. Other representatives consist of the General Support Base (GSB) Environmental Managers, the Animal Health and Environmental Health officers in the respective regions, the Regional Directors and officials of the respective Provincial Environmental Authorities, representatives of other departments, non-governmental organisations and academic institutions. These forums meet quarterly or more frequently if required and address the following issues:

- (1) Regional strategic issues regarding military environmental issues.
- (2) Promoting the involvement of external expertise in military Environmental Management.

(3) Co-ordinating interdepartmental matters regarding Environmental Management.

f. Non-Governmental Organisations (NGO's). The DOD has the following co-operative governance relationships with NGO's:

i. DOD Environmental Awards Programme. Seven sub-committees constitute the national adjudication panel and are responsible for the adjudication of the seven categories of the DOD Environmental Awards Programme. The alliances forged with external organisations that are formally involved in the programme are significant insofar as environmental management information is exchanged amongst the organisations concerned. The moderating influence of alliances outside of the department in addition, serves as a prominent benchmarking mechanism. Representatives on these panels consist of various corporate DOD environmental services personnel and representatives of the following organisations:

- (1) ESKOM
- (2) Caltex Oil Pty Ltd
- (3) World Wildlife Fund SA
- (4) SA National Parks
- (5) Endangered Wildlife Trust
- (6) International Institute for Energy Conservation
- (7) Environmentally Friendly Goods Trading Company
- (8) Wildlife and Environment Society of SA
- (9) National Botanical Institute of SA
- (10) Academic Institutions

ii. South African Museums Association School of Conservation. The Staff Officer Cultural Resource Services of the DOD Logistic Support Formation represents the DOD. The interests of this organisation concern the cultural resource education and conservation of museum related artefacts. Meetings are convened monthly. The DOD's involvement in this association is considered to be an effective co-operative governance mechanism.

iii. Endangered Wildlife Trust (EWT). The DOD has been an Honorary Fellow of EWT since 1980.

g. Local Governments. The DOD has no formal co-operative governance relationships with local government, however, informal liaison regularly takes place with regard to environmental matters and compliance with local bylaws. Such relationships could be encouraged through participation in the DOD Regional Environmental Advisory Forums.

6. The following external co-operative governance relationships are formal co-ordinating mechanisms and procedures for co-operative governance within the DOD relating to the exercising of priority functions:

a. Department of Agriculture. The DOD has the following co-operative governance relationship with the Department of Agriculture:

- i. Inter-Governmental Technical Committee on Agriculture Veterinary Workgroup. This committee is active and the Director Animal Health of the SA Military Health Service represents the DOD on this workgroup.
- b. Department of Safety and Security. The DOD has the following co-operative governance relationship with the Department of Safety and Security:
 - i. SAPS Forum for Veterinary Matters. This forum is active and the Director Animal Health of the SA Military Health Service represents the DOD on this forum regarding the veterinary treatment of the animals in service of the SAPS.
- c. Department of Health. The DOD has the following co-operative governance relationship with the Department of Health:
 - i. National Environmental Health Forum. This forum is active and the Director Environmental Health of the SA Military Health Service represents the DOD on this forum.
- d. Department of Public Works (DPW). The DOD liaises with DPW on all matters regarding facilities. The DPW in turn liaises with the Department of Land Affairs (DLA) on these matters concerning DOD controlled property. The DOD therefore, has no direct link to DLA. In this regard, the DOD has the following co-operative governance relationship with the DPW:
 - i. DPW/DOD Strategic and Operational Level Liaison Forums. These forums were established in 1999. The Chief of Logistics and the Senior Staff Officer Facilities Management Support at the DOD Logistic Support Formation as well as the Director Facilities at Joint Support Division represent the DOD at these inter-departmental meetings. These forums are responsible for the facilitation of discussion and consensus on policy, planning and contentious matters with regard to both Departments on a strategic and operational level. Meetings are convened quarterly.
- e. Department of Trade and Industry and Department of Foreign Affairs. The DOD has the following co-operative governance relationship with the Departments of Trade and Industry and Foreign Affairs:
 - i. Conventions on Weapons of Mass Destruction. This committee is active and the Chemical & Biological Defence Advisor of the SA Military Health Service represents the DOD on these meetings.
- f. Department of Transport. The DOD has the following co-operative governance relationships with the Department of Transport:
 - i. South African Aviation Safety Council (SAASCo). Two members of the SA Air Force represent the DOD at this statutory council, which was instated by the Department of Transport. The interests of this council surround matters concerning national aviation safety. The subcommittee of this council for aviation hazards posed by wildlife addresses environmental management of airfields and our airspace to control collisions of aircraft and wildlife.
 - ii. South African Air Force/South African civil Aviation Authority/Air Traffic and Navigation Services (SAAF/SACAA/ATNS) Executive Committee. Six members of the SAAF present the DOD at this committee. The interests of the committee surround matters concerning national aviation. A sub-committee of this forum has been established to consider issues pertaining to aviation safety.

- iii. Civil Aviation Regulation Committee (CARCOM). One member of the SAAF presents the DOD at this committee. The interests of the committee surround matters pertaining to aviation regulation. This committee is an advisory body to the Commissioner of the SA Civil Aviation Authority.
- g. Department of Environmental Affairs and Tourism (DEA&T). The DOD has the following co-operative governance relationship with DEA&T:
 - i. South African National Antarctic Programme (SANAP) Agreement. The SA Military Health Services has an agreement entitled the SANAP Agreement that entails regular checking and maintenance of medical equipment used at bases such as South African National Antarctic Expedition (SANAE).

INTERNAL RELATIONSHIPS

7. The internal relationships illustrated in Figure 2 are formal mechanisms of co-operation and liaison between the different corporate divisions and functions within the department. These relationships are discussed in more detail in the following section.

MECHANISMS AND PROCEDURES FOR CO-OPERATIVE GOVERNANCE: INTERNAL ENVIRONMENTAL CO-ORDINATING MECHANISMS

8. The following are formal co-ordinating mechanisms for internal relationships within the DOD relating environmental management:

- a. Strategic Environmental Working Group for Defence (SEWing Group). This working group is responsible for the development of the Environmental Implementation Plan for the department and will be dissolved on publication of the EIP. The working group is chaired by the Deputy Director Land, Facilities and Environmental Policy of the Policy and Planning Division. All the corporate divisions are represented on this working group. The Environmental Review Forum will replace this working group after publication of the EIP. The proceedings of this working group have been very successful as it was responsible for the development of a comprehensive and user-friendly First Edition EIP for Defence.
- b. DOD Environmental Services Steering Group. This steering group is responsible for ensuring the overall co-ordination of Environmental Services in the DOD and is chaired by the Senior Staff Officer Environmental Services of the Joint Support Division. Other representatives consist of the members of the Environmental Services section of the DOD Logistic Support Formation, the Animal Health and Environmental Health directorates of the SA Military Health Services and the five RFIM Offices. The forum was established in 1989 and is inactive at present due to the transformation process. This forum meets quarterly or more frequently if required to do so and addresses the following issues:
 - i. Overall progress with departmental Environmental Services plans.
 - ii. New developments in the field of Environmental Services.
 - iii. Specific problem areas regarding Environmental Services.
 - iv. Co-ordinate aspects of common concern regarding Environmental Services amongst various role players.

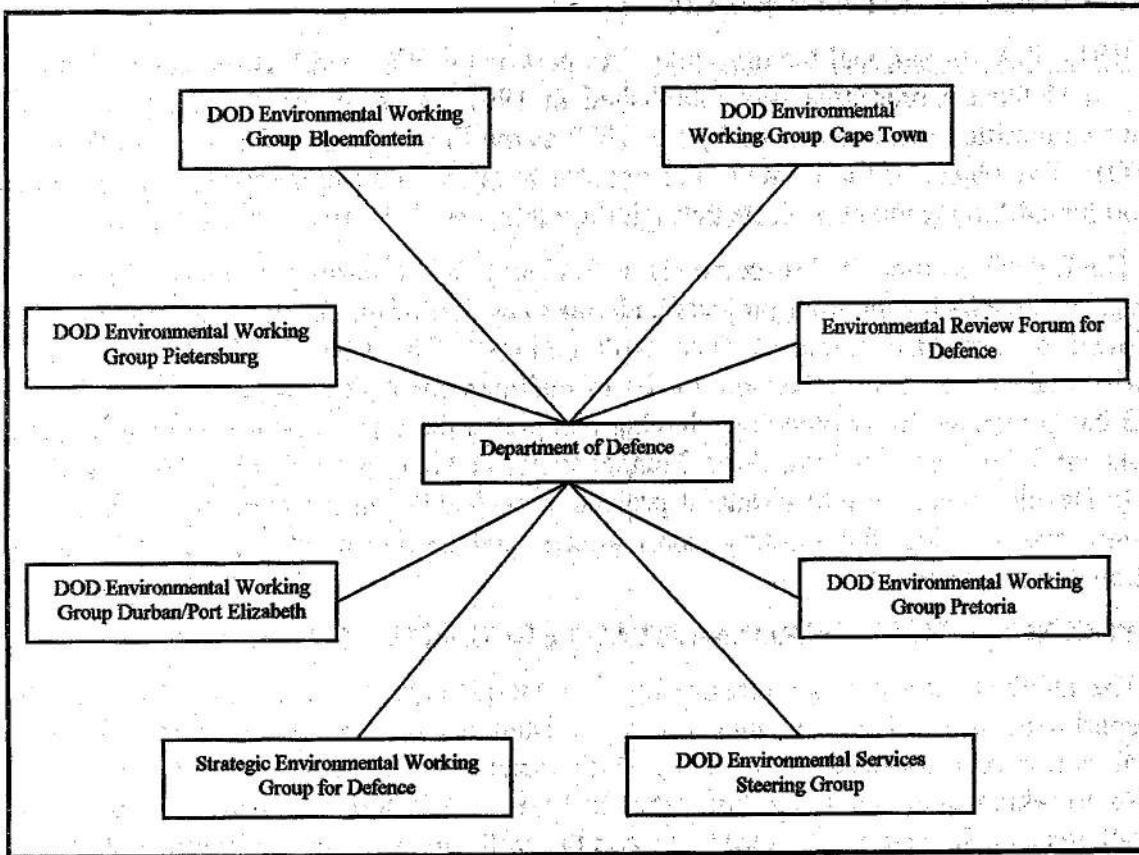


Figure 2: Internal Relationships for the DOD

- c. **DOD Environmental Working Groups.** Five of these working groups are responsible for co-ordinating Environmental matters between base and regional levels in the five regions and are chaired by the Environmental Management Staff Officers at the respective regions. Other representatives are the GSB Environmental Managers, the Animal Health and Environmental Health officers in the respective regions. These working groups are new internal mechanisms and will be active as soon as the relevant posts have been staffed. These forums will meet monthly or more frequently if required to do so, to address the following issues:
- i. Progress with Environmental Management Programmes.
 - ii. Specific problem areas with regard to Environmental Management.
 - iii. New requirements with regard to Environmental Management.
 - iv. Co-ordinate Environmental Management matters between bases on an operational level.
- d. **Environmental Review Forum (ERF).** The ERF will be established in 2001 following publication of the First Edition EIP for Defence. This forum will be responsible for designing and developing an Environmental Management System (EMS) for Defence. Once the EMS is established, the forum will assume a more traditional role of reviewing the department's environmental performance. The Senior Staff Officer Environmental Services at Joint Support Division will chair the forum and all the corporate divisions will be represented on the forum.

INTERNATIONAL RELATIONSHIPS

9. **RSA-USA Bi-National Commission.** As part of the RSA-USA Bi-National Commission (BNC), a Defence Committee was established in 1997. One of the Working Groups of the Defence Committee was constituted by late 1997 as the Environmental Security Working Group (ESWG). The object of the ESWG is to observe bi-lateral development of Military Integrated Environmental Management projects through the exchange of information and capacity.

10. The ESWG is co-chaired respectively by SA and USA military environmental functionaries whilst project teams for the joint projects undertaken as part of the proceedings of the ESWG are constituted of expertise extracted from both nations. The ESWG convenes annually and otherwise makes use of the electronic media to maintain constant communication. To date the ESWG has prospered in its objectives having completed three prominent bi-lateral projects, viz manuals on Integrated Training Area Management (ITAM), Base Conversion and Facilities Website Development. Future bi-lateral projects include *inter alia* a manual on environmental education and training for military commanders and environmental considerations in the operational planning process.

COMPLIANCE WITH ENVIRONMENTAL LEGISLATIVE PROVISIONS

11. The DOD is subject to governance by civil society represented by an elected legislative. The department in this sense, is subject to all legislation issued by government as well as any national norms and standards fostered by civil society in the spirit of healthy civil-military relations to which the department subscribes in no uncertain terms. Therefore, the DOD will apply all reasonable practicable means to comply with all relevant environmental legislative provisions that have a bearing on it including the legislative provisions as listed in Table 1 and 2.

12. The responsibility for the environmental, health and safety consequences of any DOD policy, plan, programme, project, product, process, service or activity exists throughout its lifecycle.

13. The DOD has established an environmental policy capacity at corporate level (see the section on the structure of the Environmental Services organisation) to ensure compliance through the development, implementation and monitoring of internal environmental policy based on national and international legislative provisions.

14. In order to remain current with environmental legislative provisions, the department has acquired the services of an external consultant to establish and maintain a corporate database on all international, national and provincial environmental legislation as well as any relevant norms and standards. This database is accessible to all personnel within the department through an internal local area network.

15. Additional special management mechanisms and procedures have been implemented to ensure compliance with national and international environmental legislation. These management systems and procedures for compliance have all been implemented except where indicated otherwise. These include the following:

Table 1: *National Environmental Legislative Provisions governing the DOD.*

Ser No.	National Legislation with Environmental Implications	Management Systems and Procedures for Compliance
	a	b
01	Advertising on Roads and Ribbon Development Act No 21 of 1940 as it relates to the display of advertisements.	<ul style="list-style-type: none"> The South African Manual for Outdoor Advertising Control (SAMOAC) is applied to advertising requests on DOD properties.

Ser No.	National Legislation with Environmental Implications	Management Systems and Procedures for Compliance
	a	b
02	Animal Health Act No 35 of 1984 as it relates to the promotion of animal health, and the control of animal diseases.	<ul style="list-style-type: none"> • A corporate Animal Health Service capacity exists to ensure the implementation of this Act. • A policy directive regarding Animal Health Services in the SANDF exists. • Regional Animal Health Service capacities exist to ensure the promotion of animal health and the control of animal diseases. These capacities are represented at the Regional Environmental Advisory Forums to provide expert advice regarding game management and to monitor the culling and removal of game on DOD properties.
03	Antarctic Treaties Act No 60 of 1996 as it relates to activities carried out which could have an effect on the Antarctic environment.	<ul style="list-style-type: none"> • The Department of Environmental Affairs and Tourism is consulted in this regard.
04	Atmospheric Pollution Prevention Act No 45 of 1965 as it relates to the prevention of the pollution of the atmosphere by smoke and dust.	<ul style="list-style-type: none"> • A corporate Pollution Control Service capacity exists to ensure and implement the control of air pollution within the DOD. This is achieved by drafting operational instructions and procedural guidelines as well as frequent staff visits to each of the five Regional Facilities Interface Management (RFIM) Offices in order to address and monitor problems regarding the pollution of the atmosphere at unit level. • A Handbook on Integrated Training Area Management (ITAM) has been developed to manage the impacts of military training activities on the environment. • An operational instruction on the phasing out of ozone destructive substances in the DOD exists. • The DOD has applied for the licensing of all portable and fixed incinerators utilised in the DOD from the Department of Environmental Affairs and Tourism. • A naval order on the phasing out of ozone depleting substances exists and has been implemented through adjustments to systems on larger vessels. • An Environmental Management Plan exists to manage industrial activities in the Simon's Town Dockyard.
05	Aviation Act No 74 of 1962 as it relates to noise and nuisance.	<ul style="list-style-type: none"> • A corporate Pollution Control Service capacity exists to ensure and implement the control of amongst others, noise pollution within the DOD. This is achieved by drafting operational instructions and procedural guidelines as well as frequent staff visits to each of the five RFIM Offices in order to address and monitor problems regarding noise pollution.

Ser No.	National Legislation with Environmental Implications	Management Systems and Procedures for Compliance
	a	b
05	Aviation Act No 74 of 1962 as it relates to noise and nuisance (continues).	<ul style="list-style-type: none"> • A corporate Zoological Service capacity exists to ensure and implement aviation safety measures within the DOD. This is achieved by drafting operational instructions and procedural guidelines as well as frequent staff visits to each of the five RFIM Offices in order to address and monitor aviation safety from an environmental perspective. • Complaints from neighbouring communities are recorded, registered and investigated by dedicated staff officers at the bases and addressed through reasonable means. At regional level a capacity exists to register and address complaints from a health perspective. • A corporate database on bird strikes exists for management information purposes in order to improve aviation safety in the DOD. • A project on airfields has been introduced to improve aviation safety by controlling small game by cheetahs and controlling birds by manipulating their habitat.
06	Conservation of Agricultural Resources Act No 43 of 1983 as it relates to the conservation of soil, water sources and vegetation and the combating of weeds and invader plants.	<ul style="list-style-type: none"> • A corporate Botanical Service capacity exists to ensure and implement the protection and control of flora within the DOD. This is achieved by drafting operational instructions and procedural guidelines as well as frequent staff visits to each of the five RFIM Offices in order to address and monitor the protection of flora and the combating of weeds and invader plants at bases and units. • A corporate Soil Service capacity exists to ensure and implement the protection of soil within the DOD. This is a new field in the DOD and the capacity has not yet been developed. Operational instructions and procedural guidelines however, exist and are applied. • A Handbook on Integrated Training Area Management (ITAM) has been developed to manage the impacts of military training activities on the environment. • Internal policy on nature and environmental management exists. • Procedural guidelines on the prevention and control of erosion exist. • Procedural guidelines on the control of problem plants exist. • Procedural guidelines on the leasing of DOD controlled property to be grazed for veld management purposes exist. • Procedural guidelines on the cost-effective control of alien invader plants exist.

Ser No.	National Legislation with Environmental Implications	Management Systems and Procedures for Compliance
	a	b
06	Conservation of Agricultural Resources Act No 43 of 1983 as it relates to the conservation of soil, water sources and vegetation and the combating of weeds and invader plants (continues).	<ul style="list-style-type: none"> • Procedural guidelines on the cutting of veldgrass for veld management purposes exist. • Procedural guidelines on incorporating environmental considerations in planning peace support operations (including foreign countries) exist. • Naval ships and military aircraft returning from visits abroad are cleaned and fumigated on arrival to exterminate any alien invasive species.
07	Defence Act No 44 of 1957 as amended as it relates to defence activities.	<ul style="list-style-type: none"> • The Ministry of Defence consisting of 18 corporate divisions has been established to ensure the implementation of this Act. • The numerous defence policy documents exist to regulate actions and activities relating to the priority function of the department. Policy documents in terms of activities that effect the environment are developed at Joint Support Division and are promulgated by Policy and Planning Division. Implementation and monitoring of environmental policy is ensured by the DOD Logistic Support Formation.
08	Dumping at Sea Control Act No 73 of 1980 as it relates to the control of dumping of substances at sea.	<ul style="list-style-type: none"> • A corporate Waste Management Service capacity exists to ensure and implement the proper management of waste onboard ships within the DOD. This is achieved by drafting operational instructions and procedural guidelines as well as frequent staff visits to each of the Durban and Cape Town RFIM Offices in order to address and monitor waste management onboard ships. • A naval order on marine conservation by naval units and ships, which addresses the provisions for the dumping of substances at sea, exists. • A policy document on Pollution Control on SA Navy (SAN) surface ships exists and has been implemented through systems changes to larger vessels in order to accommodate the International Maritime Organisation (IMO) regulations. These changes are executed by the respective naval dockyards within the SAN.
09	Environment Conservation Act No 73 of 1989 relating to the effective protection and controlled utilisation of the environment including environmental pollution, noise, littering, waste management and environmental impact assessments (EIA's) (partly repealed by the National Environmental Management Act No 107 of 1998).	<ul style="list-style-type: none"> • A broad strategy for Environmental Services including functional strategies on Environmental Planning, Research, Education & Training, Ecological Management, Base Environmental Management and Cultural Resource Management exists. It was developed in 1992 to direct Environmental Services in the DOD through developing policies in terms of functional strategies and capacities. Actions recommended have led to the development of the different implementing and monitoring mechanisms at corporate level.

Ser No	National Legislation with Environmental Implications	Management Systems and Procedures for Compliance
	a	b
09	<p>Environment Conservation Act No 73 of 1989 relating to the effective protection and controlled utilisation of the environment including environmental pollution, noise, littering, waste management and environmental impact assessments (EIA's) (partly repealed by the National Environmental Management Act No 107 of 1998) (continues).</p>	<ul style="list-style-type: none"> • A corporate Pollution Control Service capacity exists to ensure and implement the control of pollution within the DOD. This is achieved by drafting operational instructions and procedural guidelines as well as frequent staff visits to each of the five RFIM Offices in order to address and monitor environmental pollution at bases and units. • A corporate Zoological Service capacity exists to ensure and implement the control and protection of game within the DOD. This is achieved by drafting operational instructions and procedural guidelines as well as frequent staff visits to each of the five RFIM Offices in order to monitor the protection of game and other wild animals. • A corporate Waste Management Service capacity exists to ensure and implement the proper management of waste within the DOD. This is achieved by drafting operational instructions and procedural guidelines as well as frequent staff visits to each of the five RFIM Offices in order to address and monitor the management of waste at bases and units. • A corporate Botanical Service capacity exists to ensure and implement the protection and control of flora within the DOD. This is ensured by drafting operational instructions and procedural guidelines as well as frequent staff visits to each of the five RFIM Offices in order to monitor the protection of flora and the combating of weeds and invader plants at bases and units. • A corporate Environmental Planning Service capacity exists to ensure the planning of environmental services, the implementation and integration of environmental considerations such as EIA's into all military activities within the DOD. This is achieved by drafting operational instructions and procedural guidelines as well as frequent staff visits to each of the five RFIM Offices in order to address and monitor the environmental management at bases and units. • A corporate Cultural Resource Service capacity exists to ensure and implement the proper management of heritage resources within the DOD. This is achieved by drafting operational instructions and procedural guidelines as well as frequent staff visits to each of the five RFIM Offices in order to facilitate and monitor the protection of cultural resources.

Ser No	National Legislation with Environmental Implications	Management Systems and Procedures for Compliance
	a	b
09	<p>Environment Conservation Act No 73 of 1989 relating to the effective protection and controlled utilisation of the environment including environmental pollution, noise, littering, waste management and environmental impact assessments (EIA's) (partly repealed by the National Environmental Management Act No 107 of 1998) (continues).</p>	<ul style="list-style-type: none"> • A corporate Environmental Education and Training Service capacity exists to ensure and implement environmental education and training programmes within the DOD. This is achieved by developing curricula and procedural guidelines as well as frequent staff visits to each of the five RFIM Offices in order to ensure that all military personnel is exposed to environmental education and training programmes. • A corporate Soil Service capacity exists to ensure and implement the protection of soil within the DOD. This is a new field in the DOD and the capacity has not yet been developed, however, operational instructions and procedural guidelines exist and are applied. • A Handbook on Integrated Training Area Management (ITAM) has been developed to manage the impacts of military training activities on the environment. • Internal policy on nature and environmental management exists. • Procedural guidelines for the compilation of military ecological management plans for SA Defence Force facilities exist. • Procedural guidelines on the establishment of a veld herbarium exist. • Procedural guidelines on the control and prevention of erosion exist. • Procedural guidelines on the leasing of DOD controlled property to be grazed for veld management purposes exist. • Procedural guidelines for emergency grazing on DOD controlled properties exist. • Procedural guidelines on the control of problem plants exist. • Procedural guidelines on the cost-effective control of alien invader plants exist. • Procedural guidelines on the cutting of veldgrass for veld management purposes exist. • Procedural guidelines on the disposal of fluorescent light tubes exist. • A draft policy on waste disposal sites and other methods of waste disposal exist. • A corporate database on domestic waste incinerators exists for record keeping and management information purposes. • A corporate database on waste disposal sites within the DOD exists for record keeping and management information purposes.

Ser No	National Legislation with Environmental Implications	Management Systems and Procedures for Compliance
a		b
09	Environment Conservation Act No 73 of 1989 relating to the effective protection and controlled utilisation of the environment including environmental pollution, noise, littering, waste management and environmental impact assessments (EIA's) (partly repealed by the National Environmental Management Act No 107 of 1998) (continues).	<ul style="list-style-type: none"> • A policy document on the handling and disposal of waste materials within and from health care facilities exists. • Procedural guidelines on incorporating environmental considerations in the planning of peace support operations (including foreign countries) exist. • Procedural guidelines on the participation in nature conservancies in the DOD exist. • Procedural guidelines on the completion and adjudication of the Annual Environmental Management Report and Awards Programme exist. • Interim procedures on the application of the EIA regulations within the DOD exist.
10	Fencing Act No 31 of 1963 as it relates to fences and the fencing of properties.	<ul style="list-style-type: none"> • Internal policy on fencing of DOD controlled property exists.
11	Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act No 36 of 1947 as it relates to use and disposal of chemical and biological substances.	<ul style="list-style-type: none"> • A corporate Waste Management Service capacity exists to ensure and implement the proper management of waste within the DOD. This is achieved by drafting operational instructions and procedural guidelines as well as frequent staff visits to the each of the five RFIM Offices in order to address and monitor the management of waste at bases and units. • Procedural guidelines on the disposal of fluorescent light tubes exist.
12	Forest Act No 122 of 1984 as it relates to the prevention and combating of veld, forest and mountain fires (partly repealed by the National Veld and Forest Act No 101 of 1998).	<ul style="list-style-type: none"> • A corporate Botanical Service capacity exists to ensure and implement the protection and control of flora within the DOD. This is ensured through the drafting of operational instructions and procedural guidelines as well as frequent staff visits to the each of the five RFIM Offices in order to address and monitor the protection of flora and the combating of weeds and invader plants at bases and units. • Internal policy on fire belts exists. • Procedural guidelines for veldfires as a veld management tool have been compiled to guide environmental officers in the management of the veld. • Procedural guidelines for the prevention of veldfires exist. • Procedural guidelines for the making of fire breaks by using various methods including the use of weed killers exist.

Ser No	National Legislation with Environmental Implications	Management Systems and Procedures for Compliance
	a	b
13	Game Theft Act No 105 of 1991 as it relates to the combating of theft and wrongful and unlawful hunting and taking into possession of game.	<ul style="list-style-type: none"> • A corporate Zoological Service capacity exists to ensure and implement the protection and control of game within the DOD. This is achieved by drafting operational instructions and procedural guidelines as well as frequent staff visits to each of the five RFIM Offices in order to address and monitor the protection of game and other wild animals at unit level. • An operational instruction on the handling of poachers in DOD property exists. At corporate level, a database on contraventions in respect of poaching of natural resources on DOD controlled property is updated regularly.
14	Hazardous Substances Act No 15 of 1973 as it relates to the control, use, disposal and dumping of substances by reason of their toxic, corrosive, irritant, strongly sensitising and flammable nature.	<ul style="list-style-type: none"> • A corporate Waste Management Service capacity exists to ensure and implement the proper management of waste within the DOD. This is achieved by drafting operational instructions and procedural guidelines as well as frequent staff visits to each of the five RFIM Offices in order to monitor the management of hazardous waste. • Procedural guidelines for the disposal of fluorescent light tubes exist. • A policy document on the handling and disposal of waste materials within and from health care facilities exists. • Procedural guidelines on incorporating environmental considerations in the planning of peace support operations (including foreign countries) exist.
15	Marine Living Resources Act No 18 of 1998 as it relates to the protection of the marine environment and the long-term sustainable utilisation of marine living resources.	<ul style="list-style-type: none"> • Procedures exist for the inspection and policing, in co-operation with Sea Fisheries, of the exploitation of marine resources on certain DOD controlled properties.
16	Marine Pollution (Control and Civil Liability) Act No 6 of 1981 as it relates to the protection of the marine environment from pollution by oil and other harmful substances.	<ul style="list-style-type: none"> • A corporate Pollution Control Service capacity exists to ensure and implement the control of pollution within the DOD. This is achieved by drafting operational instructions and procedural guidelines as well as frequent staff visits to each of the five RFIM Offices in order to address and monitor pollution control by ships at sea. • A naval order on marine conservation by naval units and ships, which addresses the provisions for the discharging of oil and other substances at sea, exists.

Ser No	National Legislation with Environmental Implications	Management Systems and Procedures for Compliance
	a	b
17	Marine Pollution (Intervention) Act No 64 of 1987 as it relates to the intervention on the high seas in cases of oil pollution casualties.	<ul style="list-style-type: none"> • A corporate Pollution Control Service capacity exists to ensure and implement the control of marine pollution within the DOD. This is achieved by drafting operational instructions and procedural guidelines as well as frequent staff visits to each of the five RFIM Offices in order to address and monitor environmental pollution at sea.
18	Marine Pollution (Prevention of Pollution from Ships) Act No 2 of 1986 as it relates to the protection of the sea from pollution by oil and other harmful substances discharged from ships.	<ul style="list-style-type: none"> • A corporate Pollution Control Service capacity exists to ensure and implement the control of marine pollution within the DOD. This is achieved by drafting operational instructions and procedural guidelines as well as frequent staff visits to each of the five RFIM Offices in order to address and monitor environmental pollution and the control of waste at sea. • A naval order on marine conservation by naval units and ships, which addresses the provisions for the discharging of harmful substances, exists. • A policy document on Pollution Control on SA Navy (SAN) surface ships exists and has been implemented through systems changes to larger vessels in order to accommodate the International Maritime Organisation (IMO) regulations. System changes are executed by the respective naval dockyards within the SAN.
19	Marine Traffic Act No 2 of 1981 as it relates to the sinking of obsolete vessels.	<ul style="list-style-type: none"> • The Department of Environmental Affairs and Tourism is consulted regarding authority and location for the sinking of obsolete vessels. • A naval order on marine conservation by naval units and ships addressing the procedure for the sinking of obsolete naval vessels, exists.
20	Marine Zones Act No 15 of 1994 as it relates to the protection and utilisation of the maritime zones of the Republic.	<ul style="list-style-type: none"> • The Department of Environmental Affairs and Tourism is consulted in this regard. • A corporate maritime capability exists to ensure the implementation of this act.
21	Minerals Act No 50 of 1991 relating to the prospecting for minerals and the rehabilitation of the surface of the land during and after operations.	<ul style="list-style-type: none"> • The Department of Minerals and Energy and the Department of Public Works are consulted in this regard. • Internal policy on the handling of applications for prospecting rights on DOD controlled properties exist. • Procedural guidelines on the control of erosion exist. • Procedural guidelines on the prevention of erosion exist.

Ser No	National Legislation with Environmental Implications	Management Systems and Procedures for Compliance
	a	b
22	National Environmental Management Act No 107 of 1998 relating to environmental management.	<ul style="list-style-type: none"> • Corporate Environmental Policy and Environmental Co-ordination capacities exist to ensure the development of internal policy on environmental management and compliance with national and international environmental legislative obligations within the DOD. This is achieved by utilising the corporate database on all national, international, provincial and local legislation applicable to the business of defence. • A comprehensive Environmental Implementation Plan (EIP) for Defence was developed by the Strategic Environmental Working (SEWing) Group as directed by NEMA. • The Environmental Review Forum (ERF) will be established in 2001 to ensure the implementation of the EIP for Defence and to develop an Environmental Management System (EMS) for the DOD.
23	National Forest Act No 84 of 1998 as it relates to the protection of forests and trees.	<ul style="list-style-type: none"> • A corporate Botanical Service capacity exists to ensure and implement the protection and control of flora within the DOD. This is ensured by drafting operational instructions and procedural guidelines as well as frequent staff visits to each of the five RFIM Offices in order to address, implement and monitor the protection of flora.
24	National Heritage Resources Act No 25 of 1999 as it relates to the management and conservation of heritage resources.	<ul style="list-style-type: none"> • A broad strategy for Environmental Services with a functional strategy on Cultural Resources Management exists. • A corporate Cultural Resource Service capacity exists to implement the proper management of heritage resources within the DOD. This is achieved by drafting operational instructions and procedural guidelines as well as frequent staff visits to each of the five RFIM Offices in order to implement and monitor the protection of cultural resources. • A corporate database on cultural and historical resources is in progress for record keeping and management information purposes. • A draft internal policy on national monuments and other heritage resources exists. • A draft internal policy on civilian graves on DOD controlled property exists. • A corporate database on civilian graves on DOD properties exists for management information purposes.

Ser No	National Legislation with Environmental Implications	Management Systems and Procedures for Compliance
a		b
25	National Veld and Forest Fire Act No 101 of 1998 as it relates to veld and forest fires.	<ul style="list-style-type: none"> • A corporate Botanical Service capacity exists to ensure and implement the protection and control of flora within the DOD. This is ensured by drafting operational instructions and procedural guidelines as well as frequent staff visits to each of the five RFIM Offices in order to address, implement and monitor the protection of flora at bases and units. • Internal policy on fire belts exists. • Procedural guidelines for veldfires as a veld management tool has been compiled to guide environmental officers in the management of the veld. • Procedural guidelines for the prevention of veldfires exist. • Procedural guidelines for the making of fire breaks by using various methods including the use of weed killers exist.
26	National Road Traffic Act No 93 of 1996 as it relates to noise pollution and the transportation of hazardous goods.	<ul style="list-style-type: none"> • A corporate Pollution Control Service capacity exists to ensure and implement the control of noise pollution within the DOD. This is achieved by drafting operational instructions and procedural guidelines as well as frequent staff visits to each of the five RFIM Offices in order to address and monitor problems regarding the noise pollution and the handling of hazardous goods.
27	National Water Act No 36 of 1998 as it relates to the use of water and the protection of water resources.	<ul style="list-style-type: none"> • A corporate Pollution Control Service capacity exists to ensure and implement the control of noise pollution within the DOD. This is achieved by drafting operational instructions and procedural guidelines as well as frequent staff visits to each of the five RFIM Offices in order to address and monitor environmental pollution of water resources at bases and units. • Facilities and Environmental guidelines for peace support operations in foreign countries exist.
28	Occupational Health and Safety Act No 85 of 1993 as it relates to the protection and the health and safety of persons at work.	<ul style="list-style-type: none"> • A corporate Environmental Health Service capacity exists to ensure the implementation of this Act. • Regional Environmental Health Service capacities exist to ensure the protection and the health and safety of employees. These capacities are represented on the Regional Environmental Advisory Forums to provide expert advice regarding occupational health and safety matters.

16. Additional regional management mechanisms have been implemented to ensure environmental compliance of provincial environmental legislative provisions, including the following:

Table 2: Provincial Environmental Legislative Provisions governing the DOD

Ser No	Provincial Legislation with Environmental Implications	Management Systems and Procedures for Compliance
	a	b
01	<p>Cape Nature and Environmental Conservation Ordinance No 19 of 1974 as it relates to nature reserves, the protection of wild animals, flora and the control of noise.</p> <p>Problem Animal Control Ordinance No 26 of 1957 as it relates to combating of vermin and other animals doing damage.</p> <p>All provincial acts, regulations as well as local bylaws applicable to the Western Cape, Northern Cape Province and the Eastern Cape Province relating to environmental conservation, environmental pollution and waste management.</p> <p>Cape Land Use Planning Ordinance 15 of 1985 and regulations made in terms of this ordinance as it relates to town planning and land use.</p>	<ul style="list-style-type: none"> Regional environmental capacities consisting of two environmental management officers exist to implement and monitor the proper environmental management of DOD controlled properties in the Western Cape, the Northern Cape Province and the Eastern Cape Province. This is achieved by providing expert advice on environmental management and monitoring progress during frequent regional staff visits. These regional offices regularly liaise with provincial and local government regarding environmental compliance issues. The DOD is in the process of registering its water-use at military installations in the Western Cape, Northern Cape Province and the Eastern Cape Province. A town and regional planning capability exists to ensure adherence to provincial planning legislation in the Western Cape, the Northern Cape Province and the Eastern Cape Province.
02	<p>Natal Nature Conservation Ordinance No 15 of 1974 as it relates to nature reserves, the protection of game and indigenous plants.</p> <p>Natal Local Authorities Ordinance No 25 of 1974 as it relates to nuisances and the removal of rubbish and refuse.</p> <p>Natal Prevention of Environmental Pollution Ordinance No 21 of 1981 as it relates to the prevention of littering and pollution.</p> <p>All provincial acts, regulations as well as local bylaws applicable to KwaZulu-Natal relating to nature conservation, environmental pollution and waste management.</p> <p>Natal Planning Ordinance No 27 of 1949 and regulations made in terms of this ordinance as it relates to town planning and land use.</p>	<ul style="list-style-type: none"> Regional environmental capacities consisting of two environmental management officers exist to implement and monitor the proper environmental management of DOD controlled properties in KwaZulu-Natal. This is achieved by providing expert advice on environmental management and monitoring progress during frequent regional staff visits. This regional office regularly liaises with provincial and local government regarding environmental compliance issues. The DOD is in the process of registering its water-use at military installations in KwaZulu-Natal. A regional town and regional planning capability exists to ensure adherence to provincial planning legislation in the KwaZulu-Natal Province.

Ser No	Provincial Legislation with Environmental Implications	Management Systems and Procedures for Compliance
	a	b
03	<p>Orange Free State Nature Conservation Ordinance No 8 of 1969 as it relates to nature reserves and the protection of wild animals and indigenous.</p> <p>Orange Free State Dumping of Rubbish Ordinance No 8 of 1976 as it relates to the dumping of rubbish.</p> <p>All provincial acts, regulations as well as local bylaws applicable to the Free State relating to environmental conservation, environmental pollution and waste management.</p> <p>Town Planning and Townships Ordinance 15 of 1986 and regulations made in terms of this ordinance as it relates to town planning and land use.</p>	<ul style="list-style-type: none"> Regional environmental capacities consisting of two environmental management officers exist to implement and monitor the proper environmental management of DOD controlled properties in the Free State. This is achieved by providing expert advice on environmental management and monitoring progress during frequent regional staff visits. These regional offices regularly liaise with provincial and local government regarding environmental compliance issues. The DOD is in the process of registering its water-use at military installations in each of the nine regions. A regional town and regional planning capability exists to ensure adherence to provincial planning legislation in the Free State Province.
04	<p>Mpumalanga Nature Conservation Ordinance No 12 of 1983 as it relates to the conservation of wild animals, indigenous plants and endangered and rare fauna and flora.</p> <p>Mpumalanga Nature Conservation Act No 10 of 1998 as it relates to nature conservation within the province.</p> <p>Problem Animal Control Ordinance No 26 of 1957 as it relates to combating of vermin and other animals doing damage.</p> <p>All provincial acts, regulations as well as local bylaws applicable to the Northern Province and Mpumalanga relating to environmental conservation, environmental pollution and waste management.</p> <p>Town Planning and Townships Ordinance 15 of 1986 and regulations made in terms of this ordinance as it relates to town planning and land use.</p>	<ul style="list-style-type: none"> Regional environmental capacities consisting of two environmental management officers exist to implement and monitor the proper environmental management of DOD controlled properties in Gauteng and the North West Province. This is achieved by providing expert advice on environmental management and monitoring progress during frequent regional staff visits. These regional offices regularly liaise with provincial and local government regarding environmental compliance issues. Regional environmental capacities consisting of two environmental management officers exist to implement the proper environmental management of DOD controlled properties in the Northern Province and Mpumalanga. This is achieved by providing expert advice on environmental management and monitoring progress during frequent regional staff visits. These regional offices regularly liaise with provincial and local government regarding environmental compliance. The DOD is in the process of registering its water-use at military installations in each of the nine regions. A regional town and regional planning capability exists to ensure adherence to provincial planning legislation in Gauteng and the Northern Province.

INTERNATIONAL CONVENTIONS, TREATIES, AGREEMENTS AND PROTOCOLS

17. International conventions, treaties, agreements and protocols are complied with through incorporating such provisions in policy and guideline documents and procedures of compliance cited in the previous sections. The following international conventions, treaties, agreements and protocols relating to the core business of the DOD as well as its environmental responsibility apply to the department:

- a. Rio Declaration on Environment and Development and Agenda 21. Principle 24 of this declaration states that "Warfare is inherently destructive of sustainable development. States shall therefore respect international law providing protection for the environment in times of armed conflict and co-operate in its further development, if necessary". Furthermore, principle 25 states that "Peace, development and environmental protection are interdependent and indivisible".
- b. World Charter for Nature, 1982. This Charter contains General Principles of which one states that nature is to be respected and protected against warfare or other hostile activities, conservation must be practised, the reproductive capacity of organisms and ecosystems must be respected and responsibilities in the use of resources and for the discharge of pollutants must be exercised. Therefore "military activities damaging to nature shall be avoided".
- c. Framework Convention on Climatic Change. This convention provides for the protection of the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with common but differentiated responsibilities and respective capabilities by taking the lead in combating climate change and the adverse effects thereof.
- d. Resolution 1995/14: Human Rights and the Environment - United Nations Commission of Human Rights dated 24 Feb 1995. The natural and man-made environment is essential to the well being of a person and to the enjoyment of his/her basic human rights. Therefore, due to this close relationship between the environment and human rights, some human rights violations are allegedly the causes of or factors in environmental degradation. The opposite also applies where the deterioration of the environment affects the enjoyment of human rights such as life, health and the right to peace and security. The potential for purposeful or accidental environmental damage is a serious threat to peace and security, whether during war or in peacetime and is considered a crime against humanity by the international law commission. The principle of humanity imposes limits on war. The obligation to protect the environment during armed conflict is derived from the norms of international humanitarian law which lays down restrictions on methods of conducting hostilities by asserting that "the only legitimate object which states should endeavour to accomplish during war is to weaken the military force of the enemy".
- e. International Health regulations (Part IV) – Health measures and procedures. These regulations state that no matter capable of causing any epidemic disease shall be thrown or allowed to fall from an aircraft when it is in flight".
- f. Vienna Convention for the Protection of the Ozone Layer, 1985 and the Montreal Protocol On Substances That Deplete The Ozone Layer, 1987 As Amended In 1989. This convention provides for protection of the ozone layer from harmful modification. The protocol and the amendment contain a list of chlorofluorocarbons (CFC) and provides for the control and limiting the consumption of CFC's.

- g. International Convention for the Safety of Human Life on the Sea, 1974. The second schedule provides for safety from radiation or other nuclear hazards at sea or in port to the crew, passengers or public, or to waterways, food or water resources.
- h. Convention on International Civil Aviation Annex 16 - Aircraft Noise. The annex addresses the noise generated by aircraft.
- i. Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, 1989. This convention aims to ensure that the generation of hazardous and other wastes is reduced to a minimum, the availability of adequate disposal facilities, for the environmentally sound management of hazardous and other wastes, that persons involved in the management of hazardous or other wastes take such steps as are necessary to prevent pollution due to hazardous and other wastes, to minimize the consequences of such pollution occurrence on human health and the environment; that the transboundary movement of hazardous and other wastes is reduced to the minimum consistent with the environmentally sound and efficient management of such wastes, and is conducted in a manner which will protect human health and the environment against the adverse effects which may result from such movement.
- j. International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978. The fifth schedule of this convention (chapter III) provides for basic principles for the protection of the environment by prevention of pollution. It also provides for knowledge of anti-pollution procedures to prevent pollution of the environment by smoke, oil, sewage and other pollutants. It also prescribes the use of pollution prevention equipment such as oily water separators, sludge tank systems and sewage disposal plants.
- k. Treaty Banning Nuclear Weapons Tests in the Atmosphere, in Outer Space and Under Water, 1963. This treaty aims to prohibit or prevent the carrying out of any nuclear weapon test explosion, or any other nuclear explosion, at any place in the atmosphere; including outer space; or under water, including territorial waters or high seas; or in any other environment if such explosion causes radioactive debris to be present outside the territorial limits of the state under whose jurisdiction or control such explosion is conducted.
- l. The Antarctic Treaty, 1961 (Washington). Article V deals with nuclear explosions and disposal of radioactive waste material. The following protocol to the Antarctic Treaty also applies:
 - i. Protocol to the Antarctic Treaty on Environmental Protection, 1991. Annex II of this protocol deals with the conservation of Antarctic fauna and flora. Article 3 with the taking of or harmful interference with animals or plants and article 4 with introducing foreign animals or plants into Antarctica. Annex III deals with waste disposal and waste management. Articles 2 to 6 with disposal or storage of waste and article 7 with introducing a prohibited product in Antarctica. Annex IV deals with the prevention of marine pollution. Article 3 with the discharge of oil or oily mixture into the sea, Article 4 with the discharge of noxious liquid or chemical substance into the sea, Article 5 with the disposal of garbage into the sea and Article 6 with the discharge of sewage into the sea. Annex V to the protocol deals with area protection and management with special emphasis on the damaging, removing or destroying a historic site or monument in article 8.

- m. Geneva Conventions of 12 August 1949 – Protocol 1 Additional to the Geneva Conventions of 12 August 1949 relating to the Protection of Victims of International Armed Conflicts, 1977. Article 35 - means and methods of warfare: basic rules. One of the basic rules prohibits the employment of methods and means of warfare which are intended or may be expected, to cause widespread, long-term and severe damage to the natural environment. *Article 55 - protection of the natural environment.* In warfare, care shall be taken to protect the natural environment against widespread, long-term and severe damage. This includes a prohibition of the use of methods or means of warfare which are intended or may be expected to cause such damage to the natural environment and thereby to prejudice the health or survival of the population. It also prohibits any attacks against the natural environment by way of reprisals. *Article 53 - Cultural objects and places of worship in general.* Historic monuments, works of art and places of worship which constitute the cultural or spiritual heritage of peoples enjoy full protection against acts of hostility, without prejudice to the provisions of the Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict dated 14 May 1954. It prohibits the use of such objects in support of military effort and making such objects the object of reprisals. Their immunity may not be withdrawn, contrary to that of marked cultural objects.
- n. Geneva Conventions of 12 August 1949 - Protocol II Additional To The Geneva Conventions of 12 August 1949 relating to the Protection of Victims of Non-International Armed Conflicts, 1977. This protocol contains no provisions relating to the environment, however, article 14 on the protection of objects indispensable to the survival of the civilian population, has direct impact on warfare and the environment, with its prohibition of attacks on agricultural areas, livestock, irrigation works and drinking water installations.
- o. The Hague Convention for the Protection of Cultural Property in the event of Armed Conflict, 1954. Article 1 - Marked cultural objects. Cultural objects under this convention enjoy general or special protection. Cultural objects under general protection means an object of great importance to the cultural heritage of every people such as monuments of architecture, art, history, archaeological sites, museums, large libraries, depositories of archives, shelters of cultural objects and centres containing a large amount of immovable cultural objects. Cultural objects under special protection means an object of exceptional value such as shelters of cultural objects, centres containing immovable cultural objects and other cultural objects of great importance. The distinctive sign of cultural objects consists of a blue and white shield and is used under the responsibility of the belligerent party. The sign must be large and visible. Cultural property personnel and objects under special protection can be marked with one sign. Cultural objects under special protection and cultural property transports can be marked with three signs in triangular formation with one sign below. Personnel assigned to guard cultural objects under special protection may be armed with light individual weapons.
- p. Regulations for the Execution of the Convention for the Protection of Cultural Property in the event of Armed Conflict, 1954. These regulations make provision for procedures for the special protection, obtaining immunity, transportation of cultural property and a distinctive emblem or sign for cultural property. The sign shall be visible from the ground at regular intervals sufficient to indicate clearly the perimeter of a centre containing monuments under special protection and at the entrance to other immovable cultural property under special protection.

In the event of armed conflict, the sign shall be placed on vehicles of transport so as to be clearly visible in daylight from the air as well as from the ground.

q. Convention concerning the Protection of the World Cultural and Natural Heritage, 1972. This convention aims to protect cultural and natural heritage of outstanding universal value by a system of collective protection. Cultural and natural heritage of each party are considered a world heritage. Cultural heritage includes monuments, groups of buildings, inscriptions, cave dwellings, archaeological sites or other sites or a combination of these features which are of outstanding value from a historic, artistic or scientific point of view. Natural heritage includes physical and biological formations which are of outstanding value from an aesthetic or scientific point of view or geological or physiographical formations or natural areas which constitute the habitat of threatened animals or plants of outstanding value from a scientific or conservation point of view.

r. Convention on the High Seas, 1958 (Geneva). This convention charges the state with a duty to prevent the pollution of the seas from the discharge of oil or the dumping of radioactive waste.

s. International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969 (Brussels). This convention provides for the prevention, mitigation or elimination of grave and imminent danger to the coastline or related interests from pollution or threat of pollution of the sea by oil, following on a maritime casualty that may reasonably be expected to result in major harmful consequences.

t. International Convention for the Prevention of Pollution from Ships (MARPOL) as modified by the Protocol of 1978 (London). This convention provides for the prevention of pollution of the marine environment by the discharge of harmful substances or effluents. It includes provisions for the prevention of pollution by oil, sewage, garbage, and noxious liquid substances in bulk and harmful substances carried by sea in packaged form. An important requirement is the provision of waste reception facilities at port for oil residues and the listing of special areas where only clean ballast is permitted.

u. International Convention on Civil Liability For Oil Pollution Damage, 1976 (Brussels). This convention provides for the prevention and combating of pollution of the sea by oil and determining liability in certain respects for loss or damage caused by the discharge of oil from ships.

v. Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (London, Mexico, Moscow, Washington). This convention aims at controlling all sources of pollution of the marine environment. The dumping of radioactive wastes, biological and chemical warfare materials, persistent plastics, oils, synthetic materials and other chemical products are prohibited the second and third category may only be dumped in accordance with a general or special permit. This convention is amended by:

i. Amendments to the Annexes to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1981

ii. Amendments to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter concerning Incineration at Sea, 1979

- w. United Nations Convention on Law of the Sea, 1982 (Geneva). This convention contains general provisions on dumping by adopting laws to prevent, reduce and control pollution by dumping which shall not be carried out without the permission of the competent authorities. Furthermore, the continental shelf and the exclusive economic zone must be protected against marine pollution resulting from sea-bed activities. This convention also imposes a duty on states to conserve the living marine resources of the exclusive economic zones. Article 303 imposes a duty on states to protect archaeological and historical objects found at the sea.
 - x. Convention on the Conservation of Antarctic Marine Living Resources, 1982 (Canberra). Article II deals with the harvesting of marine living resources in the Antarctic.
 - y. Convention for the Conservation of Antarctic Seals. Article 2 deals with the capturing or killing of seals in the Antarctic.
 - z. Convention on Fishing and Conservation of the Living Resources of the High Seas, 1966. These following two conventions developed international law with regard to fishing and conservation in the marine environment:
 - i. Convention on the Territorial Sea and the Contiguous Zone, 1958 (Geneva)
 - ii. Convention on the Continental Shelf, 1958 (Geneva)
18. The following treaties and conventions are relevant to the environmental mandate:
- a. International Plant Protection Convention, 1951 (Rome)
 - b. Convention on the Conservation of Migratory Species of Wild Animals, 1991
 - c. Convention on Wetlands of International Importance especially as Waterfowl Habitat, 1971 (Ramsar)
 - i. Protocol to amend the Convention on Wetlands of International Importance especially as Waterfowl Habitat, 1986
 - ii. Amendments to Articles 6 and 7 of the Convention on Wetlands of International Importance especially as Waterfowl Habitat, 1994
 - d. Convention relating to the Preservation of Fauna and Flora in their Natural State, 1933 (London)
19. The following treaties and conventions are relevant to the core business:
- a. Convention on the Prohibition or Restrictions on the Use of Certain Conventional Weapons which may be deemed to be Excessively Injurious or to have Indiscriminate Effects, 1980
 - b. Convention on the Physical Protection of Nuclear Material, 1981
 - c. Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, 1987
 - d. Treaty on the Non-Proliferation of Nuclear Weapons, 1968
 - e. Treaty on the Prohibition of the Emplacement of Nuclear Weapons and other Weapons of Mass Destruction on the Sea-bed and the Ocean Floor and in the Subsoil Thereof, 1971
 - f. Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (biological) and Toxin Weapons and on their Destruction, 1972

- g. Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and their Destruction, 1993

MECHANISMS FOR MONITORING

20. The DOD has established the following mechanisms to monitor the implementation of environmental management within the department as well as its environmental performance:

- a. Steering Groups, Working Groups and Advisory Forums. The DOD Environmental Services Steering Group as discussed in chapter 2 is utilised as a tool to corporately implement and monitor the environmental performance of the DOD. The Regional Environmental Advisory Forums is considered a monitoring mechanism within and outside the department as it provides the RFIM personnel as well as those from the provincial authorities with insight and information as to the DOD activities and the management of its natural resources. As soon as the DOD Environmental Working Groups have been established these group will also provide for an effective mechanism to monitor the department's environmental performance through providing expert advice and thereby ensuring effective implementation.
- b. Annual Environmental Management Report. The Annual Environmental Management Report was introduced in 1997 to assist and empower Commanding Officers to successfully meet the challenge of responsible and accountable environmental management. The report is in the form of a questionnaire and the questions are structured to direct a Commanding Officer in complying with environmental requirements. Therefore, the aim of this report is to:
 - i. devise a system whereby each military installation will be provided with a set of environmental management guidelines in the form of a compulsory annual report, and
 - ii. to utilise these guidelines as an auditing mechanism in order to measure the military installation's environmental performance, and
- c. DOD Environmental Awards Programme. The aim of the awards programme is to motivate and reward military installations and individuals for work well done with regard to environmental management by utilising the Annual Environmental Management Report as an official entry to the seven categories of this programme. The following trophies are awarded annually:
 - i. "Endangered Wildlife Trust" Floating Trophy for Ecological Management. This competition was instituted in 1983 and the award donated by the Endangered Wildlife Trust. The competition is based on the ecological management of the natural environment. Normally these natural environments are terrains/training areas. The award goes to the unit that demonstrated the most progress with regard to ecological management during a calendar year.
 - ii. "Caltex" Floating Trophy for Base Environmental Management. This competition was instituted in 1983 and the award donated by Caltex. The competition is based on the environmental management of the "built up" environment of the unit or terrain. Sometimes this also includes small sections of natural terrain. "Units" also include military hospitals, sickbays and naval ships. Sub-units, being part of a home unit, but located elsewhere and functioning as an entity, may also enter for this competition. The award goes to the unit that demonstrated the most progress with regard to base environmental management during a calendar year.

- iii. "Professor Kristo Pienaar" Floating Trophy for Environmental Education and Training. This competition was originally instituted in 1987 and sponsored by the National Veld Trust. This organisation subsequently disbanded. During 1999, a new trophy was instituted. The competition is based on creating an environmental awareness among military member's thus increasing environmental responsibility, as well as enabling military members to execute military activities in an environmentally responsible manner. The award goes to the unit that demonstrated the most progress with regard to environmental education and training during a calendar year.
 - iv. "Aquator" Award for Water Efficiency. This competition was instituted in 1997 and the award was donated by the Environmentally Friendly Goods Trading Co. The competition is based on the efficient use of water on military properties. The award goes to the unit that distinguished itself in the efficient use of water during a calendar year.
 - v. "Elektrowise" Award for Energy Efficiency. This competition was instituted in 1997 and the award was donated by ESKOM. The competition is based on the efficient use of energy on military properties. The award goes to the unit that contributed the most to the efficient use of energy during a calendar year.
 - vi. "SA National Parks" Floating Trophy for Military Integrated Environmental Management. This competition was instituted in 1997 and the award was donated by the SA National Parks. The competition is based on the integration of environmental considerations in all aspects of the military organisation. The award goes to the unit that achieved the highest level of military integrated environmental management during a calendar year.
 - vii. "Conservamus" Floating Trophy for Individual/Team Contribution to Environmental Services. This competition was instituted in 1990 and the award donated by the then Deputy Minister of Defence, Mr Wynand Breytenbach. Any member employed within the DOD - whether permanent force, medium or short term, voluntary term service system, commando or citizen, as well as civilian members may be entered for this competition. The award goes to the individual or team that - by means of a specific project - contributed the most to Environmental Services in the DOD during a calendar year. The guidelines and entry to this competition is distributed separately from this document.
 - viii. Annual Environmental Management Report. This annual report is adjudicated at the RFIM Office during the first round of adjudication and forwarded to Joint Support Division for the second round of adjudication. During this round, three finalists from each of the seven categories are selected as the national finalists. The Adjudication Panel mentioned in Chapter 2 visits the finalists in four of these categories during a national adjudication visit. The other three categories are paper adjudications. These finalists in each category are then selected and are presented with the trophies at a prestige award ceremony in June annually.
- d. Communication and *ad hoc* relations. Communication and *ad hoc* relations with other national and provincial departments are also considered mechanisms to monitor the department's environmental compliance.
 - e. Auditing. Three levels of auditing have been identified to monitor both the implementation of measures for environmental management by the DOD as well as monitoring of environmental performance and compliance.

- i. Environmental Management System (EMS) Audit. As a constituent of the EMS, environmental audits will be carried out throughout the DOD by qualified DOD Environmental Services personnel. The process of establishing a capacity within the DOD for EMS audit was initiated in 1996. This precedes the establishment of a formal EMS for Defence due to commence in 2001. This capacity will be further secured and expanded to audit environmental performance and compliance.
- ii. Internal Audit. Capacity to undertake internal audit in the DOD is seated with the Defence Inspectorate. As part of the EIP for Defence a project is underway to develop instruments of measurement to audit the implementation of environmental management in the DOD.
- iii. External Audit. The DOD has been involved since 1997 in a joint undertaking with the Office of the Auditor-General (OAG) aimed at establishing mechanisms for the auditing of environmental management implementation in the public sector as it pertains to the financial statements on the organisation.

RESPONSIBILITIES AND CAPACITY FOR IMPLEMENTATION

21. The responsibility for the co-operative governance mechanisms relating to specifically environmental management identified in this Chapter is allocated to Joint Support Division and the DOD Logistic Support Formation by virtue of its status as the seat of the environmental management capacity of the DOD. These structures have the available capacity to implement and maintain the identified mechanisms.

22. The responsibility for the co-operative governance mechanisms relating to priority functions identified in this Chapter is allocated to the various corporate divisions and associated support structures, by virtue of their status as the seat of the capacity for the management and execution of the department's priority functions. These structures have the available capacity to implement and maintain these mechanisms.

23. The Strategic Direction (SD) Process of the DOD provides for procedure by which national legislative provisions are assimilated into departmental policy. The SD Process provides for mechanisms of planning, policy development, execution, monitoring and control. The corporate divisions associated with specific spheres of policy for instance Joint Support Division, SA Navy or the SA Military Health Service etc would therefore, assume responsibility for all aspects of strategic direction pertinent to such specific policy. The management systems and procedures for compliance are integrated into the SD Process of the DOD.

24. For purposes of the monitoring of environmental management in the DOD, the three levels of auditing identified in the previous section with associated capacities will be instituted to gain management information for the implementation of corrective actions as well as monitoring progress in the deployment of the EIP for Defence.

CAPACITY GAPS AND LIMITATIONS

25. The following issues have been identified as capacity gaps and limitations with regard to environmental management in the department:

- a. Costs associated with environmental management in the DOD have not been sufficiently internalised and are integrated with expenditure associated with other functions. This pre-empts a true reflection of environmental expenditure by the DOD.

- b. Environmental Education and Training (EE&T) is not a formalised practice within the DOD. Instructional design for EE&T programmes in the DOD is pre-empted by constraints on the accreditation of *curricula* due to the absence of appropriate NQF unit standards.
- c. Limited capacity for environmental litigation exists in the DOD.
- d. Existing departmental environmental policy is fragmented, some of which has become outdated and obsolete with new requirements for such policy arising continuously. The integrity of DOD environmental policy has a direct influence on the ability of the department to comply with environmental regulatory obligations.
- e. Agenda 21, An Agenda for Sustainable Development in the 21st Century has not been formally implemented in the DOD.
- f. Enforcement and measurement of environmental compliance in accordance with regulatory obligations and measures for environmental performance within the DOD is inadequate.
- g. Environmental regulatory obligations are not included in the performance agreements of respective Divisional Chiefs, General Officers Commanding and Commanding Officers.
- h. The DOD is not represented on the CEC in order to ensure inter-departmental co-ordination and harmonisation of policies, legislation and actions relating to the environment. The DOD relies on *ad hoc* and isolated instances of formal liaison with other departments and organs of state to satisfy requirements for co-operative governance.
- i. Internal relationships as instituted in the DOD Regional Environmental Advisory Forums, the DOD Environmental Steering Group and the DOD Environmental Working Group are not completely operational as a result of the process of transformation that is as yet incomplete.

CHAPTER 3: POLICIES, PLANS AND PROGRAMMES

INTRODUCTION

1. This chapter addresses and briefly describes the important policies, plans and programmes associated with the priority functions of the DOD. These are then evaluated according to the Section 2 principles of NEMA. An indication is also provided about the potential environmental impacts associated with key policies, plans and programmes, as well as resources, responsibilities and timeframe for implementing these policies, plans and programmes.

KEY POLICIES, PLANS AND PROGRAMMES

2. **Policy 1: Provide forces by integrating and converting force components into combat ready forces.** Defence is conducted jointly, with each Combat Service providing specialised capabilities to Landward, Air and Maritime Defence. The process of providing forces by integrating and converting force components into combat ready forces includes several associated processes, activities and equipment as described in the extended policy. It should be understood that the environmental impacts associated with providing forces are mostly incurred within very clearly defined geographical boundaries that manifest as military training areas on land, in the airspace as well as at sea. The extent of environmental impacts associated with providing forces however, is amplified by the fact that these activities are repetitive by nature and are confined to the geographical boundaries that constitute military training areas within the Republic. The environmental impacts associated with providing forces are derived from very specific activities.

- a. **Provide a land defence capability.** Landward defence is conceptualised in terms of Conventional Defence (mobile operations) and Area Defence. Within the primary defensive posture of the SANDF, a high premium is placed on firepower, nightfighting ability, manoeuvring, quick reaction, surprise and tactical mobility. The basis for conventional defence is the Rapid Deployment Force, which comprises of a mechanised infantry brigade, a parachute brigade and a special forces brigade. Mobile conventional forces provide the first and main line of defence against external military threats. Area defence comprises border safeguarding (border protection and border control) and area protection.
 - i. **Maintain main equipment associated with land defence.** Equipment associated with land defence such as battle tanks, armoured cars, anti-armoured missile systems, artillery systems, infantry combat and mine protected vehicles and vehicle mounted anti-aircraft guns are maintained and operated in providing combat ready forces.
 - ii. **Prepare forces for land defence.** The SANDF must be able to prepare its forces continuously for land defence. Force preparation concentrates on two categories namely formal training of personnel at all ranks for conventional operations as well as training and exercising force structure elements.
 - iii. **Potential Environmental Impacts.** The following impacts can be associated with providing a land defence capability:
 - (1) Terrestrial movement of combat vehicles on military training areas fosters the potential for disturbances in the physical environment. Evidence of such disturbance is observed as soil compaction and destruction of natural vegetation.

- (2) Terrestrial movement and presence of personnel on military training areas creates potential for disturbances in the physical environment. Evidence of such disturbance is observed as generation of solid waste, disturbance of soil and natural vegetation. In the absence of healthy track discipline, the presence of personnel can introduce an element of disturbance to sensitive ecosystems located on military training areas.
 - (3) The erection of temporary deployment structures on military training areas during land defence exercises fosters the potential for disturbances in the physical environment. These disturbances manifest as accumulation of solid waste, other sources of pollution of the soil, water and atmosphere, localised disturbance of soil and natural vegetation.
 - (4) The deployment of main equipment for land defence during training exercises on military training areas entails inherently environmentally destructive activities. The primary source of disturbance is encountered in the use of the various calibres of firepower. The contamination of surface and sub-surface substrates by armament debris and unexploded ordnance is the major focus in impact management of these activities. In addition, noise generated through the use of firepower as well as certain implications of safety associated with the operational envelope of weapons are of constant concern to adjacent landowners and communities.
 - (5) Contamination of surface substrate and subterranean water resources with fuel is a potential impact at fuel storage and re-bunkering sites. Large quantities of fuel tend to accumulate beneath hard stands over prolonged periods of time if processes of monitoring are not maintained.
- b. Provide an air defence capability. The use of the air for surveillance, mobility and firepower is a basic tenet of modern conventional warfare. Air superiority is the ability to make unhindered use of the air, while denying an enemy that capability. Air defence is the protection of assets against all forms of enemy air interference and involves both defensive and offensive measures. Flexible air defence is provided through a combination of airspace control radars (static and mobile), point defence missile systems and aircraft. The provision of an air capability is vital in land defence, defending land forces against air attack and providing surveillance, mobility (air transportation) and firepower in support of landward operations. Air participation in maritime defence provides enhanced surveillance capabilities, firepower and plays a significant role in layered defence.
- i. Maintain main equipment associated with air defence. Equipment associated with air defence such as combat support helicopters, fighter aircraft, light reconnaissance aircraft, electronic warfare aircraft, remotely piloted aircraft, fixed wing aircraft, light and medium helicopters, multi-role fighter aircraft, maritime patrol aircraft, air defence missile systems, aircraft for in-flight refuelling and shipborne helicopters are maintained and operated in providing combat ready forces.
 - ii. Prepare forces for air defence. The SANDF must be able to prepare its forces continuously for air defence. Force preparation concentrates on two categories namely formal training of personnel at all ranks for air defence operations as well as training and exercising force structure elements.

iii. Potential Environmental Impacts. The following impacts can be associated with providing an air defence capability:

- (1) The deployment of military aircraft in the airspace and on airfields during force preparation results in the generation of high levels of noise. Acoustic pollution impacts on both military personnel as well as adjacent landowners and communities.
- (2) The deployment of military aircraft in the airspace and on airfields during force preparation results in the generation of varying levels of atmospheric pollution mainly from aviation engine emissions.
- (3) The extensive mobility of military aircraft affords possibilities for movement between distant geographical locations throughout the interior as well as abroad. This capability renders it possible also for various forms of terrestrial alien invasive species to make use of military aircraft as agents of dispersal.
- (4) It is however, not always a matter of the impact of military activities on the environment but the environment may foster some constraints on military activities. Birds in the airspace and on airfields as well as quadruped game pose a significant threat to the movement of military aircraft. Collisions between aircraft and birds or small game result in the loss or damage of expensive military equipment and can be potentially fatal both for man and animal. Strategies are devised to focus on the management of habitats in order to anticipate populations and their behaviour on military land and in the airspace.
- (5) The deployment of main equipment for air defence during training exercises on military training areas entails inherently environmentally destructive activities. The primary source of disturbance is encountered in the use of firepower. The contamination of surface and sub-surface substrates by armament debris and unexploded ordnance is the major focus of impact management of these activities. In addition, noise generated through the use of firepower as well as certain implications of safety associated with the operational envelope of weapons are of constant concern to adjacent landowners and communities.
- (6) The erection of temporary deployment structures on military training areas during air defence exercises fosters the potential for disturbances in the physical environment. These disturbances manifest as accumulation of solid waste, other sources of pollution of the soil, water and atmosphere, localised disturbance of soil and natural vegetation.
- (7) Contamination of surface substrate and subterranean water resources with aviation fuel is a potential impact at fuel storage and re-bunkering sites. Large quantities of fuel tend to accumulate beneath hard stands and apron areas over prolonged periods of time if processes of monitoring are not maintained.

c. Provide a maritime defence capability. The maritime defence is defence by means of a layered approach where vessels with different capabilities are used in concentric layers extending outward from harbours. Maritime warfare is multi-dimensional and effective maritime defence requires balanced air, surface and subsurface capabilities.

The maritime defence capability can provide fire support to landward defence operations in coastal areas and can transport forces, equipment and supplies to harbours serving an area of operations. Maritime defence can support air defence by providing self-defence of maritime assets and harbour defence by ships in port.

- i. Maintain main equipment associated with maritime defence. Equipment associated with maritime defence such as patrol corvettes, submarines, inshore patrol vessels, harbour patrol vessels, strike craft, mine hunters, mine sweepers and combat support ships are maintained and operated in defence and providing combat ready forces.
- ii. Prepare forces for maritime defence. The SANDF must be able to prepare its forces continuously for maritime defence. Force preparation concentrates on two categories namely formal training of personnel at all ranks for maritime operations as well as training and exercising force structure elements.
- iii. Potential Environmental Impacts. The following impacts can be associated with providing a maritime defence capability:
 - (1) Solid wastes, sewage, fossil fuels, oils, ozone depleting substances and toxins derived from paint associated with naval vessels at sea and alongside, are the most important polluting agents that are managed from a maritime perspective. Technological solutions and system adjustments are employed to reduce if not eliminate these polluting agents from contaminating the marine environment both in territorial waters and abroad.
 - (2) The decommissioning of obsolete naval vessels may include salvaging of all onboard systems in preparation of sinking of the hull. Regulatory guidelines regarding the preparation of the hull prior to sinking and a suitable location for sinking as issued by the Department of Environmental Affairs & Tourism (DEA&T) are followed in order to prevent adverse environmental impact.
 - (3) The SA Navy is occasionally requested to support DEA&T in expeditions to the Antarctic. The sensitivity of this environment demands that the precautions issued in the Antarctic Treaty, 1961 are meticulously followed to prevent any contamination or disturbance to the Antarctic environment by naval vessels or crew.
 - (4) The extensive mobility of naval vessels affords possibilities for movement between distant geographical locations throughout the world. This capability renders it possible also for various forms of marine and terrestrial alien invasive species to make use of naval vessels as agents of dispersal.
 - (5) The deployment of main equipment for maritime defence during training exercises at sea entails inherent environmentally destructive activities. The primary source of disturbance is encountered in the use of firepower. The acoustic properties of water as well as certain implications of safety associated with the operational envelope of weapon systems are a potential threat to marine life and are of concern to marine interest groups.

- (6) Industrial activities in naval dockyards foster potential impacts on the marine and adjacent urban environments. The main impacts that are managed in this regard are sources of noise pollution, atmospheric pollution and accumulation of heavy metals on bottom sediments of harbour basins. The potential exists for contamination of water surface by fossil fuels and oil during the process of re-bunkering of vessels.

d. Provide a military health capability. Military health support entails operational health services during deployments of the three Combat Services including search and rescue missions and providing evacuation during missions. Direct support is supplied to landward rapid deployment through the provision of a full-time force medical battalion group. Early warning of chemical and biological agents against own forces and decontamination of personnel and equipment are also provided.

- i. Prepare forces for military health capabilities. The SANDF must be able to prepare its forces continuously for military health capabilities. Force preparation concentrates on two categories namely formal training of personnel at all ranks for military health operations as well as training and exercising force structure elements.

- ii. Potential Environmental Impacts. The following impacts can be associated with providing a military health capability:

- (1) The erection of temporary medical deployment structures on military training areas during training exercises fosters the potential for disturbances in the physical environment. These disturbances manifest mainly in accumulation of medical waste.
- (2) Domestic activities associated with military health care facilities present a broad spectrum of potential environmental impacts. These impacts may be ascribed to various sources of contamination that arise from processes of incineration and disposal of medical waste and solid waste accumulation.

3. Policy 2: Support forces by procuring armament as well as providing matériel and equipment to the combat forces so that these can be used operationally. The DOD must maintain effective support capabilities in support of the Combat Services by ensuring the acquisition and procurement of modern armament and the availability of matériel and logistic services as well as the movement of matériel and personnel in support of military operations. Military operations in a broader sense also include actions in support of non-military national objectives according to the Constitution.

- a. Provide an optimal integrated logistic service to all elements of the DOD. The integrated logistic service provides for the effective management of each of the phases of the life cycle of logistic services. Logistic services are rendered in respect of the well being of personnel, to satisfy the military community needs and includes the following:

- i. Personnel Logistic Service includes barber, catering, shopping, tailoring, laundry and footwear repair, funds and institutions.

- ii. General Logistic Service includes mapping, printing, photography, codification, catalogues, postal, computerisation, fire-fighting services and military cemeteries.

- iii. Transport includes the movement of personnel and matériel from rear areas to operational areas and back. All modes of transportation and terminal operations such as bus terminals, harbours, airfields, railway stations and bridgeheads apply. It excludes tactical movement as a logistic function other than a design requirement for category 1 matériel and recovery of personnel and matériel.
- iv. Potential Environmental Impacts. The following impacts can be associated with providing an optimal integrated logistic service:
 - (1) Hazardous wastes such as photographic chemical or fire arresting agents generated by general logistic services foster inherent dangers to the environment as contaminants when such substances are not handled and disposed of in an environmentally responsible manner. The impact on the environment in this regard is amplified by the fact that contamination of military facilities by these agents also restricts use of such facilities by personnel.
 - (2) The transportation, storage and handling of petroleum, oils and lubricants foster the potential for contamination of surface and sub-surface substrates as well as water resources in the event of spillage. In the absence of sound contingency planning for the isolation and cleansing of incidents of contamination, the environmental impacts could assume catastrophic proportions, the influence of which may extend far beyond the boundaries of military controlled properties.
- b. Provide an optimal integrated matériel service to all elements of the DOD. The integrated matériel service provides for the effective management of each of the phases of the life cycle of matériel that includes the procurement, receipt, storage, transferral, issue and disposal of matériel. Materiel includes equipment, maintenance, execution and support of all military activities whether for administration or use in combat. This service applies to matériel designed for military use or which conforms to military specifications (category 1) as well as matériel designed and developed primarily for the commercial orientated market needs without adaptation in the military operational environment (category 2) but does not apply to personnel and facilities.
 - i. Potential Environmental Impacts. The following impacts can be associated with providing an optimal integrated matériel service:
 - (1) Inherent environmental impacts are posed mainly in the storage and disposal phases of both category 1 and category 2 hazardous matériel such as flammable, toxic and corrosive substances. The practice of disposing of obsolete clothing by means of incineration is a source of atmospheric pollution if regulatory requirements are not followed.
 - (2) The disposal of category 1 material specifically obsolete ordnance, is particularly complex as this is regulated by the London Convention, 1972 that prohibits dumping of waste at sea. Obsolete ordnance therefore, must be disposed by alternative and responsible means that would render it inert in terms of any further effect on the environment. Such disposal is considered ideal when integrated waste management principles of re-use and reduce are applied.

- c. Provide for the acquisition and procurement of modern armament and equipment in order to maintain a combat ready capacity. For the SANDF to carry out its primary role, the availability of armaments is essential. Optimal modern armaments for the SANDF are obtained through a process of armament acquisition. It entails the management of the total spectrum of activities to be carried out by the participating organisations within the defence family to meet the armament requirements that will ensure that the SANDF has the necessary user systems for maintaining a combat ready capability. The process of acquisition and procurement includes:
- i. Direction and co-ordination of all acquisition and procurement activities by processing and satisfying the stated functional requirements for armaments from the Combat Services against the procurement plan.
 - ii. Appointment of a project team to translate functional needs into technical design and manufacturing parameters.
 - iii. Involvement of organised defence industry, all other stake holders and interest groups in the acquisition process.
 - iv. Consideration of environmental issues in the form of a comprehensive environmental management plan are taken before any military industrial facilities for the manufacturing, demolition, test and evaluation or armaments are established, operated or closed down.
 - v. Execution of defence industry studies to indicate development, purchase or partnership options.
 - vi. Submission of project milestone documents to the three levels of approval committees and boards for acquisition programmes.
 - vii. Potential Environmental Impacts. The following impacts can be associated with providing for the acquisition and procurement of modern armament and equipment:
 - (1) The acquisition of outdated technology presents increased potential for environmental resource inefficiency as well as sources of noise and emissions pollution.
 - (2) In the acquisition of contemporary technology that does not comply with environmental specifications, inherent impacts are encountered during the phase of operation, maintenance and disposal of equipment. Such impacts may manifest in the incidence of ozone depleting or other hazardous substances, excessive emissions or noise levels, environmental resource inefficiency and impracticable recycling or re-use of components on disposal.
 - (3) In testing new weapons systems to determine the dimensions of the operational envelope, environmental impacts may be encountered where the "precautionary principle" is not applied.
- d. Provide an integrated facilities management service to all elements of the DOD. For the SANDF to carry out its primary function, land, buildings, infrastructure and associated services are required in order to provide and prepare forces. Facilities Management consists of Fixed Asset Management and Environmental Services.

The integrated facilities management service provides for the collective management of buildings, land and the natural environment in an integrated manner so as to promote the success of the core activities of the department. Furthermore, it provides for the management of the impact of the DOD's activities on the environment in which these are carried out.

i. **Potential Environmental Impacts.** The following impacts can be associated with providing an integrated facilities management service:

- (1) The erection of permanent structures and infrastructure on military training areas results in varying degrees of transformation of land. Natural systems are displaced or permanently transfigured in the proximity of permanent structures and infrastructure on military training areas during construction, operation, maintenance and closure. The true extent of environmental impact linked to the erection of permanent structures and infrastructures on military training areas vary considerably for each property and can only be determined by means of an Environmental Impact Assessment (EIA).
- (2) Modifications or renovations to military facilities foster inherent environmental impacts on land and infrastructure of cultural historic significance. The cultural historic significance of such military facilities is distorted if the necessary sensitivity is not observed.
- (3) Environmental resource inefficient military facilities foster adverse impacts on consumption of water and energy.
- (4) The cultivation of alien invasive plant species in domestic areas of a military installation increases the potential for introduction of such species to local ecosystems and habitats. Certain species cultivated in domestic areas of military installations are resource demanding in terms of water requirements and labour.

4. **Policy 3: Employ forces by deploying forces in an operational capacity.** Combat ready forces provided by the different Combat Services are integrated and converted into combat-ready joint task forces and are used to accomplish specific territorial or regional operations, missions and military exercises.

a. **Potential Environmental Impacts.** The following impacts can be associated with employing forces:

- i. Environmental impacts in terms of wastes, damage to cultural historic assets and natural resources may be sustained during deployment of forces if the appropriate environmental intelligence is not considered during the operational planning process.
- ii. The erection of temporary deployment structures during mobilisation fosters the potential for disturbances in the physical environment. These disturbances manifest as accumulation of solid waste, other sources of pollution of the soil, water and atmosphere, localised disturbance of soil and natural vegetation.
- iii. Damage to or disturbance of the environment as a result of the deployment of forces may result in deterioration of affected environmental resources and restrict the use of such resources by communities both locally and regionally in the absence of sound measures of rehabilitation.

EVALUATION OF POLICIES, PLANS AND PROGRAMMES

Ser No	Section 2 Principles of NEMA	Policies, Plans and Programmes
	a	b
01	(4)(a)(i) <i>“That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied.”</i>	In preparing and employing combat ready forces, potential impacts that effect the environment are inherent. The potential adverse impact of military activities and exercises as a threat to biodiversity can be anticipated during the processes of training of personnel, maintenance, support and deploying military personnel. Guidelines on Facilities and Environmental Management for Operational Planning and Execution are in an advanced process of development for implementation in territorial as well as regional military operations. The military training areas used for force preparation are managed as multiple use conservation areas, some of which have been granted additional forms of statutory or non-statutory conservation status. Management plans exist to account for ecological resources associated with these properties and to harmonise military activities with sensitive ecosystems.
02	(4)(a)(ii) <i>“That pollution and degradation of the environment are avoided, or, where these cannot be altogether avoided, are minimised and remedied.”</i>	In preparing and employing combat ready forces, potential impacts that effect the environment are inherent. The potential adverse impact of military activities and exercises as a source of pollution and environmental degradation can be anticipated during the processes of training of personnel, maintenance, support and deploying military personnel. The system of Integrated Training Area Management (ITAM) integrates military training activities with constraints posed by the natural environment. ITAM presents guidelines for managing the environmental impacts of military activities on the environment in compliance with regulatory obligations. It also provides guidelines for retaining the required military characteristics of military training areas through measures of management. ITAM is a recently developed management tool, the principles of which are yet to be established for purposes of implementation. Guidelines on Facilities and Environmental Management for Operational Planning and Execution are in an advanced process of development for implementation in territorial as well as regional military operations.

Ser No	Section 2 Principles of NEMA	Policies, Plans and Programmes
	a	b
02	4)(a)(ii) <i>"That pollution and degradation of the environment are avoided, or, where these cannot be altogether avoided, are minimised and remedied."</i> (continues)	The potential of projects, products, processes, services or activities, on the other hand as elements of support, as a source of pollution can be anticipated and managed during the processes of acquisition, utilisation or operation, maintenance or support until and beyond decommissioning or disposal.
03	(4)(a)(iii) <i>"That the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied."</i>	In preparing and employing combat ready forces, potential impacts that affect landscapes and cultural heritage sites are inherent. Landscapes and sites of cultural significance are located on various Defence controlled properties. This provides a powerful imperative to acknowledge these resources in the national interest. Various sites, located on Defence controlled properties, have been awarded statutory and non-statutory conservation status such as national monuments, cultural conservation areas and SA Natural Heritage Sites. Measures for management and protection of these sites are implemented by Defence inclusive of the associated process of policy development. The DOD is bound by international legislative provisions regarding the protection of national and world heritage. Furthermore, the Facilities and Environmental Management Guidelines for Operational Planning and Execution which are in an advanced process of development for implementation in territorial as well as regional military operations, will apply to the acknowledgement of cultural resource prior or during the employment of forces.
04	(4)(a)(iv) <i>"That waste is avoided, or, where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner."</i>	In providing and employing combat ready forces, potential impacts that effect the environment are inherent. The potential adverse impacts of military activities and exercises as a source of waste generation can be anticipated during the processes of training of personnel, maintenance, support and deploying military personnel. The potential of projects, products, processes, services or activities as a source of waste can be anticipated during the processes of acquisition, utilisation or operation, maintenance or support until and beyond decommissioning or disposal. Up to 1991, concession was granted to the DOD for the disposal of obsolete ammunition at sea. At present, the disposal of any solid waste at sea is prohibited by the London Convention (1972), to which South Africa is a signatory.

Ser No	Section 2 Principles of NEMA	Policies, Plans and Programmes
	a	b
04	(4)(a)(iv) <i>"That waste is avoided, or, where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner."</i> (continues)	Policy development by the DOD explores alternative options for disposal of obsolete ordnance in compliance with the guidelines of the International Maritime Organisation (IMO). The development of contemporary Defence policy on integrated waste management is conducted consistent with national objectives set by the Department of Water Affairs and Forestry and in consultation with private enterprise. The most profound account of solid waste issues associated with providing forces is that of the accumulation of unexploded ordnance as well as the remains of discharged ammunition on military training areas. Policy development for clean-up of training areas is conducted in consultation with the responsible authorities in defence, South African Police Service expertise, environmental NGO's and neighbouring communities. Procedures for integrated waste management on deployment are in development for consideration during pre-mobilisation for implementation during intervention, stabilisation and demobilisation phases of operations.
05	(4)(a)(v) <i>"That the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource."</i>	Prepare forces represents the most prominent element of defence during peacetime and exercises a heavy burden on the non-renewable resources at the disposal of the department. The use of these resources such as land, water, fossil fuels and other energy sources however, is subject to provisions of policy developed by support forces and issued by the department. The prevailing budgetary climate provides an indisputable imperative for the conservation of non-renewable resources such as fossil fuel and land. Restrictions imposed by budgetary constraints drive the interests of conservation of such non-renewable resources and drastic measures are consistently demanded of the DOD to observe sustainable utilisation. The use of the non-renewable resources of water and energy sources must be advocated along the lines of an imperative of conservation as the DOD is not always directly liable for costs associated with the utilisation of these resources. An imperative for more sustainable use of water and energy sources is gradually being established by means of incentive and promotional programmes for energy and water efficiency by Combat Services in collaboration with state and private enterprise.

Ser No	Section 2 Principles of NEMA	Policies, Plans and Programmes
	a	b
05	(4)(a)(v) <i>"That the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource."</i> (continues)	Employ forces exercises a heavy burden on the non-renewable resources during deployments. Procedures for use of non-renewable resources on deployment are in development for consideration during pre-mobilisation for implementation during intervention, stabilisation and demobilisation phases of operations.
06	(4)(a)(vi) <i>"That the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised."</i>	Prepare forces represents the most prominent element of defence during peacetime and exercises a heavy burden on the renewable resources at the disposal of the department. The use and management of resources such as plant and animal populations is subject to provisions of policy developed by support forces and issued by the department. Renewable resources associated with Defence controlled properties are of dichotomous nature. Such resources are of importance either as national assets such as Red Data Species or of more localised interest to defence. The populations of life forms that occur on these properties or that have been introduced are utilised as management tools to facilitate sustainable utilisation of military training areas i.e. by maintaining biodiversity and increasing the resilience of Defence controlled properties toward prevailing disturbance regimes. Policy direction in terms of biodiversity emphasises this perspective. Employ forces exercises a heavy burden on the renewable resources during deployments. Procedures for use of renewable resources on deployment are in development for consideration during pre-mobilisation for implementation during intervention, stabilisation and demobilisation phases of operations.
07	(4)(a)(vii) <i>"That a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions."</i>	Adverse environmental influences may arise from provide and employ forces associated with the aforementioned plans where insufficient consideration is applied to environmental risks that have not been appreciated according to the most contemporary available knowledge. It is ultimately endeavoured through the process of ITAM to empower decision-makers in provide and employ forces to observe the environmental consequences of military activities during the processes of planning that precede these activities. The DOD is held accountable for the management of the environmental impacts of military activities irrespective of where these are sustained.

Ser No	Section 2 Principles of NEMA	Policies, Plans and Programmes
	a	b
07	(4)(a)(vii) <i>“That a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions.”</i> (continues)	It is ultimately endeavoured through the Facilities and Environmental Management Guidelines for Operational Planning and Execution and associated procedures which are in development, to follow a risk-averse and cautious approach in the planning of operations.
08	(4)(a)(viii) <i>“That negative impact on the environment and on people’s environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.”</i>	Landowners and communities adjacent to Defence controlled properties are subject to disturbance in terms of environmental rights. Prepare and employ forces are subject to provisions of policy developed by support forces and issued by the department. Policy development focuses on measures to minimise noise generated by military activities as well as potential sources of pollution of water, land and air, which may arise from these activities to affect neighbouring landowners and communities. Employ forces is subject to provisions of policy developed by support forces and issued by the department. International Law on Armed Conflict (LOAC) and resolutions of the United Nations Commission on Human Rights stipulate provisions on environmental rights of people during times of armed conflict. The DOD subscribes to LOAC.
09	(4)(b) <i>“Environmental management is integrated acknowledging that all elements of the environment are linked and interrelated, and it takes into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.”</i>	An approach of MIEM is followed by the DOD. MIEM will be further enforced through the establishment of the management tool represented by the process of ITAM. Environmental elements are integrated and taken into consideration during all phases of provide, support and employ forces in accordance with the most recent policy developments.
10	(4)(c) <i>“Environmental justice must be pursued so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person particularly vulnerable and disadvantaged persons.”</i>	In the spirit of healthy civil-military relations, the DOD is compelled to acknowledge the view of all sectors of the society, which is served during the process of planning military activities. In pursuit of sound regional co-operation, LOAC and resolutions of the United Nations Commission on Human Rights, the DOD is compelled to acknowledge the environmental rights of all peoples during times of armed conflict.

Ser No	Section 2 Principles of NEMA	Policies, Plans and Programmes
	a	b
11	(4)(d) <i>“Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human well-being must be pursued and special measures may be taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination.”</i>	Precedence is granted to prepare forces in a peacetime force to make optimal use of Defence controlled properties. Patterns of land use alternative to military purposes is considered of subordinate priority. Equitable access to environmental resources is subject to provisions of policy developed by support forces and issued by the department. Natural resources associated with Defence controlled properties are managed as national assets in trust of the DOD. It is acknowledged that these national assets are regarded of significance to society as a whole, sectors of society or minorities. Measures are in place to provide access to such resources by non-military entities or interests groups through application of the principle of multiple use. Procedures have been implemented, for instance, to provide communities with access to traditional burial grounds and graves located on Defence controlled properties. Multiple use of Defence controlled properties allows for public access to certain properties for purposes of tourist activities such as nature trails and wildlife viewing. These activities however, are subject to precedence of military activities. Distinct economic imperatives are associated with consumptive access to such environmental resources as wild grass occurring on Defence controlled properties which is harvested for fodder or thatching as well as wood for fuel. Treasury instructions are adhered to by the DOD in granting equitable access to such resources by private enterprises by means of State Tender procedure. As part of the control of alien invasive vegetation certain military training areas are accessible to teams contracted as part of the Working for Water Programme of the Department of Water Affairs and Forestry. No clear policy development as yet, has been established concerning this principle. The stage of stabilisation following military intervention would be the most appropriate moment during times of armed conflict to secure equitable access to environmental resources to meet basic human needs.
12	(4)(e) <i>“Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle.”</i>	Environmental health as well as occupational health and safety considerations are entrenched in defence policies that govern provide, support and employ forces.

Ser No	Section 2 Principles of NEMA	Policies, Plans and Programmes
	a	b
12	(4)(e) <i>“Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle.”</i> (continues)	A DOD Environmental Health Service capacity which presides over issues concerning Occupational Health with the mandate to register and to refer all Occupational Health and Safety issues to the appropriate Occupational Health and Safety capacity and a DOD Environmental Service capacity which addresses MIEM have evolved into distinct functions within the department. These two functions despite their defined distinction, have supplemented and complemented each other in the recent past. Policy development toward environmental health and safety consequences in the life cycle of systems has commenced and requires further endeavour to ensure implementation in the DOD. Furthermore, a pilot initiative has commenced to develop standard operating procedures for the safety, health and environmental consequences associated with military exercises on training areas.
13	(4)(f) <i>“The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured.”</i>	In the spirit of healthy civil-military relations and the constitutional order, the DOD is compelled to promote the participation of all sectors of the society, which is served during the process of planning military activities. For regional operations beyond national borders, a Status of Forces Agreement (SOFA) or multi-national agreements are forged according to which military intervention will be conducted. The concept policy on Facilities and Environmental Management Guidelines for Operational Planning and Execution acknowledges liaison with environment related interested and affected parties as part of environmental support during operations.
14	4)(g) <i>“Decisions must take into account the interests, needs and values of all interested and affected parties, and this includes all forms of knowledge, including traditional and ordinary knowledge.”</i>	In the spirit of healthy civil-military relations and the constitutional order, the DOD is compelled to take into account the interests, needs, norms and values of interested and affected parties in all sectors of the society during the process of decision-making. This principle of NEMA is consistent with the philosophy of the DOD concerning civil-military relations in which the military is subject to the standards, norms and values dictated by civil society.

Ser No	Section 2 Principles of NEMA	Policies, Plans and Programmes
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14	(4)(g) <i>"Decisions must take into account the interests, needs and values of all interested and affected parties, and this includes all forms of knowledge, including traditional and ordinary knowledge."</i>	Frequent environmental reporting by the DOD will provide public access to relevant information concerning the environmental performance of the department. For regional operations beyond national borders, Status of Forces Agreements (SOFA's) or multi-national agreements are signed according to which military intervention will be conducted. The concept policy on Facilities and Environmental Management Guidelines for Operational Planning and Execution acknowledges liaison with environment related interested and affected parties as part of environmental support during operations.
15	(4)(h) <i>"Community well-being and empowerment must be promoted through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means."</i>	Provide and employ forces is not mandated to promote as the primary functions of these systems, community well-being and empowerment. The medium for these initiatives are however, created through intervention of support forces. The focus of empowerment through environmental education is primarily directed toward the military communities associated with Defence controlled properties utilised for provide forces. Interventions directed toward civilian or non-military communities are of an incidental nature.
16	(4)(i) <i>"The social, economic and environmental impacts of activities, including costs and benefits are considered, assessed and evaluated, and decisions are appropriate in the light of such consideration and assessment."</i>	Certain costs that are not visible when decisions are ruled in the execution of routine procedures associated with provide, support and employ forces may only become evident either during or following implementation. Such hidden costs may be overlooked during routine decisions when all environmental influences and impacts have not been sufficiently internalised by the organisation. During the process of operational planning in the pre-mobilisation phase, the concept policy toward Facilities and Environmental Management for Operational Planning and Execution provides guidelines for consideration of social, economic and environmental impacts of operations.
17	(4)(j) <i>"The right of workers to refuse work that is harmful to human health or the environment and to be informed of dangers must be respected and protected."</i>	In the light of provisions of the Defence Act, this principles raises some debate on the obligations associated with soldiering. Evaluation in terms of this principle is suspended pending further exploration and investigation.

Ser No	Section 2 Principles of NEMA	Policies, Plans and Programmes
	a	b
18	(4)(k) <i>"Decisions are taken in an open and transparent manner, and access is provided to information in accordance with the law."</i>	This principle is consistent with the philosophy of the DOD concerning civil-military relations in which the military is subject to the standards, norms and values dictated by civil society. Frequent environmental reporting by the DOD will provide public access to relevant information concerning the environmental performance of the department. It will be most relevant in the process of de-mobilisation of armed forces at the conclusion of a military operation.
19	(4)(l) <i>"There is intergovernmental co-ordination and harmonisation of policies, legislation and actions relating to the environment."</i>	The representation of the DOD on the CEC served extensively as the primary mechanism to ensure inter-departmental co-ordination and harmonisation of policies, legislation and actions relating to the environment. This advantage was however, revoked by the provisions of NEMA in which the DOD is not scheduled as a representative on the CEC. Presently, the DOD must rely on <i>ad hoc</i> and isolated instances of formal liaison with other departments and organs of state to satisfy requirements for co-operative governance for the environment. The SAAF observes specific formalised liaisons with civil aviation authorities of the Department of Transport in terms of environmental issues such as the management of hazards posed to aviation safety by wildlife on airfields and in the airspace. Similar relationships exist for other environmental aspects and the mechanisms for co-operative governance are expected to expand even further. An aspect that features prominently in situations of armed conflict either territorial or regional, is local and international legal compliance. When circumstances allow, this aspect is contained in a SOFA.
20	(4)(m) <i>"Actual or potential conflicts of interest between organs of state should be resolved through conflict resolution procedures."</i>	In the process of providing forces, conflict of interest encountered will not be resolved at the hand of this capacity. A mandate in this regard is delegated to support forces. In supporting forces, there is a high potential for conflicting interests between the strategic objectives for Defence and those fostered by the lead agents in government. At present no conflict resolution procedures are in place. Conflict is averted, however through informal liaison. The application of this principle as it applies to the employment of forces in situations of armed conflict has not been sufficiently explored to define the implications that are fostered.

Ser No	Section 2 Principles of NEMA	Policies, Plans and Programmes
	a	b
21	(4)(n) <i>“Global and international responsibilities relating to the environment must be discharged in the national interest.”</i>	In the process of providing forces, this principle will not be resolved at the hand of this capacity by virtue of the mandate in this regard being delegated to support forces. This principle is implicitly observed by the DOD in its position of acceding to global and international responsibilities relating to the environment that are pursued by the pertinent lead agents in this regard on such issues as transboundary national parks and Ramsar sites. Accession to these initiatives by the DOD however, is subject to conditions that will not significantly interfere with military objectives mandated to the DOD. Global and international responsibilities are taken into consideration during the operational planning process.
22	(4)(o) <i>“The environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as people’s common heritage.”</i>	This principle is thoroughly entrenched in environmental policy, philosophy and doctrine of the DOD. Provide, support and employ forces activities are executed in such a manner as to observe the provisions of departmental policy in this regard.
23	(4)(p) <i>“The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects are paid for by those responsible for harming the environment”.</i>	The DOD acknowledges its responsibilities in this regard. The risks of pollution, environmental degradation and consequent adverse health effects associated with provide and employ forces are potentially high. The principles of MIEM as observed by support forces is augmented by ITAM to secure closer co-operation and commitment of the provide and employ forces toward preventing, controlling or minimising further pollution, environmental damage or adverse health effects. The primary motive for such decisive pro-active measures are seated in the knowledge that the DOD would be liable for costs incurred as a result of harm to the environment should such measures fail. Through the establishment of an environmental management function within the DOD in 1978 and the subsequent adoption of MIEM in 1992, it is endeavoured to establish pro-active means of preventing such costs being reflected against financial statements of the department.

Ser No	Section 2 Principles of NEMA	Policies, Plans and Programmes
	a	b
24	(4)(q) <i>"The vital role of women and youth in environmental management and development must be recognised and their full participation therein must be promoted."</i>	The DOD subscribes to the national objectives for equal opportunities by means of active implementation of mechanisms to achieve the targets dictated by government in this regard. As some women are trained for combat by provide forces and are ultimately deployed, others are utilised by support forces in the management of the environment. Several portfolios reserved for environmental management in the DOD are occupied by women, the percentage of which is rapidly nearing the predetermined target in accordance with government policy.
25	(4)(r) <i>"Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure."</i>	In the process of provide forces, training of personnel is carried out on military training areas which have been selected and designated by virtue of specific physical characteristics. Military activities therefore, are executed with sufficient sensitivity toward sustaining the physical characteristics of properties. It is endeavoured through the pursuit of this perspective to convey to combat forces, an ethic that could be applied under operational conditions by employ forces. Multiple use of these Defence controlled properties fosters a high potential for transformation of these physical characteristics as a result of military activities and associated impacts of environmental degradation. It is acknowledged that such transformation could distort the physical characteristics of such properties, which in turn, would defeat the motives for original designation as a military training area. In the most extreme instances the potential exists that such transformation would render properties obsolete for purposes of military utilisation. Environmental management is directed toward thwarting this risk. The motives of the DOD for implementing measure to protect sensitive, vulnerable, highly dynamic or stressed ecosystems are however, not primarily utilitarian. The department recognises these environmental features as national assets entrusted into the custodianship of the DOD. Measures of protection are instituted therefore, for reasons pertaining to the public interest as well as compliance to regulation.

ALLOCATED RESOURCES, RESPONSIBILITIES AND TIMEFRAMES FOR IMPLEMENTING POLICIES, PLANS AND PROGRAMMES

5. The DOD requires a systematic approach to mainstream and sustain the policies, plans and programmes in the EIP for Defence in accordance with legal requirements as well as the appropriate parameters of environmental performance demanded of the department. An Environmental Management System (EMS) must be integrated in the defence sector as comprehensively as is possible into existing management systems, rather than dealing with the environment as a separate issue.
6. This averts the perception that environmental management is an obstacle that must be accommodated at the expense of operational priorities. A top-down approach of implementing broad strategies that promote a reduction in environmental impacts is more cost-effective and manageable than a bottom-up approach involving several small, localised or specific environmental plans. The DOD should consult with the respective internal process owners in order that environmental issues may be incorporated at the earliest stages of all policies, plans or programmes in such processes as for instance logistics, acquisition etc.
7. The responsibility for establishing and maintaining an EMS for Defence will reside with the task team to be known as the ERF for Defence. The composition and representation of the ERF for Defence will secure inter-divisional participation under the Chairmanship of Joint Support Division. The ERF will come into force immediately after publication of the EIP for Defence in the Government Gazette in early 2001. The ERF has a dual phased assignment of first developing the framework of an EMS by 2003 followed by the implementation of associated procedures for establishment and maintenance of the system.

CHAPTER 4: RECOMMENDED ACTIONS FOR ENVIRONMENTAL MANAGEMENT

INTRODUCTION

1. This chapter identifies and addresses appropriate mechanisms to ensure the implementation of effective integrated environmental management tools for the execution of military activities. These mechanisms focus on priority functional areas and take account of existing mechanisms and procedures for co-operative governance, key policies, plans and programmes and possible capacity limitations discussed in previous chapters.

MECHANISMS TO ENSURE IMPLEMENTATION OF EFFECTIVE MANAGEMENT TOOLS

2. The following actions are recommended to ensure the implementation of effective integrated environmental management tools for the activities under the jurisdiction of the DOD:

- a. Develop mechanisms and instruments within the DOD to isolate and measure the total costs, inclusive of internalised expenditure on the impacts that arise from military activities on the environment. This may be accomplished in co-operation with the Office of the Auditor-General of the Department of Finance.
- b. Structure Environmental Education and Training (EE&T) in the DOD in formally approved *curricula* either as specific EE&T programmes aimed at force preparation, force support and force employment or as EE&T programmes integrated with existing military and civilian developmental courses at all levels of the organisation. Accredite specific EE&T programmes according to appropriate Unit Standards set by the National Qualifications Framework (NQF) of the South African Qualifications Association (SAQA). This may be accomplished in co-operation with the Department of Education.
- c. Establish mechanisms through case law and common law provisions as well as judicial review and *locus standi* for environmental dispute and conflict resolution.
- d. Structure environmental policy and procedures for the DOD consistent with the relevant functional strategies contained in the 1992 Broad Strategy and Functional Strategies for Environmental Services in the SANDF, namely
 - i. Ecological Management
 - ii. Base Environmental Management
 - iii. Environmental Education and Training
 - iv. Environmental Planning
 - v. Environmental Research
 - vi. Cultural Resource Management
- e. Explore the programmes, objectives and activities of Agenda 21, An Agenda for Sustainable Development in the 21st Century and associated national strategies for Agenda 21, for purposes of integration into existing policies, plans and programmes of the department. Establish measures for reporting on progress of such implementation to the Commission for Sustainable Development by contributing to the State of the Environment Report following instructions received from Department of Environmental Affairs and Tourism (DEA&T).

- f. Develop an internal departmental plan to audit the capacity to implement measures for environmental compliance and performance within the context of Defence. This plan is exclusive of environmental management audit that evaluates the integrity of the EMS.
- g. Instate mechanisms of formalised intra-departmental liaison to forge an improved relationship between the DOD Environmental Health Service, which presides over issues concerning Occupational Health and the DOD Environmental Services which addresses MIEM. This may be accomplished through the inclusion of Environmental Health representation at the DOD Environmental Services Steering Group at corporate level, DOD Regional Environment Advisory Forums as well as on the DOD Environmental Awards Programme National Adjudication Panel.
- h. Investigate, develop and establish an Environmental Economics capacity within the DOD in order to appreciate the cost-benefit analysis for the inclusion of appropriate environmental and safety considerations in each of the planning, design, manufacture, acquisition and procurement, operation, maintenance, support, decommissioning and disposal of armament, equipment and related services following approaches of best practicable means and risk-aversion. This may be accomplished with the co-operation of the Acquisition and Procurement Division and the State Armament Procurement Agency, ARMSCOR.
- i. Strengthen the role of major groups in the environmental performance of the DOD by investigating appropriate and practicable means of achieving this feat. This may be accomplished by formulating predetermined actions in strengthening the role of major groups in the environmental performance of the department in the successive issues of reviewed DOD Environmental Communication Plan.
- j. Establish the means to control and improve environmental management performance of the organisation by developing an intra-departmental mechanism to ensure that the necessary controls are in place to understand the performance that is required, measure current performances, identify improvement potential, implement the improvement plan, and control and track critical activities. This can be accomplished through formal adoption of the ISO 14000-series International Standard for Environmental Management Systems by the DOD, based on the guidelines of the NATO-CCMS Pilot Study on Environmental Management Systems in the Military Sector (2000).
- k. Formally adopt and implement Integrated Training Area Management (ITAM) in departmental policy as an environmental management tool in the process of providing forces. This is to be facilitated by measures to develop capacity and empowerment of all departmental personnel in concern.
- l. In providing forces, the maritime capability of the DOD renders maritime surveillance and enforcement support to the relevant authorities for the protection of marine resources, control of marine pollution and maritime law enforcement. Although this is not consistent with the primary function associated with this capability, the DOD supports relevant authorities in this regard as an incidental service where operational readiness is in no way jeopardised. Explore formal mechanisms of inter-departmental liaison to reach agreement on the terms of reference for continuation of a co-ordinated service by the DOD in this regard. This action is to be viewed in the light of provisions of the Nairobi and Abijan Conventions on the conservation of marine resources.

This is to be pursued in co-operation with DEA&T, the Departments of Foreign Affairs and Transport as well as the SAPS.

m. In the process of restructuring the department, various bases, combat and support units are established, maintained or closed. The DOD has adopted the concept of Base Conversion as is practised worldwide. This concept includes environmental considerations during the process of closing down military installations for purposes of alternative use. Identify these environmental considerations contextually over its entire spectrum and clearly define for purposes of implementation during base conversion. Sustain formulated partnerships between the DOD, other departments and external organisations during the process of base conversion as well as international co-operation for further development of capacity in this regard.

n. In the process of providing forces for air defence, military aircraft movements are consistently under threat of hazards posed by wildlife occurring in the vicinity of runways as well as birds in particular, in the airspace used for military air operations. Focus on developing and establishing programmes for managing all aspects concerning the management of wildlife as a potential hazard to movement of military aircraft as part of departmental aviation safety policy. This is to be accomplished in co-operation with the Department of Transport, relevant academic institutions, national environmental NGO's and the local and international aviation community.

o. Include environmental regulatory obligations in the performance agreements of respective Divisional Chiefs, General Officers Commanding and Commanding Officers.

p. The absence of the DOD as a scheduled representative on the CEC impedes measures sought by the department to excel in co-operative governance in terms of the harmonisation of policies, legislation and actions relating to the environment. Address the rescheduling of the DOD as a representative on the CEC at ministerial level to secure an amendment to NEMA and consequent re-admittance of the DOD to the CEC.

q. Expand and develop guidelines and operational instructions on Facilities and Environmental Management for Operational Planning and Execution to incorporate the relevant principles of NEMA into the deployment of forces during internal, territorial operations as well as external operations.

r. Subject the Section 2 Principle (4)(j) of NEMA concerning the right of workers to refuse work that is harmful to human health and the environment to further investigation within the DOD for the formulation of policy and procedure in this regard.

3. The implementation of these recommended actions will take place during the period of the next four years and will be completed by 2004 with the onset of the next edition EIP for Defence.

ADDENDUM 1: INDICATORS

INTRODUCTION

1. This addendum lists relevant sustainable development indicators that the department already does or can routinely collect. These indicators are derived from Agenda 21, an Agenda toward Sustainable Development into the 21st Century. Agenda 21 is an action plan and blue print for sustainable development, one of five documents adopted by more than 178 governments at the United Nations (UN) Conference on Environment And Development (UNCED) in Rio de Janeiro in 1992.

2. South Africa as one of the global partners to sustainable development, reaffirmed at the UN General Assembly through as statement by the then Deputy President, Thabo Mbeki, that Agenda 21 remains the fundamental programme of action for achieving sustainable development and that the achievement of this requires the integration of economic, social and environmental components. South Africa has since been committed to the development of a national strategy for sustainable development by the year 2002. The EIP for Defence is directed toward securing capacity required by the DOD to contribute to the development of a national strategy for sustainable development through its line function of defence.

LIST OF SUSTAINABLE DEVELOPMENT INDICATORS

3. Sustainable development indicators relevant to the DOD environmental sphere are as follows:

- a. International co-operation to accelerate sustainable development in developing countries and related domestic policies.
- b. Changing consumption patterns.
- c. Protecting and promoting human health.
- d. Promoting sustainable human settlement development.
- e. Integrating environment and development in decision-making.
- f. Protection of the atmosphere.
- g. Integrated approach to the planning and management of land resources.
- h. Conservation of biological diversity.
- i. Protection of the oceans, all kind of seas, including enclosed or semi-enclosed seas, and coastal areas and the protection, rational use and development of their living resources.
- j. Protection of the quality and supply of freshwater resources: Application of integrated approaches to the development, management and use of water resources.
- k. Environmentally sound management of toxic chemicals, including prevention of illegal international traffic in toxic and dangerous products.
- l. Environmentally sound management of hazardous wastes, including prevention of illegal traffic in hazardous wastes.
- m. Environmentally sound management of solid wastes and sewage-related issues.
- n. Safe and environmentally sound management of radioactive wastes.
- o. Global action for women towards sustainable and equitable development.

- p. Recognising and strengthening the role of indigenous people and their communities.
- q. Strengthening the role of non-governmental organisations: Partners for sustainable development.
- r. Local authorities' initiatives in support of Agenda 21.
- s. Strengthening the role of workers and their trade unions.
- t. Strengthening the role of business and industry.
- u. Scientific and technological community.

ADDENDUM 2: KEY PERFORMANCE INDICATORS**INTRODUCTION**

1. This addendum discusses the proposed basis of reporting and monitoring the implementation of the EIP for Defence, relating to the functioning mechanisms and procedures to ensure co-operative governance in the exercising of priority functions, as well as the resources and timeframes for implementing the policies, plans and programmes.

KEY PERFORMANCE INDICATORS FOR IMPLEMENTATION OF EIP

2. The nature of the proposed actions recommended in Chapter 4 of this first edition EIP can only be measured according to whether the action has been implemented or not. The actions are designed to mandate specific programmes in support of the specific areas requiring improved environmental performance. These programmes are yet to be qualified and developed at the onset of the implementation phase of the EIP, when baseline or contemporary performance parameters for implementation or decisive measures for implementation would be determined in terms of each qualified environmental aspect.

3. Furthermore, these proposed actions make provision for the development of an EMS for Defence. This system will provide a structured mechanism for the implementation and management (policy, planning, monitoring and execution) of activities aimed at improving or sustaining the environmental performance of the department. The envisaged EMS for Defence will yield parameters according to which environmental management programmes implemented, to improve performance, may be measured in the Second Edition EIP for Defence.

4. Benchmarking for environmental performance in the DOD is derived from international and national regulatory requirements as well as national norms and standards as contained in the Constitution. These are supplemented, where applicable, by SA Bureau of Standards (SABS) standards for environmental compliance. The EMS in addition, has been approved by Defence as an internationally accepted benchmark i.e. that of the ISO 14000-series International Standard for environmental management. This decision is further advised by the guidelines issued in the NATO-CCMS Environmental Management Systems in the Military Sector, Final Report of the Pilot Study Group (March 2000) as well as an appreciation on the implementation of such a system in the DOD.

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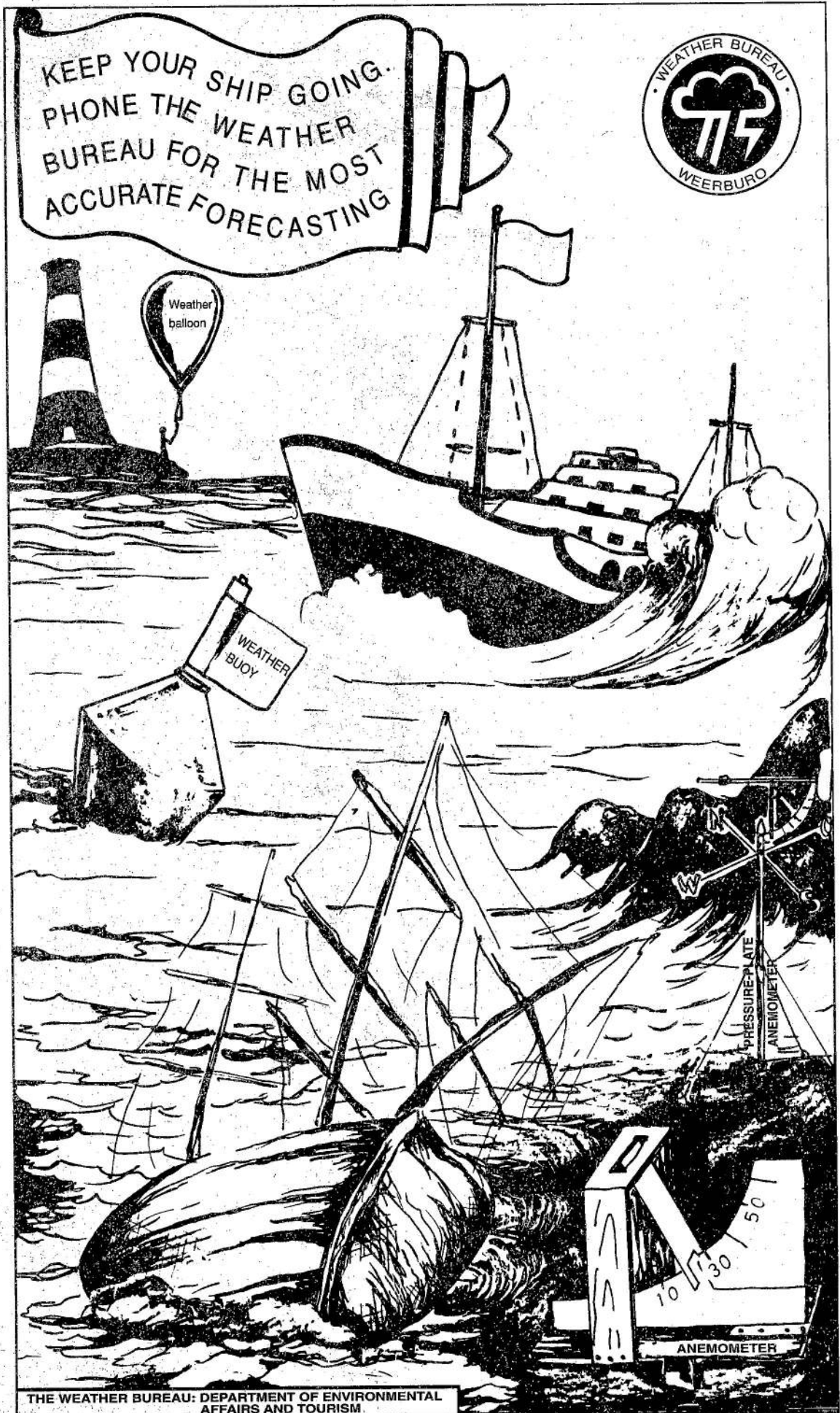
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