

Chapter 4

Governance

Good governance can be characterized by, among others, participatory behaviour, transparency and accountability. It is also effective and equitable and it promotes the rule of law.



Chapter 4

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4.1 INTRODUCTION

The term 'governance' can be defined as the collection of arrangements and interactions between private and public stakeholders, aimed at addressing social problems and creating social opportunities, as well as the institutions within which the interactions function. Good governance encompasses economic, political and administrative functions and can be defined as the processes and structures that guide political, socio-economic and ecological relationships (Hattingh *et al.* 2004). Good governance can be characterized by, among others, participatory behaviour, transparency and accountability. It is also effective and equitable and it promotes the rule of law. Good governance ensures that political, social and economic priorities are based on consensus in society and that the voices of the vulnerable are heard during decision-making processes relating to the allocation of development resources (UNDP 1997).

Understanding the governance of complex human-ecological systems is vital in a world confronting rapid environmental change, conflicts over dwindling natural resources and crises of economic, social and ecological sustainability. Improved understanding is also essential to promoting social justice approaches which benefit the most marginalized sectors of society and reduce inequality.

State of environment reporting assists in monitoring the ability of governance systems to implement environmental management strategies and programmes.



4.1.1 What is good governance?

According to the UNDP, good governance involves participation, accountability, transparency, responsiveness, effectiveness and efficiency, the rule of law, equity, and is consensus oriented (UNDP 2010). Good environmental governance will integrate these concepts and co-ordinate the responsibilities and actions of the various role-players in sustainable development. It will also facilitate the development and articulation of an appropriate management system for environmental management.

Section 195 of the Constitution of the Republic of South Africa, 1996 (the Constitution) provides further guidance on what constitutes good governance (excluding some items on public administration):

- A high standard of professional ethics must be promoted and maintained;
- Efficient, economic and effective use of resources must be promoted;
- Public administration must be development-oriented;
- Services must be provided impartially, fairly, equitably and without bias;
- People's needs must be responded to, and the public must be encouraged to participate in policy-making;
- Public administration must be accountable; and,
- Transparency must be fostered by providing the public with timely, accessible and accurate information.

The interplay between government structures, civil society, the private sector, science and legislative processes must therefore result in environmental governance that gives effect to constitutional imperatives relating to both governance practice and environmental rights. Governance process forms the backbone of the administration of our society, and should therefore also ensure that strategic direction is given to environmental management and protection, and that deviations from a desired trajectory are moderated.

Since governance is the outcome of an inclusive process of interaction between role-players, it is important to see the role of non-government actors as equal to that of actual government parties. Non-governmental entities include organizations such as environmental groups, civil groups and labour unions, and these groups play central roles in ensuring that government structures function correctly and take responsible decisions on matters affecting the environment. In addition, non-governmental actors can influence the actions of industry and business, by providing a watchdog function, through corporate structures or by public pressure.

Since environmental problems can seldom be separated from social causes or contexts, they are intricately linked to governance practices. Environmental governance therefore needs to ensure that the social and environmental rights of the Constitution are jointly dispensed.

4.1.2 How governance works for the environment

Governance involves both the determination of strategic direction and the regulation of practice. Weak environmental governance will therefore involve poorly defined

environmental policy, unachievable or irrelevant objectives, confusion in mandates and responsibilities and ultimately ineffective regulatory practice. The outcome will inevitably be degradation of the natural environment that goes hand-in-hand with a compromised living environment.

Setting policy direction for environmental management is one of the key responsibilities of environmental governance. Environmental policy is determined through a process of public-private consultation and governmental strategy formulation. The policy may consist of a suite of policy components and references, but ideally should form part of an overarching framework and be cross-referenced in non-environmental sector policy. It is also important to have environmental policy and strategic direction that relates to, and supports, higher level strategic policy.

South Africa's environmental policy is drawn together under the auspices of the NEMA, and includes a number of strategies specifically focussed on differential aspects of environmental management. Prime amongst the policies are the National Biodiversity Strategy and Action Plan (NBSAP), National Biodiversity Framework (NBF), the National Strategy for Sustainable Development and Action Plan, the National Waste Management Strategy, National Environmental Impact Assessment and Management Strategy, and the National Protected Areas Expansion Strategy (NPAES). These are supported by similar strategies at other tiers of government.

Environmental regulation similarly finds cohesion under the NEMA, and includes a suite of laws and regulations aimed at regulating activities and practices in order to prevent undue degradation of the environment.

A final component of the environmental governance system is consultation between parties. South Africa enshrines the right to freedom of expression and inclusivity in governance matters in the principles of the Constitution and these rights therefore also extend to environmental matters. Various representative structures have been set up to facilitate the communication within government structures and between public office and civil society. These structures are aimed at bi-directional information flow, in order to have general developmental practice support environmental management, and vice versa.

4.1.3 The role of civil society

Figure 4.1 below indicates that within a democracy there is a constant interplay between government, civil society (or formal institutions) and individuals. This *contested space* is where many important, topical issues are played out.

People experience problems at an individual or household level; however, their voice is not always easily 'heard'. Civil society has a responsibility to *articulate* these interests or concerns into interest groups which articulate a collective voice of the people. Government's role is to *aggregate* a variety of interests from society to decide which interests take priority.

The critical point is that good governance in an era of democracy is not achieved by any one rule, institution or economic policy, but requires a multi-sectoral approach, where multiple role players take part in the decision-making processes of a country.

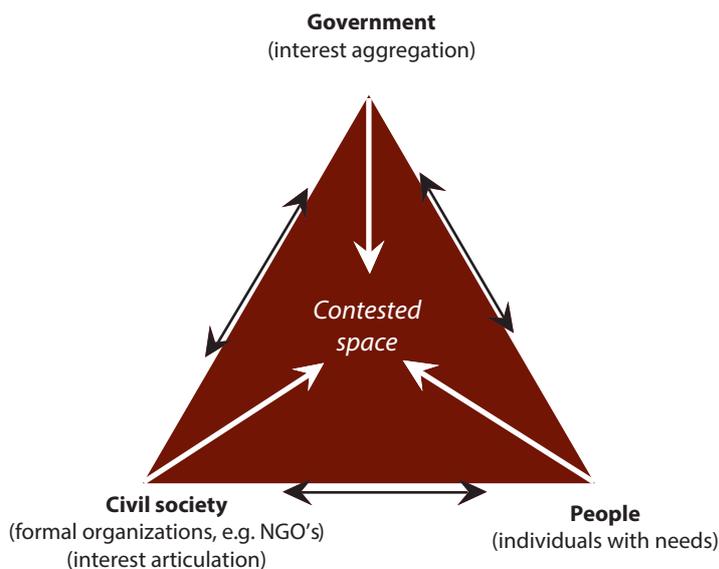


Figure 4. 1: Interaction between government, people and civil society

Source: Hattingh et al. (2004)

Table 4. 1: Institutional structures and National Committee on Sustainable Development

National sustainable development institutional structures	Inter-governmental engagement:	Multi-stakeholder engagement:	Interrelated tools
Four pillars of technical NCS D task team	Technical NCS D Task Team (through the co-ordinating department) process relevant work streams in four pillars to existing horizontal and vertical structures: MINMEC/ MINTECH/ WGs, Clusters and Cabinet and or Biennial Ministerial NCS D	Technical NCS D Task Team (through the co-ordinating department) conducts multi-stakeholder engagements to organised labour e.g. COSATU, academia & research, civil society, multi-stakeholder e.g. National Committee on Climate Change, NEDLAC, private sector organization e.g. BUSA, NBI, BBC	
Oversight role	Parliament		
1. Policy development	5-yearly NSSD policy development, review and implementation On-going SD policy alignment engagements	5-yearly NSSD policy development, review and implementation On-going SD policy alignment engagements	National Development Plan, New Growth Path, Medium Term Strategic Framework, Provincial Growth and Development Strategies, Integrated Development Plans, Sector policies and Private sector plans, policies and strategies
2. International cooperation	Annual country position Annual country report On-going country position and outcomes engagements	Annual country position Annual country report On-going country position and outcomes engagements	Multilateral environmental agreements and cooperation
3. Programmes implementation	On-going implementation of sustainable development interventions, action, programmes and projects in five priorities of NSSD	On-going implementation of sustainable development interventions, action, programmes and projects in five priorities of NSSD	Annual reports
4. Monitoring and evaluation (M&E)	Biennial NSSD M&E country report	Biennial NSSD M&E country report	12 Outcomes, Environment Outlook, Millennium Development Goals and Sustainability indicators

Source: DEA (2012)

4.2 INSTITUTIONS AND LAWS

4.2.1 Institutional structures

According to Schedule 4 of the Constitution, environmental matters are regarded as a functional area of concurrent national and provincial legislative competence. By implication, this places the responsibility and mandate for environmental management on both national and provincial government. Both may therefore draft legislation that affects the environment and both may enforce the regulations. Other functional areas included in Schedule 4 include agriculture, soil conservation, nature conservation, administration of indigenous forests, housing, public transport, regional planning and development, urban and rural development, and pollution control.

National government retains exclusive legislative competence in respect of matters not listed in Schedules 4 and 5 of the Constitution. These include energy, mining and water (other than sanitation and potable water systems). Local government is granted the mandate to deal with issues of local scale such as air and noise pollution, municipal roads, water supply and sanitation, storm water management, refuse and solid waste disposal. Local government also sits with the mandate to execute capital projects in accordance with spatial planning, such as IDPs and SDFs. These plans and projects need to include environmental considerations and the ability to implement development ideals without compromising the underlying natural resource base.

Inter-governmental co-operation and interaction on environmental matters is given structure through inter-governmental forums and structures established in terms of the Inter-governmental Relations Framework Act (No 13 of 2005). These structures focus mainly on strategic and policy setting matters.

To move towards sustainable development, the main vehicles for intergovernmental horizontal co-ordination at a national level will be the Forum of South African Heads of Departments (FOSAD) and the cluster system, in particular the Cluster for International Co-operation, Trade and Security, Social Protection and Community Development, the Human Development Cluster, the Economic Sectors and Employment Cluster, and the Infrastructure Development Cluster (DEA 2011).

Vertical co-ordination with provinces will take place through the President's Co-ordinating Committee, and meetings of MINTECH and MINMEC. Performance against sustainability targets will be included in discussions that take place during these forums. Co-ordination with local government will be facilitated through the South African Local Government Association (SALGA) and the Department of Co-operative Governance and Traditional Affairs (COGTA) (DEA 2011). Engagement with non-governmental actors takes place within a range of forums at national, provincial and municipal levels, specifically focused on strategies for economic development.

The NSSD indicates that the DEA is the co-ordinating focal point for sustainable development in the country, but must work together with the relevant spheres of government,

private sector, Non-governmental organizations (NGOs) and civil society. Detailed information on the policy and strategy on sustainable development in South Africa is contained in Chapter 2 of the NSSD. Chapter 4 of the NSSD provides for the establishment of the National Committee on Sustainable Development (NCSDD), which operates at multiple levels to engage government departments, civil society, the private sector, academia, independent reviewers and other stakeholders. To complement the existing structures, the NCSDD has two core structures: i) the Biennial Ministerial NCSDD; and, ii) the Technical NCSDD Task Team. The NCSDD (co-ordinated by DEA) makes use of existing structures including horizontal and vertical structures, international institutions, private sector, civil society, academia and other multi-stakeholders. The Technical NCSDD Task Team can be convened at various government levels to engage on sustainable development issues on the four pillars of policy development, international co-operation, programmes implementation and monitoring and evaluation. This Technical NCSDD Task Team provides a dedicated platform for engagement on sustainable development, while the existing vertical and horizontal structures are used for final processing and endorsement of sustainable development policies, interventions, reports and country position. The key institution that takes responsibility for planning is the National Planning Commission (NPC) while the Presidency Monitoring and Evaluation is facilitated through the 12 Outcomes approach. The overall country oversight role is provided by the Parliament (Table 4.1).

4.2.2 Legislation

South African environmental governance is firmly rooted in Section 24 of the Constitution. Section 24 declares the right to a healthy and clean living environment as being a fundamental human right. This places a responsibility on the governance system to secure and protect such an environment that is conducive to a safe and healthy existence. South Africa shares this declaration of basic environmental rights with at least 59 other countries, and echoes its neighbours Mozambique and Lesotho in guaranteeing environmental protection for the benefit of future generations (Jeffords 2011).

This Constitutional imperative is fleshed out further through the application of the NEMA and various amendment acts published subsequently. NEMA is the framework legislation for environmental protection and sustainable development in South Africa. The following statements appear in its Preamble: *"...sustainable development requires the integration of social, economic and environmental factors in the planning, implementation and evaluation of decisions to ensure that development serves present and future generations;"* and *"... secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development."* (Government of South Africa 1998).

Principles for sustainable development are stated in Chapter 2, Section 2 of NEMA, making it a statutory obligation for any development to 'be sustainable'. The precautionary principle is also stated clearly in subsection (4)(a)(vii). Environmental Implementation Plans (EIPs) and Environmental Management Plans (EMPs) are also required by NEMA. There is concern, however, about NEMA's apparent inability to ensure environmental systems integrity: *"The core instrument used*

to give effect to this Act is Environmental Impact Assessment (EIA). Although development projects must be subjected to an EIA, the focus is on costs of pollution and environmental impacts, and not resource inputs and prices. This does not provide a sufficient basis for decoupling over the long run” (UNEP 2011).

NEMA has established a co-ordinating framework for a system of integrated legislative mechanisms related to specific clusters or sectors of environmental management (Table 4.2). Within this system, Specific Environmental Management Acts (SEMAs) have been enacted since 2003.

Table 4. 2: Environmental management suit of Acts

Year	Name	Description
2003	National Environmental Management: Protected Areas Act (No 57 of 2003) (NEM:PA)	Consolidates the system of protected areas in SA and provides mechanisms for their management.
2004	National Environmental Management: Biodiversity Act (No 10 of 2004) (NEM:BA)	Makes provision for general and specific management of biodiversity on either a species or ecosystem basis. The purpose of the Act is to provide for the management and conservation of SA’s biodiversity, the protection of species and ecosystems that warrant national protection, the sustainable use of indigenous biological resources, the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources, and the establishment of SANBI.
2004	National Environmental Management: Air Quality Act (No 39 of 2004) (Air Quality Act)	The purpose of the Act is to improve air quality through a number of laws and regulations, to set standards for monitoring, managing and controlling air quality, and set out fines and penalties for people who contravene the law. Importantly, the Air Quality Act makes air quality the responsibility of local government through air quality management plans, pollution prevention plans, by-laws and other policies.
2008	National Environmental Management: Integrated Coastal Management Act (No 24 of 2008) (ICM Act)	Creates a coastal zone for the Republic of South Africa and it establishes new and innovative regulatory instruments to provide for the co-ordinated and integrated management of the coastal zone by all spheres of government in accordance with the principles of co-operative governance. Significantly, this is the only SEMA that is considered to apply concurrently with NEMA, and where conflicts arise is considered to take preference over NEMA.
2008	National Environmental Management: Waste Act (No 59 of 2008)	The Act reforms the law regulating waste management to ensure the protection of the environment. It provides reasonable measures to prevent pollution and ecological degradation and helps secure ecologically sustainable development. The Act provides for norms and standards for the industry, as well as a national waste information system which in turn allows for improved compliance and enforcement.

Table 4. 3 National legislation with environmental overlap

Year	Name	Description
1983	Conservation of Agricultural Resources Act (No 43 of 1983)	The Act guides the use and protection of natural agricultural resources, through mechanisms that conserve soil, water resources and vegetation. Specific provisions deal with the control of weeds and invasive species.
1998	National Water Act (No 36 of 1998) (NWA)	Overhauls and rationalizes the legal framework for water, providing for the more equitable and sustainable management of the country’s water resources.
1998	National Forests Act (No 84 of 1998)	The Act amends the legislative environment as it pertains to forestry management, and provides for appropriate management considerations for both commercial and natural forests.

Year	Name	Description
1998	Marine Living Resources Act (No 18 of 1998)	<p>The Act makes provision for protecting the marine environment, ensuring the sustainable utilization of marine living resources and facilitating the participation of historically disadvantaged communities into the fishing industry.</p> <p>The Act presents an ecosystem approach which ensures that marine resources are conserved for future generations, and that all resources are protected regardless of whether or not they are exploited.</p>
1999	National Heritage Resources Act (No 25 of 1999) Provincial Heritage Acts (e.g. KwaZulu-Natal)	Protects heritage resources, including land and buildings, that form part of the 'national estate' because of their cultural significance.
2002	The Minerals and Petroleum Resources Development Act (No 28 of 2002)	Inter alia aims to ensure ecologically sustainable development of mineral and petroleum resources whilst promoting economic and social development.
2008	Revenue Laws Amendment Act (No 60 of 2008)	Amends the different revenue collection laws to, amongst other provisions, establish procedures for the allocation of tax rebates in favour of environmental conservation actions.
2008	National Energy Act (No 34 of 2008)	The Energy Act provides for the overall planning and management of the energy sector in South Africa, taking into account environmental management requirements and interactions amongst economic sectors, to provide for energy planning as well as increased generation and consumption of renewable energies.
2011	Spatial Planning and Land Use Management Act, 2011 (No 16 of 2003)	Proposes principles, standards and processes for regulating spatial planning, land use and land use management in a way that promotes co-operative governance, socio-economic benefits, and sustainable and efficient use of land.

Table 4. 4: Specific regulations applicable to environmental governance

Year	Name	Description
2001	CARA Lists of Weeds and Invasive Species (Regulation No R280 of 30 March 2001 published under Section 29 of CARA)	Classifies invasive plants and weeds and prescribes management actions for each class.
2001	Regulations on the control of vehicles in the coastal zone, also known as the Off-road vehicle Regulations (GN Regulation 1399 of 21 December 2001, amended in 2004)	The regulations centre on imposing a general duty of care on persons using 4x4 vehicles in the coastal zone, as well as a general prohibition on the use of 4x4 vehicles in the coastal zone unless it is a permissible use.
2007	Threatened or Protected Species (ToPS) Regulations (Regulation No R152 of 2007) as amended in 2008, 2009 and 2011	Published lists of threatened species, that determine the applicability of the 'Restricted Activities' under the NEM:BA. Regulates the permit system set out in Chapter 7 of NEM:BA. The first national regulations to replace or supplement provincial ordinances. The aim is to make TOPS the only regulations in SA for indigenous species.
2008	Regulations for bioprospecting, access and benefit-sharing (Notice R137 of 2008)	Relates to Chapter 6 (Bioprospecting, Access and Benefit-sharing) and Chapter 7 (Permit System) of NEM:BA. These regulations regulate the permit system set out in Chapter 7 of the NEM:BA in so far as that system applies to bioprospecting involving any indigenous biological resources. Sets out the contents of, and the requirements and criteria for benefit-sharing and material transfer agreements, and protects the interest of stakeholders.
2009	List of Waste Management Activities (Notice R718 of 2009)	Publishes a List of Waste Management Activities which have, or are likely to have a detrimental effect on the environment, and therefore are subject to regulatory controls.

Year	Name	Description
2010	Environmental Impact Assessment (EIA) Regulations. (Regulations No R543 to R546 published under sections 24(5), 24M and 44 of NEMA)	Determines the processes for, and activity triggers that require, EIA authorizations.
2010	CITES regulations (Notice R173 of 2010)	The regulations specifically focus on species listed under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and establish the necessary regulatory control procedures.

NEMA is intended to be used side-by-side with other national legislation that have broad application areas but which include parts of the environmental sphere. Table 4.3 provides an overview of some of national legislation with environmental overlap. It should be noted that, as environmental issues are by their nature integrative and collaborative, the list is not exhaustive. Furthermore, environmental aspects are found within other sector specific legislation such as social and economic development and labour. Ultimately, the Bill of Rights within the South African Constitution provides the basis for the inclusion of environmental aspects in legislation.

Prime statutes are often, however, not designed for actual detailed regulation of activities. Instead, they provide for the publication of specific sets of regulations that are easier to manage and maintain. These regulations apply to day-to-day activities and processes, and are generally administered through permitting systems and policed through specific penalty clauses in the parent statute (Table 4.4).

The Local Government: Municipal Systems Act (No 32 of 2000) (Municipal Systems Act), states in its preamble that municipalities are empowered to move “...towards the social and economic upliftment of communities and the provision of basic services to all our people, and specifically the poor and disadvantaged” (Government of South Africa 2000). The tools through which this goal is to be reached are IDPs and SDFs. While the Municipal Systems Act, under the 2001 Regulations, requires all SDFs to undergo a strategic environmental assessment (SEA), a glaring omission is sustainability as an objective. Consequently, sustainable development is not required content of an IDP or SDF.

The Municipal Systems Act requires the integrated formulation of IDPs and SDFs, but linkage between the two tends to be tenuous in practice. An avenue whereby this shortcoming may be addressed is provided in Section 37(1)c) (through regulations, integration and sustainability principles and norms may be required content of IDPs and SDFs). However, in his section, Harrison (2006) concludes that local government in post-apartheid South Africa is much more difficult to construct and less effective than was anticipated in 1996. Planning instruments such as IDPs have shown their limitations in assisting local governments to be more effective. There is a mismatch between the IDPs, Local Government Integrated Planning Practical Guide and the requirements of the Municipal Systems Act.

Todes (2004) concluded in her analysis of IDPs that, although the focus on integration and a multi-sectoral approach to development is a positive aspect of the IDP approach, more emphasis needs to be given to environmental issues as well

as a planning approach that takes into account the context, (i.e. social, economic and political dynamics) of the local municipality.

4.2.3 Policy environment

Environmental management has seen significant conceptual development in the past decade, and has become progressively diversified at policy level in an attempt to adequately deal with emerging fields of practice such as climate change, sustainable design, integrated environmental management, and strategic environmental planning.

A significant amount of information, knowledge and guidance can be found in the various environmental policies and guidelines published during the past decade. These guidance documents are intended to facilitate better understanding of environmental management matters, and related issues. They also clarify specific concepts, and set standards for the implementation of responsible environmental management in particular situations or with regards to specific features.

Unfortunately, many such documents end up never making contact with an audience or practitioners outside of the institutions that created them. In the environmental management field, environmental policies and guidelines commonly only get used by individuals within the sector, rather than those people or institutions outside the field that have control over the ‘actioning’ of the recommendations and controls. For example, it is an open question whether the recent South African Risk and Vulnerability Atlas (SARVA) drafted by the Department of Science and Technology (DST), will be seen and used by rural development practitioners who, understandably, view climate change as something that the ‘environmentalists’ need to deal with, not knowing that it directly affects the feasibility of farming and biodiversity management. Table 4.5 lists policies that play a significant role in structuring the environmental management sphere.



Table 4. 5: The environmental management policy environment

Date	Title	Comment
2004	National Water Resources Strategy (currently being revised)	The Water Resources Strategy provides an overall framework for water use in an attempt to ensure that water is used to “support equitable and sustainable social and economic transformation and development”. The strategy co-ordinates management of resources, and provides the basis for establishing a balance between water use needs and ecological requirements.
2005	A practical field procedure for identification and delineation of wetlands and riparian areas	The field manual standardizes the demarcation of wetlands, and can be used in all applications where a spatial demarcation of the extent of wetlands is required.
2005	National Biodiversity Strategy and Action Plan	This Plan provides an overarching goal and a set of five strategic objectives to guide the work of the wide range of stakeholders and role players involved in the management and conservation of SA’s biodiversity.
2007	National Framework for Air Quality Management	The National Framework provides mechanisms, systems and procedures to promote holistic and integrated air quality management through pollution prevention and minimization at source, and through impact management with respect to the receiving environment from local scale to international issues.
2007	Policy for the Development of a Sustainable Marine Aquaculture Sector (Notice 1109 of 2007)	The document provides the principles of, and mechanisms for, the development and regulation of the marine aquaculture sector. The sector realizes that it is competing with other economic and social interests that rely on the relatively pristine coastline.
2008	National Protected Area Expansion Strategy	Deals with both land-based and marine protected areas. Sets ecosystem-specific targets for protected area expansion, identifies important geographic areas for protected area expansion with a focus on climate change resilience, and makes recommendations about mechanisms for protected area expansion.
2009	Water for Growth and Development Framework	Contains a framework to guide actions and decisions that will ensure water security in terms of quantity and of quality to support SA’s requirements for economic growth and social development, without compromising the ecological sustainability of water resources.
2009	National Biodiversity Framework	Provides a framework to co-ordinate and align the efforts of the many organizations and individuals involved in conserving and managing SA’s biodiversity. Identifies 33 priority actions which provide an agreed set of priorities to guide the work of the biodiversity sector in SA.
2009	Guideline Regarding the Determination of Bioregions and the Preparation of, and Publication of Bioregional Plans (Notice 291 of 2009)	The primary intention of the biodiversity planning tools in the NEM:BA is to facilitate conservation and management of biodiversity in ‘biodiversity priority areas’ or priority areas for biodiversity conservation that fall outside the protected area network. The purpose of a bioregional plan is to provide a map of biodiversity priorities with accompanying land use planning and decision making guidelines, to inform land use planning, environmental assessment and authorizations, and natural resource management.
2009	Strategic Framework for Implementing Sustainable Development in the South African Minerals Sector: Towards Developing Sustainable Development Policy and Meeting Reporting Commitments (Discussion Document)	The report forms part of a process of reconceptualizing the mining sector in SA into a more sustainable form.
2010	South African Risk and Vulnerability Atlas	The Atlas provides information on climate change related risks and vulnerabilities for key sectors in order to support their strategy development.

Date	Title	Comment
2011	National Strategy for Sustainable Development and Action Plan	Describes how overall sustainability is to be achieved through a sustainable development process. The three pillars are a sustainable development path, changed behaviour and values, and an appropriate governance system.
2011	Policy for the Provision of Basic Refuse Removal Services to Indigent Households (Notice 143 of 2011)	This policy seeks to provide the framework for guiding municipalities on the provision of free access to refuse removal for poor people as well as for the standardization of the quality of these services.
2011	National Standards for the Collection of Domestic Waste (Notice 21 of 2011)	The standards aim to set out rules and regulations for how domestic waste should be collected in SA, as well as a guide for municipalities on how to provide acceptable, affordable and sustainable waste collection services, address waste collection and collection vehicles, drop-off centres for recyclables, health and safety, communication and awareness creation, including complaints handling and customer service standards for kerbside collection. They are based on the waste management hierarchy that requires waste avoidance, reduction, reuse, recycling, recovery and waste treatment, with disposal as a last resort.
2011	White Paper on Climate Change	Outlines the government strategy for dealing with climate change. Proposes various institutional structures and regulatory mechanisms through which adaptation, mitigation, disaster response and monitoring will take place.
2012	Draft National Estuarine Management Protocol (Notice 336 of 2012)	The protocol sets out standards for the preparation of Estuary Management Plans, and identifies objectives for the management of estuaries in general.
2012	Environmental Management Framework Guideline (Notice 806 of 2012)	Sets out standards and methods for compiling EMFs.
	Spatial Biodiversity Conservation Plans	These plans, usually provincial, identify Critical Biodiversity Areas and Ecological Support Areas based on systematic biodiversity planning principles and methods. They take into account the need to conserve a representative sample of terrestrial and aquatic ecosystems and species, and to maintain ecological processes at the local and landscape scale. Provides the biodiversity sector's input into a range of multi-sectoral planning and decision-making processes. Should be used to guide land use planning and environmental authorizations.

4.2.4 Accountability

Accountability is facilitated and reinforced at a national level by the Committee for Environmental Co-ordination (CEC), which can be mirrored at provincial and local level. NEMA does not provide much guidance on the role of civil society in good environmental governance but makes provision for a National Environmental Advisory Forum (NEAF), which is conceived as the civil society equivalent to the CEC. This forum was established in 2005 to institute a system of environmental 'governance', rather than 'government', and has the mandate to advise the Minister of Environmental Affairs on ways in which to ensure the implementation of the principles of environmental management as specified in NEMA.

Principles of good governance should be considered as being equally applicable to civil society as they are to government. For this reason, the private sector is encouraged to consider sustainability reporting as a principle of good corporate governance.

For the purpose of tracking national performance against sustainability indicators, the NSSD proposes that identified indicators be monitored through quarterly non-financial reports. These reports will have to be linked to programme outputs or strategic objectives contained in the Annual Performance Plans of government departments, municipalities and public entities (DEA 2011). The NCSA was meant to have the responsibility to keep track of overall performance against the sustainability goals and a biennial NSSD Monitoring and Evaluation (NSSD M&E) report will be produced. The Auditor-General's office will necessarily have an oversight role as the reporting system forms part of the normal reporting and accountability cycle of government. The NSSD recommends that a special function of audit performance on sustainable development be established within the office of the Auditor-General, focusing on the monitoring of sustainability outputs (DEA 2011). To implement the NSSD interventions, the programmes and projects will need to be aligned and contribute to the 12 Outcomes of national government and annual plans. The biennial NSSD M&E country report will be linked, among others, with the Environment Outlook, MDGs

and Sustainability Indicators.

Individual government departments with mandates that extend to environmental matters are required by the NEMA to compile environmental implementation and/or management plans to provide a point of reference for their activities and operations.

4.2.5 Co-ordination

The legislative and institutional framework for the management and protection of the natural environment in South Africa is complex and has resulted in the fragmentation of responsibility, both horizontally and vertically within government. A further complexity is that the horizontal institutional divisions are not necessarily the same at provincial level, as each province has designed its institutional arrangements for the environment in a different way. For example, one province may locate conservation with agriculture while another may locate conservation with environmental management and planning.

At the national level, the lead agent for the environment is the national DEA. However, eight other national departments are also responsible for legislation and activities which are directly related to environmental management or which may have an impact on the environment (Table 4.6).

In addition, there are three national agencies (which report to DEA) which have environmental responsibilities:

- South African National Biodiversity Institute (SANBI);
- South African National Parks (SANParks); and,
- South African Weather Services (SAWS).

At a provincial level, the main environmental functions undertaken include environmental impact assessments, conservation of provincial nature reserves, and issuing and administering a range of environmental permits. Provinces are required to develop provincial spatial biodiversity plans in terms of the National Biodiversity Framework, and these provincial plans may be published as bioregional plans in terms of NEM:BA. Provinces also have the powers to set provincial standards under various pieces of environmental legislation. NEMA requires provincial government to prepare EIPs and to ensure that municipalities adhere to these plans in the preparation of their IDPs. Provincial SDFs may include environmental considerations. Provinces need to support municipalities for adherence to the NEMA principles in the preparation of municipal policy and programmes. National, provincial and local government may develop coastal management programmes (CMPs) under the ICM Act.

In terms of institutional arrangements, every province has a provincial environment department although a provincial environment department may also include other functions (e.g. economic affairs, development planning, tourism, agriculture or any other relevant function depending on how a province has decided to arrange its departments).

Table 4. 6: National government department environmental responsibilities

Department	Responsibility (as per legislation overseen by these departments)
Agriculture, Forestry and Fisheries	Agricultural resources, pests, regulation of fertilizers, farm feeds and agricultural remedies, GMOs, veld, fisheries and forestry.
Arts and Culture	National heritage (including World Heritage Sites).
Environmental Affairs	Air quality, pollution control and waste management, environmental impact management, biodiversity conservation and marine and coastal management.
Health	Hazardous substances.
Rural Development & Land Reform	Development facilitation and principles governing land development, land use and animal breeding.
Mineral Resources	Access to minerals, mine related health and safety.
Energy	Access to petroleum resources and nuclear energy.
Water Affairs	Water resources, water services and mountain catchments.
Co-operative Governance & Traditional Affairs	Municipal planning, integrated development plans, municipal service delivery and disaster management.
Transport	Maritime law, movement of substances, harbours.
Labour	Administers regulations including systems for labelling and packaging of chemicals, hazardous chemical substances and asbestos.

4.3 WHAT ARE THE PRIORITIES?

4.3.1 National Strategy for Sustainable Development

The NSSD identifies five strategic interventions required to achieve the nation’s vision for sustainable development (DEA 2011) as redefined versions of the strategic pathways identified in the 2008 National Framework for Sustainable Development (NFSD).

Government performance in these is intended to be tracked through means of monitoring and reporting on 113 interventions and 20 headline indicators that respond to the MDGs and Government Outcomes processes.

4.3.2 Presidential outcomes

Options for action need to be aligned to and monitor progress against the Outcomes Based Approach that has been recently agreed to in Cabinet. These 12 Outcomes reflect the main strategic priorities of government between 2010 and 2014. Combined, these agreements reflect government’s delivery and implementation plans for its foremost priorities. Each outcome has a limited number of measurable outputs with targets.

The indicators in the SAEO are relevant to a number of outcomes. The most important Outcome for sustainable environmental management is Outcome 10, namely

“environmental assets and natural resources that are well protected and continually enhanced”. Outcome 10 specifically focuses on environmental assets and the protection and continual enhancement of the country’s natural resources. It represents a significant step forward for the sustainable development ethos in South Africa, as it is the first time that environmental outcomes are given recognition at the same strategic level as issues such as food security, public health and employment. The four main outputs outlined under Outcome 10 are:

- **Output 1:** Quality and quantity of water resources enhanced;
- **Output 2:** Greenhouse gas emissions reduced, climate change impacts mitigated and air/atmospheric quality improved;
- **Output 3:** Sustainable environment management; and,
- **Output 4:** Biodiversity protected.

Outcome 10 is the most important for sustainable environmental management but, because the environment is a cross-cutting matter, the proposed environmental actions can, and have, been applied to all 12 Outcomes. In turn, it will be critical to ensure co-operative governance and environmental awareness is applied across all levels of decision-making and society to obtain the full impact of the environmental actions.

The indicators in the SAEO are relevant to a number of outcomes and Table 4.7 shows the relationship between the Outcomes and the SAEO.

Table 4. 7: Outcome focus areas and links to the SAEO

Outcome	Environmental outlook responses
Improved quality of basic education	Focus should be placed on environmental education and awareness of learners, encouraging graduates in the natural sciences and environmental management fields, and continued professional development and skills development.
A long and healthy life for all South Africans	The health and wellbeing of people is related to the protection of functioning ecosystems that provide ecological goods and services and improve resilience. This is particularly true for indigent individuals and families that rely on ‘free’ natural resources, but also applies to socio-economic systems that need protection against environmental risks or disasters.
All people in SA are and feel safe	There is increased focus on enforcing compliance with environmental regulations. Capacity and resources of institutions to affect this remains a concern, but progress is being made in building up the capacity and experience of Environmental Management Inspectors (EMIs). Public open spaces must be made safe through active policing, proper maintenance and public awareness campaigns.
Decent employment through inclusive economic growth	Economic growth should be sustainable and inclusive. The decline in mining and manufacturing can be partially offset by opportunities in the green economy. Green business presents opportunities for labour absorption (especially for the youth) through small businesses and co-operatives. The indirect economic impacts of climate change must be anticipated and mitigated through proactive adaptation of the macro-economic strategies. The environmental sector implementation of the Expanded Public Works Programme is important for decent employment and inclusive economic growth.
A skilled and capable workforce to support an inclusive growth path	Local municipalities can play a pivotal role in leveraging opportunities in the green economy. Research and development, and technological innovation in the green economy, could significantly contribute to skills development and an inclusive growth path. Leveraging skills and knowledge from South African-based institutions and organizations should co-exist with investment in new green growth areas.

Outcome	Environmental Outlook Responses
An efficient, competitive and responsive economic infrastructure network	An advanced economic infrastructure network is important in the country's growth and development strategy. Nevertheless, issues of capacity and quality of service, as well as road congestion, could hamper this. Key step changes will be large scale roll-out of formal public transport, renewable energy systems and water recycling. Adequate investment in the maintenance and operations of existing infrastructure throughout its lifespan is critically important to ensure proper functioning and delivery of services.
Vibrant, equitable and sustainable rural communities with food security for all	SA will continue to experience rural to urban migration and increasing urban expansion requires active land management to counter urban sprawl and unsustainable land use. Proper land management, access to land and water and basic services are important for sustainable rural communities. Ensuring food and water security for rural communities will become increasingly important in the future.
Sustainable human settlements and improved quality of household life	High levels of urbanization and population density will continue to impact land and transform natural areas into other uses. If not properly managed land transformation can result in degradation and loss of ecosystem services. Human settlements should embrace the value and long term cost-savings that environmentally responsive designs and ecosystem services have to offer.
Responsive, accountable, effective and efficient local government system	Co-operative governance is required for co-ordination and alignment between different spheres of government in both the formulation of policy as well as the implementation of services and infrastructure in SA. Proactive mainstreaming of environmentally responsible thinking, budgeting and innovation into non-environmental government departments can only be done through co-operation and collaboration.
Environmental assets and natural resources that are well protected and continually enhanced	The SAEO is specifically targeted to Outcome 10 and the Chapters in Part 2 provide supporting information on the state of environmental assets in SA as well as sector specific responses. The pinch points in Part 3 specifically address the priority areas for action and area strongly aligned to the Outcome 10 Outputs.
Creating a better SA and contributing to a better and safer Africa in a better world	The most important list is with the NSSD and continued effort in terms of implementation is important to achieve goals. Transitioning to the green economy will enhance regional and global trade and investment opportunities by optimizing the use of local and regional environmental assets.
An efficient, effective and development oriented public service and an empowered, fair and inclusive citizenship	Equitable and efficient service delivery remains important, particularly in areas where the level of social protest is high. Global environmental challenges of climate change, energy, water and food security will be core to ensuring sustainable development and as a result the focus of policy and strategy development in SA. Integrating mechanisms and structures that facilitate participation should be further strengthened and there is still much work to do in institutional and community capacity-building.

4.4 HOW ARE WE DOING?

4.4.1 Achievements

The South African government is committed to development that is sustainable, as is evident from its support of both the MDGs and the Johannesburg Plan of Implementation and their respective global oversight structures. The commitment is given local flavour through ongoing efforts in defining a vision and implementing strategy for sustainable development. A prime structuring element in this effort is the NFSD that provides the basis for a long-term process of integrating sustainability as a key component of the development discourse.

The NFSD (DEA 2008) finds that South Africa has made good progress in setting up a system for environmental governance (Box 4.1). This framework led to the Cabinet endorsement of the National Strategy for Sustainable Development and Action Plan in 2011. The country has incorporated sustainable development principles into various sector policies and programmes. Much of the initiatives precede international

agreements and commitments to such actions and interventions such as the MDGs and the Johannesburg Plan of Implementation – which naturally makes commitment to such international agreements much easier. Important steps in incorporating environmental governance within the broader governance system includes the inclusion of environmental rights in the Constitution and the incorporation of sustainable development principles into laws such as the NWA and NEMA. Subsequently, South Africa has developed a strategy that responds to the Johannesburg Plan of Implementation at national level and is supported provincially through the Provincial Growth and Development Strategies. The country has also continued to include sustainable development principles, objectives and targets into macro level strategies, plans and programmes. Social indicators also speak of progress made in terms of securing a healthy living environment for South Africans - the loss of environmental resources is being addressed, access to safe drinking water is on the rise, the quality of life of people living in informal settlements is receiving focussed attention, and public health is improving (DEA 2008).

Other examples of sustainable development programmes and projects that are implemented jointly and across spheres by sector departments, municipalities and public entities within the economic, social or governance clusters are listed as (DEA 2008):

- A suite of regulatory and institutional reforms to give statutory effect to sustainable development, regulate resource use and support implementation;
- Labour intensive job creation in the form of the Working for Water and Working for Wetlands Programmes that are implemented locally by various organs of state and civil society agents;
- Multi-sectoral bioregional programmes that link biodiversity conservation with socio-economic development (such as Cape Action for People and Environment, the Succulent Karoo Ecosystem Programme, and the Grasslands Programme), transfrontier parks and world heritage sites, as well as the CoastCare and Blue Flag Beach Programmes are in place;
- Policy guidelines for the integration of environmental planning into the land reform process and guidelines for incorporating environmental considerations into IDPs;
- The Breaking New Ground agreement between roleplayers in the housing sector that specifically commits government and its housing sector partners to the MDGs is just one example of similar co-ordination programmes in the sector;
- A number of government departments and municipalities have implemented measures for promoting energy and material efficiency, cleaner production and eco-efficiency;
- Initiatives such as the Green Building Council of South Africa's Green Star SA green buildings' accreditation scheme, the Department of Housing's Red Book Guidelines, the Green Professionals Programme of the International Institute of Energy Conservation and municipal or provincial commitments towards greener building standards;
- Renewable technologies currently under investigation are wind energy, solar energy, biomass and wave/tidal energy, with a process of approving proposals from Independent Power Producers to supply renewable energy to Eskom underway. Large scale solar water heater roll-out has commenced and is actively supported by Eskom and the Department of Energy, as well as provincial and local authorities. Renewable energy generation capacity will be increased according to the 2nd National Integrated Resource Plan for Energy led by the National Energy Regulator. The Central Energy Fund has also set up the South African National Energy Research Initiative to channel funds into a long-term national teaching and research programme within the university sector to build South Africa's capacity to develop alternative renewable and sustainable energy resources;
- Green procurement policies have been adopted and implemented across various institutions in both the public and private sectors, whilst market-based instruments to support environmental sustainability are being pursued from a government finances perspective; and,
- Numerous examples exist of civil society and the business and industry sector projects and enterprises which demonstrate integration of development, community well-being and environmental sustainability.

Box 4. 1: Strategies that address sustainable development for South Africa

Key strategies that have been developed and adopted to address biodiversity loss and development pressures on ecosystems and natural resources, combat the effects of increasing desertification and respond to the effects of an increasingly warmer and drier climate on the environment, communities and the economy, include inter alia the National Biodiversity Strategy and Action Plan (NBSAP), National Climate Change Response Strategy, Energy Efficiency Strategy, Renewable Energy Policy, National Water Resources Strategy, National Disaster Management, Cleaner Production Strategy, National Land Care Programme, the National Action Programme for Desertification and the National Action Programme Combating Land Degradation to Alleviate Rural Poverty. Provinces and cities are also beginning to address issues related to climate, waste and biodiversity.

Important strategies and plans to address our developmental challenges within the economy include inter alia the Black Economic Empowerment Strategy and various BEE Charters (such as those for agriculture, tourism and mining); the BBEE charter for Agriculture; Integrated Food Security Strategy for South Africa; Advanced Manufacturing Technology Strategy; National Biotechnology Strategy; National Strategy on Sustainable Production and Consumption; National Framework for Local Economic Development, National Industrial Policy Framework, National Spatial Development Perspective, and the Accelerated and Shared Growth Initiative of South Africa.

The major existing strategies that focus on social development include the Integrated Sustainable Rural Development Strategy, Project Consolidate, Urban Renewal Programme, National Sanitation Strategy, National Research and Development and Technology Transfer Strategies, and various sector specific plans such as the Strategic Priorities for the National Health System, 'Breaking New Ground: National Policy for Sustainable Human Settlements, and various national policy frameworks for social development (DEA 2008).

4.4.2 Compliance monitoring and enforcement

It is internationally recognized that *"from a legal perspective, governance and regulation are largely meaningless without compliance"* (Paterson & Kotzé 2009). Compliance and enforcement are pivotal elements of an effective environmental regulatory regime. *"The rationale underlying compliance and enforcement, as a collective term, includes improving environmental quality, reinforcing the credibility of environmental laws and the institution responsible for their administration, ensuring fairness towards those who willingly comply with the legal requirements, reducing costs and liability associated with non-compliance"* (Paterson & Kotzé 2009).

The NEMA contains key provisions in terms of environmental compliance and enforcement. NEMA provides for the designation of EMIs, also known as the *Green Scorpions*, who

are mandated to enforce compliance with environmental laws. Their powers are potentially wide-ranging, including routine inspections, search and seizure, taking of samples and issuing of compliance notices. Other national environmental statutes contain provisions prescribing sectoral statutory compliance and enforcement mechanisms and/or measures.

In South Africa, compliance monitoring and enforcement has made significant progress since the 2006 SAEO. Today the Environmental Management Inspectorate has a total of approximately 1,400 inspectors (including SANParks officials) across all spheres of government and across numerous departments. The Environmental Management Inspectors (EMIs) deal with a range of issues from green issues (focusing on the protection and sustainable utilization of biodiversity and compliance to relevant international agreements), to brown issues (focusing on air pollution, waste and developments requiring environmental authorization) and blue issues (dealing with marine-related issues as well as water in close co-operation with Department of Water Affairs (DWA; now Department of Water and Sanitation – DWS)). The Environmental Management Inspectorate has developed into a strong network of environmental enforcement officials across spheres of government, and across numerous environmental aspects.

As South Africa is ranked as the third most biodiverse country in the world it is critical that its biodiversity is protected from the threat of human activity. The Endangered Wildlife Trust (EWT) has completed a report in May 2012 on the State of Compliance and Enforcement in Biodiversity in South Africa which contributes valuable insight into the practicalities and effectiveness associated with biodiversity protection and conservation management.

4.4.3 Challenges

The NFSD (DEA 2008) reported that although progress has been made in terms of governmental delivery on sustainable development targets, various challenges remain, including capacity constraints, policy tensions and institutional problems.

The major gaps and challenges identified relate to integration of governance systems, particularly those related to meeting international commitments, efficiency in resource use, access to resources, the need for inclusive economic growth, improvements to living conditions and social welfare, environmental awareness, biodiversity loss and cross-cutting challenges such as climate change and rising energy prices (DEA 2008).

These challenges are framed by a growing understanding of the relationship between economic development, social welfare and environmental sustainability. As the National Framework for Sustainable Development puts it: *"...neither growth nor development addresses the sustainable use of ecosystems or natural and social resources over time. If sustainable resource use is ignored, the improvements in overall living standards resulting from growth and development will be short-lived."* (DEA 2008).

Economic development, as it has been practiced up to now, typically involves activities that degrade the natural resource base. These include extractive mining, inefficient use of resources, reliance on fossil fuels, and large scale transformation of land. It is therefore of critical importance that the business-as-usual model of simply increasing the level of economic activity be replaced with a form of development that does not degrade the overall value and sustainability of the natural resource-base upon which all human activities are based. This process of delinking economic growth from environmental degradation is recognized in the NDP accepted by Cabinet in its urgent call for a shift towards the green economy and for interventions to ensure environmental sustainability and resilience to future shocks (NPC 2012).

One of the key foundations for the transformation of society into a more environmentally sustainable form is to develop an economy based on green principles. Such a green economy will put sustainable development in action by marginalizing economic activities that have unsustainable environmental costs, and using environmentally responsible development activities to solve social and economic ills better than business-as-usual practices. These include proactive investment in environmentally and socially responsible or green technologies, recognition of human rights, and restructuring of governance systems to promote green procurement and operations. The NDP indicates that: *"Shifting to a green economy, including to a low-carbon economy, is shifting to a more sustainable economic growth and development path in the long term..."*.

Commitment to the green economy can be seen in the DEAs involvement in strategic programmes such as the National Strategy for Sustainable Development and Action Plan (2011), NDP - Vision 2030 (2012), National Skills Development Strategy III, Ten Year Innovation Plan, New Growth Path (2010), Green Economy Accord (2011), Industrial Policy Action Plan 2012/13 - 2014/15, Industrial Policy Action Plan: Economic Sector and Employment Cluster (2011), National Climate Change Response White Paper (2011) and the Development Indicators.

The green economy holds the promise of creating many new jobs and so fostering a green economy will also fulfil the national development agenda. The UNEP advocates that investments in the green economy could realize a further growth in real GDP of over two percent by 2030 relative to 2012 (UNEP 2011). The South African government has identified greater labour absorption in its planning as a means to overcome income disparities and contribute to economic growth (NPC 2012). DEA reports that it is a government objective to create a significant number of green jobs, including 300,000 new jobs in the renewable energy sector (DEA 2012). A key requirement is that the national skills development strategy be aligned with the requirements of the green economy. A target has also been set to generate 20,000 MWh of renewable energy by 2030 (NPC 2012).

4.4.4 Budgets

It is a challenge to obtain clear information on governmental budgetary allocations to environmental matters since the

constitutional responsibility for environmental management is shared across all spheres of government and throughout a number of sectors, departments and divisions. Nevertheless, two aspects require consideration – grant funding as a stimulus for green investment, and actual budgetary allocations by State entities.

With regards to grant funding, the DEA reports that significant financial commitments have been made to sustainable development and the green economy. These commitments include R800 million from the DEA for the Green Fund, R10 billion investment from the Development Bank of Southern Africa (DBSA), R25 billion over five years from the Industrial Development Corporation (IDC) and private finance estimated at R100 billion (DEA 2012). Various private sector funding sources are also available.

Provincial expenditure on environmental management is reflected in Table 4.8, although it is acknowledged that there is inconsistency and gaps in the data. The allocation of budgets towards green initiatives shows the level of political will and commitment to environmental management, and reflects the ability of government structures to implement green programmes and strategies. Generally, salaries and transfers

constitute the bulk of expenditure in the environmental sector, with compensation of employees being the largest component. Overall, however, environmental management functions receive less than one half of a per cent of provincial budgets.

The information on provincial spending shows that total provincial expenditure on environmental management has increased by 32 per cent between 2001/2002 and 2004/2005, from R656 million to R955 million. The rate of increase varies among provinces, with some provinces (such as Limpopo and the Northern Cape) starting off from a very low base. KwaZulu-Natal accounts for 29 per cent of environmental expenditure, just over double that of Mpumalanga, which has the next largest expenditure of R139 million, and an average share of 14.5 per cent of provincial expenditure in 2004 to 2005.

If the medium-term estimates were correct, the amount allocated to environmental management at a provincial level increased from R1,052,302 in 2005/2006 to R1,237,859 in 2007/2008. This indicates a steady increase in the allocation although is not considered sufficient to address the functions and mandates associated with new legislation.

Table 4. 8: Provincial expenditure on environmental management

Province	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008
Outcome				Preliminary outcome	Medium-term estimates		
R 000's							
Eastern Cape	80,619	95,576	109,338	107,443	116,312	124,496	135,813
Free State	33,643	57,522	77,484	72,181	62,900	66,050	69,400
Gauteng	37,449	120,679	63,334	69,654	82,299	87,204	92,542
KwaZulu-Natal	226,937	232,953	256,632	279,019	362,296	405,088	444,387
Limpopo	3,400	39,690	46,233	53,548	46,641	55,520	70,371
Mpumalanga	121,743	136,982	134,344	139,200	135,074	130,575	168,436
Northern Cape	9,311	12,029	14,411	17,736	22,546	25,653	28,565
North West	60,859	72,124	96,614	98,116	84,097	81,237	85,574
Western Cape	82,157	103,929	105,010	118,377	140,137	143,969	142,771
TOTAL	656,118	871,484	903,400	955,274	1,052,302	1,119,792	1,237,859

Source: National Treasury provincial database (2012)

4.4.5 Capacity and skills

Developing intellectual capacity in the environmental governance arena is fundamental to achieving sustainability (NPC 2012). This challenge is being met by the DEA who has compiled an Environmental Sector Skills Plan (ESSP). The plan describes the current status quo with regard to demand and supply of environmental skills, and provides the best available information on scarce and critical skills in the sector at present from a supply and demand perspective. It also identifies new trends influencing skills development needs in the sector (e.g. new socio-ecological issues and directions, such as climate change, mainstreaming of environment into development,

new science and technology directions in South Africa, and the green economy) (DEA 2010).

Implementation of the plan needs to follow though, based on the guidance for environmental sector skills development within the national education, training and skills development system. The four objectives for environmental sector skills development include skills development at macro level, addressing scarce and critical skills, measures to ensure a longer term sustainable supply of quality skills, measures to ensure a proactive, transformative and innovative skills development system, human capital development strategy planning at sub-focus and institutional levels as well as a

system for monitoring and evaluation of skills planning and development (DEA 2010).

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