

5. NATIONAL BIODIVERSITY IMPLEMENTATION PLAN

The National Biodiversity Implementation Plan sets out the strategic objectives, outcomes and activities identified during the NBSAP process as necessary for achieving the overarching goal. It identifies lead agents and key partners for implementation of the activities. More detailed planning and budgeting will

be needed in order to roll out implementation. Long-term (15-year) targets are set for strategic objectives, while short-term (5-year) targets are set for outcomes. Note that the development of targets and indicators should be completed, and linked to indicators for CBD National Reports.

1.1. Goal, Strategic Objectives and 15-year Targets

<i>National Biodiversity Implementation Plan</i>		
<i>Goal</i>	<i>Conserve and manage terrestrial and aquatic biodiversity to ensure sustainable and equitable benefits to the people of South Africa, now and in the future.</i>	
<i>Strategic Objectives</i>		<i>15-year Targets</i>
SO 1: Policy Framework for Biodiversity Management	An enabling policy and legislative framework integrates biodiversity management objectives into the economy.	<ul style="list-style-type: none"> • South Africa fully and consistently meets international obligations regarding biodiversity in the context of national priorities • Biodiversity values are fully integrated into the macro-economy, informing policy, planning, budgeting and decision-making processes at all levels and all sectors.
SO 2: Institutional Framework for Biodiversity Management	Enhanced institutional effectiveness and efficiency ensures good governance in the biodiversity sector.	<ul style="list-style-type: none"> • Biodiversity concerns occupy a significant place on the national agenda • All organs of state in all spheres of government, and all stakeholders and roleplayers, co-operate and work effectively and efficiently to achieve biodiversity management objectives
SO 3: Integrated Management of Terrestrial and Aquatic Ecosystems	Integrated terrestrial and aquatic management minimises the impacts of threatening processes on biodiversity, enhances ecosystem services and improves social and economic security.	<ul style="list-style-type: none"> • Effective control of known priority invasive species is achieved, primarily through programmes focused on poverty relief • Catchment Management Agencies are established in all biodiversity priority areas, are effectively achieving integrated resource management and are meeting biodiversity objectives • Disaster prevention and management plans (including climate change impacts) incorporate wise ecosystem management principles and practices, especially for water, fire and coastal processes • No genetically modified organisms posing a threat to biodiversity are released into the environment • All sectors that impact on biodiversity are making a significant contribution towards biodiversity management and consider biodiversity in all decisions regarding resource use
SO 4: Sustainable Use of Biological Resources	Human development and well-being is enhanced through sustainable use of biological resources and equitable sharing of the benefits.	<ul style="list-style-type: none"> • Economies based on use of species and genetic resources are optimised and sustainably managed and contribute significantly to livelihoods and equity • Priority fish stocks recover to sustainable levels • No species status declines • Natural products sector contribution to GDP grows by 50% compared to 2005 baseline • Poverty is alleviated through more equitable and effective resource use

National Biodiversity Implementation Plan

Goal	Conserve and manage terrestrial and aquatic biodiversity to ensure sustainable and equitable benefits to the people of South Africa, now and in the future.	
	Strategic Objectives	15-year Targets
SO 5: Conservation Areas	A network of conservation areas conserves a representative sample of biodiversity and maintains key ecological processes across the landscape and seascape.	<ul style="list-style-type: none"> • Comprehensive biodiversity monitoring systems inform planning • The protected area network covers 12% of the terrestrial and 20% of the marine environment thereby contributing to representation targets in priority areas • There is no further loss of endangered and critically endangered ecosystems and no attrition of ecosystem functioning in priority areas • At least two entire 'watershed to coast' protected environments are established and effectively managed

1.2. SO 1: Policy Framework for Biodiversity Management: Outcomes, 5-year Targets and Indicators

SO 1: Policy Framework for Biodiversity Management	An enabling policy and legislative framework integrates biodiversity management objectives into the economy.	
Outcomes	5-year Targets	Indicators
1.1 The value of biodiversity to the economy and to people's lives is quantified and monitored to inform policy, strategy and action.	Biodiversity valuation is used as a mechanism to guide national government budget allocations and spending patterns, and a system is in place to monitor its uptake into policy, strategy and action.	<ul style="list-style-type: none"> • Appropriate valuation studies • Percentage of national and provincial government budget allocated to biodiversity conservation • Amended budget allocations and spending
	The social and economic value of biodiversity, as reflected in appropriate macro-economic indicators, shows that South Africa's stock of natural capital is not declining.	<ul style="list-style-type: none"> • Macroeconomic indicators • Natural Resource Accounts • Economic value of selected ecosystem services in parts of SA (Rands) [NSoER proposed indicator] • Relative volume of virtual water that SA exports. • Geological foot print per capita.
1.2 Biodiversity considerations are integrated into macro-economic, trade, industrial and fiscal policy.	The budget allocations and spending patterns of organs of state in all spheres of government reflect the full costs and benefits of ecosystem service provision.	<ul style="list-style-type: none"> • Amended budget allocations and spending • Annual budgets of departments with biodiversity management.
	Opportunities for economic instruments that encourage activities enhancing biodiversity and discouraging activities that impact negatively on biodiversity have been identified, and implementation is underway.	<ul style="list-style-type: none"> • Economic instruments (e.g. incentives, tax rebates) and their levels of uptake
1.3 Biodiversity considerations are integrated into resource management policy and legislation.	National government's cross-cutting policy frameworks and implementation plans (including the National Strategy for Sustainable Development) reflect the objectives of the NBSAP.	<ul style="list-style-type: none"> • Departmental business plans • Implementation plans for adaptation measures • Environmental implementation Plans • Environmental Management Plans
	National resource management policies incorporate biodiversity considerations.	<ul style="list-style-type: none"> • Policy reviews • Performance indicators • Audits • Number of common indicators between biodiversity M&R system (NEMBA), SOCRS DWAF M&E system (National Water Act)

SO 1: Policy Framework for Biodiversity Management	An enabling policy and legislative framework integrates biodiversity management objectives into the economy.	
Outcomes	5-year Targets	Indicators
	Legislation governing national, provincial and local resource management is aligned and rationalised where necessary and appropriate regulations have been published.	<ul style="list-style-type: none"> • Policy and legislation reviews • Regulations
1.4 A national biodiversity planning and assessment framework informs all decisions regarding land and resource use and spatial development.	The National Spatial Biodiversity Assessment is updated with latest available data.	
	The National Spatial Development Perspective and all Provincial Growth and Development Strategies and Spatial Development Frameworks adequately reflect biodiversity priorities as set out in the NBSAP and National Spatial Biodiversity Assessment.	<ul style="list-style-type: none"> • NSBA reports and maps • Maps at appropriate scales with demarcated sensitive areas
	Guidelines for integrating biodiversity considerations into spatial planning and environmental management and associated support programmes enable provinces and municipalities to fulfil their biodiversity mandates.	<ul style="list-style-type: none"> • Guidelines and maps • Area (ha) of sensitive and threatened ecosystems per province and/or municipal area, by ecosystem type • Percentage of each of the above that is degraded or transformed, measured annually • Percentage of land with protected area status • Audits of NEMA and NEMBA compliance and alignment of IDPs with bioregional plans • SEAs of Spatial Development Frameworks • Area of natural green space (municipal parks, recreation areas or other open space) per capita within the municipal area with conservation value
	Land reform and biodiversity programmes incorporate tenure, land redistribution and biodiversity considerations in a mutually beneficial way.	<ul style="list-style-type: none"> • NSoER proposed indicators on land use management/degradation; land tenure and equitable access to land
	Guidelines for integrating biodiversity in environmental assessment are developed, adopted by government and implemented by environmental assessment practitioners.	<ul style="list-style-type: none"> • Guidelines • Strategic Environmental Assessments, Risk Assessments and Cost-benefit Analyses in use • Compliance monitoring (% Records of Decisions and Authorisations monitored) • Authorisation statistics • Audits of compliance with Environmental Management System

1.2. SO 1: Policy Framework for Biodiversity Management: Activities, Lead Agents and Support Partners

SO 1: Policy Framework for Biodiversity Management	Activities to achieve outcomes	Priority	Lead agency	Support partner/s	Role of DEAT
1.1 The value of biodiversity to the economy and to people's lives is quantified and monitored in order to inform policy, strategy and action.					
1.1.1	Conduct a periodic country-wide total economic valuation of biodiversity, with an emphasis on goods and services, that draws linkages between biodiversity, the economy and poverty alleviation.	Urgent	DEAT, SANBI	CSIR, DST/NRF, universities	Investigate feasibility, develop ToR, outsource, monitor
1.1.2	Determine periodically, at the local and regional scale, the use values of biological resources and ecosystems to people at a household level, and identify opportunities to encourage the sustainable management of biological resources and ecosystems.	Urgent	DEAT, SANBI	StatsSA, CSIR, DST/NRF, universities, ARC, DoA, DLA, DWAF	Investigate feasibility, develop ToR, outsource, monitor
1.1.3	Package and sell the economic case for the importance of biodiversity, tailored to key decision-makers.	Urgent	DEAT	SANBI, universities, DoA, DLA, DWAF	
1.1.4	Reflect biodiversity values in national macro-economic indicators in order to monitor changes in natural capital.	High	StatsSA	DEAT, SANBI	Monitor and evaluate
1.2 Biodiversity considerations are integrated into macro-economic, trade, industrial, and fiscal policy.					
1.2.1	Engage proactively and constructively with National Treasury to ensure that biodiversity is a key consideration in policy development, budgeting, planning and auditing processes.	Urgent	DEAT	National Treasury, SANBI, DPLG	Engage National Treasury - DG cluster
1.2.2	Integrate biodiversity considerations in policy development, budgeting and planning processes in the Department of Trade and Industry.	High	DTI	DEAT, SANBI, Economic Cluster	
1.2.3	Include biodiversity accounting in corporate environmental audits.	Medium	DEAT	Government departments at all levels, the DTI, NEDLAC, SACOB, NAFCOB, StatsSA, Industrial Environmental Forum	
1.2.4	Target the banking industry and financial sector to identify incentives and opportunities to integrate biodiversity considerations into investment and lending policies.	High	NGO - WWF?	DEAT, National Treasury, the DTI	Monitoring and support

SO 1: Policy Framework for Biodiversity Management	Activities to achieve outcomes	Priority	Lead agency	Support partner/s	Role of DEAT
1.3 Biodiversity considerations are integrated into resource management policy and legislation.					
1.3.1	Integrate biodiversity considerations in the National Strategy for Sustainable Development.	Urgent	DEAT	SANBI, NEDLAC	
1.3.2	Integrate biodiversity considerations in the National Climate Change Response Strategy and Action Plan and the National Action Programme to Combat Land Degradation.	Medium	DEAT	SANBI, DWAF, DoA, DLA, DME, Universities, NGOs	Oversight and incorporation of results into national positions for the UNFCCC, CBD and CCD
1.3.3	Engage proactively and constructively with state departments and agencies to ensure that biodiversity is a key consideration in the policy development, budgeting and planning processes.	High	DEAT	Other Government Departments, National Treasury	NSSD; incorporate into budgets, policies, strategies, actions and auditing tools; encourage same in other government departments.
1.3.4	Integrate biodiversity considerations in policy development, budgeting and planning processes in the Department of Water Affairs and Forestry.	Urgent	DWAF	DEAT, SANBI	
1.3.5	Integrate biodiversity considerations in policy development, budgeting and planning processes in the Department of Agriculture.	Urgent	DoA	DEAT, SANBI	
1.3.6	Integrate biodiversity considerations in policy development, budgeting and planning processes in the Department of Minerals and Energy	High	DME	DEAT, SANBI	
1.3.7	Integrate biodiversity considerations into tourism growth strategies, guidelines and codes of conduct.	Urgent	DEAT	Provincial government, tourism industry, Tourism Business Council, THETA, NGOs (e.g. Fair Trade in Tourism), PHASA	
1.3.8	Include biodiversity considerations in fishing regulations and guidelines, in order to mitigate negative impacts on biodiversity and encourage sustainable practices.	Urgent	DEAT - MCM	Provincial government, fishing industry, the DTI, NGOs, International maritime association, organised fishery structures, coastal communities	

SO 1: Policy Framework for Biodiversity Management	Activities to achieve outcomes	Priority	Lead agency	Support partner/s	Role of DEAT
1.3.9	Align and rationalise legislation on land-use planning and management and catchment management.	Urgent	DLA	DEAT, SANBI, DoA, DWAF	
1.3.10	Develop a national policy framework to guide the implementation of biodiversity offsets (off-site mitigation) in threatened ecosystems, ecological corridors and other special habitats.	High	DEAT	National Treasury, SANBI, provinces	
1.3.11	Align, rationalise and/or develop (as appropriate) legislation on incentives and support for appropriate land management in biodiversity priority areas.	High	DoA	DEAT, DWAF, provinces, National Treasury, DLA, landowners, conservancy associations	
1.3.12	Rationalise legislation on invasive alien species.	High	DEAT	DoA	
1.3.13	Rationalise legislation on genetically modified organisms.	High	DoA	DEAT, DTI, Department of Health	
1.3.14	Finalise policy and regulations on translocation of wildlife, including extra-limital game and aquatic species.	High	DEAT	Provinces, DoA	
1.4 A national biodiversity planning and assessment framework informs all decisions regarding land and resource use and spatial development.					
1.4.1	Set quantitative national targets for all ecosystems and for threatened, endemic, indicator, flagship and high-value useful species.	Urgent	SANBI co-ordination and Centres of Excellence	Scientific community (conservation agencies, tertiary institutions, research institutions, museums), DEAT	
1.4.2	Update the National Spatial Biodiversity Assessment at least every five years, to assess the status of terrestrial, freshwater, estuarine and marine ecosystems, to identify ecosystems where no further loss or degradation of natural habitat should occur, and to identify gaps in the protected area network.	High	SANBI co-ordination	Conservation agencies, NGOs, scientific community, DWAF, MCM, DEAT	
1.4.3	Ensure that the National Spatial Development Perspective takes the National Spatial Biodiversity Assessment into account.	Urgent	DLA	SANBI, DEAT, DPLG	Engage with DLA and DPLG
1.4.4	Integrate biodiversity considerations in policy development, budgeting and planning processes in the Department of Provincial and Local Government.	Urgent	DPLG	SALGA, DEAT, SANBI	

SO 2: Institutional Framework for Biodiversity Management	Enhanced institutional effectiveness and efficiency ensures good governance in the biodiversity sector.	
Outcomes	5-year Targets	Indicators
2.1 The biodiversity sector is transformed and representative of South African society.	Public sector transformation has achieved transformation targets.	<ul style="list-style-type: none"> • Public sector transformation targets • Customer/stakeholder satisfaction/perception index • Employee satisfaction index
2.2 Co-operative governance at all levels results in improved biodiversity management.	Biodiversity sector co-ordination arrangements are effective.	<ul style="list-style-type: none"> • Detailed memoranda of understanding agreed for natural resource permitting and management procedures; including research and information management
	The national environmental reporting framework is an effective tool for monitoring the integration of biodiversity into all national departments' policies, plans and programmes.	<ul style="list-style-type: none"> • Environmental Management Plans and Environmental Implementation Plans • State of Environment Reports
	A Biodiversity Charter addressing access, ownership and benefit inequity in the biodiversity sector is developed and performance in addressing equity targets in the private sector is tracked using a black economic empowerment scorecard.	<ul style="list-style-type: none"> • Biodiversity Charter/BEE scorecard developed to include considerations of benefit-sharing
2.3 Institutions with biodiversity-related responsibilities and programmes are effective, efficient and adequately capacitated.	Agencies with statutory responsibilities for biodiversity management and biodiversity research have adequate capacity to perform mandatory functions.	<ul style="list-style-type: none"> • Percentage of staff positions filled in agencies with statutory responsibilities for biodiversity
	Municipal mandates for biodiversity are clarified, supported, funded and implemented.	<ul style="list-style-type: none"> • Municipal performance indicators
	Stakeholders participate in implementation and monitoring of the National Biodiversity Framework.	<ul style="list-style-type: none"> • Stakeholder participation plans and databases.
	DEAT makes tender information on biodiversity projects freely available.	
	The Environmental Management Inspectors are ensuring compliance with biodiversity regulations.	
	Dispute resolution mechanisms manage conflicts regarding access, use and management of biodiversity.	
2.4 Financial resources for biodiversity management are adequate, and effectively and efficiently used	Mandatory functions of agencies with statutory responsibilities for biodiversity conservation are adequately funded.	<ul style="list-style-type: none"> • Business plans • Audit reports • Performance indicators
2.5 Information management systems, research priorities, and monitoring and evaluation frameworks are in place and effectively supporting biodiversity management	<p>Biodiversity monitoring informs biodiversity management plans, identification of threatened species and ecosystems, listing of invasive alien species, and identification of activities requiring environmental authorisations.</p> <p>SANBI's Integrated Biodiversity Information System (SIBIS) and all relevant departments/institutions participate in the supply, use and sharing of information.</p>	<ul style="list-style-type: none"> • Annual reviews • Biodiversity monitoring reports • Area (ha and %) of sensitive and threatened ecosystems per administrative area • Threatened and extinct species per taxonomic group per administrative area (province) • Population trends of selected species of special concern

SO 2: Institutional Framework for Biodiversity Management	Enhanced institutional effectiveness and efficiency ensures good governance in the biodiversity sector.	
Outcomes	5-year Targets	Indicators
	National biodiversity research strategy developed, and used to guide allocation of research funding.	<ul style="list-style-type: none"> National biodiversity research strategy Research funding allocations
	National system for monitoring protected area management effectiveness (with emphasis on biodiversity objectives) has been developed.	<ul style="list-style-type: none"> National protected area monitoring system Protected area business plans and annual reviews
2.6 A comprehensive and proactive national communication, awareness raising and advocacy strategy reaches targeted sectors and facilitates conservation and wise use of biodiversity.	Biodiversity components are promoted in school environmental education programmes through materials development and teacher education.	<ul style="list-style-type: none"> Materials Number of educators who have attended teacher education programmes
	A focused strategy is under implementation to create understanding of the value of biodiversity in key sectors, including local government, agriculture, forestry and mining.	<ul style="list-style-type: none"> Customer/stakeholder satisfaction index Develop baseline on stakeholder perceptions and surveys to monitor changes Stakeholder meetings, roadshows Media monitoring Audit of 'hits' on web-sites
2.7 Proactive engagement and co-operation with the international community enhances conservation and sustainable use of shared resources and globally important biodiversity in South Africa.	South Africa actively co-ordinates biodiversity policy positions in multilateral environment agreements and the WTO with groups of like-minded nations.	<ul style="list-style-type: none"> Biodiversity priorities and South African and African priorities reflected in decisions and resolutions of negotiations
	South Africa meets obligations for regional co-operation on biodiversity management within SADC and the African Union.	<ul style="list-style-type: none"> Networks for biodiversity management activities established or strengthened at regional or international levels
	South Africa meets obligations for biodiversity management in the marine environment and Antarctica.	

5.5. SO 2: Institutional Framework for Biodiversity Management: Activities, Lead Agents and Support Partners

SO 2: Institutional Framework for Biodiversity Management	Activities to achieve outcomes	Priority	Lead agency	Support partner/s	Role of DEAT
2.1 The biodiversity sector is transformed and representative of South African society.					
2.1.1	Implement programmes to promote and retain racial and gender representation at all levels in the sector.	Urgent	All departments		DEAT to manage the empowerment scorecard
2.1.2	Promote integration of different cultural perspectives in the organisational culture and image of the biodiversity sector.	Urgent	All departments		DEAT to produce guidelines and manage reporting processes
2.2 Co-operative governance at all levels results in improved biodiversity management.					
2.2.1	Clarify the biodiversity related mandates of different organs of state within the provisions of new legislation.	Urgent	DEAT	DPLG	DEAT to clarify responsibilities as per provisions of NEMBA and ensure the Inter-governmental Relations Act includes effective mechanisms for biodiversity co-operation.

SO 2: Institutional Framework for Biodiversity Management	Activities to achieve outcomes	Priority	Lead agency	Support partner/s	Role of DEAT
2.2.2	Ensure that Environmental Implementation Plans (EIPs), Environmental Management Plans (EMPs) and State of Environment Reports at national, provincial and local level incorporate and reflect biodiversity objectives.	Urgent	DEAT	CEC, all departments. [Schedule 1 Depts (EIPs): DEAT, DLA, DoA, Department of Housing, the DTI, DWAF, Department of Transport, Department of Defence. Schedule 2 Depts (EMPs): DEAT, DWAF, DME, DLA, Department of Health, Department of Labour]	DEAT to incorporate reporting framework
2.2.3	Investigate and implement options for effective co-operation between national, provincial and local spheres of government and between the sectoral departments at provincial and local level.	Urgent	DPLG	Provincial and local government, SALGA	DEAT to work with DPLG to ensure implementation
2.2.4	Develop and implement mechanisms for collaboration and partnerships to effectively manage ecosystems and species that cross administrative boundaries.	Urgent	DEAT	Provincial and Local Government	
2.2.5	Improve the mechanisms for co-operation and partnerships between government, business and civil society, for example by developing a Biodiversity Charter in consultation with all stakeholders.	Medium	SANBI	DEAT, the DTI	DEAT to delegate to SANBI responsibilities for establishing sector liaison committees as part of Bioregional Programmes
2.2.6	Strengthen the co-ordinating role of South African National Biodiversity Institute (SANBI), particularly in biodiversity information collation and management, biodiversity research, biodiversity planning, and bioregional programmes.	Urgent	SANBI	Treasury, DST	DEAT to clarify mandates and assure budgetary provision for SANBI operations
2.2.7	Document and disseminate lessons learned for cooperative governance, building on replicable successes of existing biodiversity programmes where appropriate.	Urgent	SANBI	DEAT, all biodiversity related institutions	DEAT to monitor progress in establishing a knowledge management system
2.3 Institutions with biodiversity-related responsibilities and programmes are effective, efficient and adequately capacitated.					
2.3.1	Perform self-assessment of capacity to implement the National Biodiversity Framework in relation to the geographic and thematic priorities in the Framework, and refocus activities, reallocate resources and develop capacity according to the priorities in the Framework.	Urgent	DEAT	All departments	DEAT to co-ordinate national capacity self assessment

SO 2: Institutional Framework for Biodiversity Management	Activities to achieve outcomes	Priority	Lead agency	Support partner/s	Role of DEAT
2.3.2	Provide technical support to municipalities to integrate biodiversity into planning and environmental management.	Urgent	Provinces	DEAT, SANBI, DPLG, DWAF	DEAT and SANBI to prepare guidelines for technical support and monitor implementation
2.3.3	Strengthen the capacity of existing and emerging NGOs and community-based organisations in the biodiversity sector, with an emphasis on representivity.	High	NGO Community	CBOs	DEAT to define roles and responsibilities of NGOs and CBOs in service delivery
2.3.4	Maximise opportunities for civil society and community involvement in implementation and monitoring of the National Biodiversity Framework.	Urgent	DEAT, SANBI	All departments and NGO community, CBOs	SANBI to ensure stakeholder participation plans are developed and implemented as part of Bioregional Programmes
2.3.5	Assess the impact of HIV/AIDS on institutional capacity in the biodiversity sector and implement an appropriate strategy to address this.	Urgent	All depart- ments	Department of Labour, D. Health	
2.3.6	Implement an ongoing programme to strengthen enforcement, including voluntary and mandatory compliance mechanisms.	Urgent	All depart- ments with regulatory functions		DEAT to co-ordinate implementation with regulatory authorities
2.3.7	Integrate enforcement functions relating to biodiversity management into the mandates of the Environmental Management Inspectors.	Urgent	DEAT		DEAT to ensure functional integration, SAPS
2.3.8	Ensure that the mechanisms for fair decision-making and conflict management provided for in the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) are able to address disputes regarding conservation and use of biodiversity.	Medium	DEAT		

SO 2: Institutional Framework for Biodiversity Management	Activities to achieve outcomes	Priority	Lead agency	Support partner/s	Role of DEAT
2.3.9	Develop appropriate record keeping, monitoring and auditing procedures to enable assessment and review of the effectiveness of legislation and associated regulations.		Urgent	DEAT and Provinces	DEAT to strengthen database and reporting capacities
2.4 Financial resources for biodiversity management are adequate, and effectively and efficiently used.					
2.4.1	Determine the costs of implementation of the National Biodiversity Framework, for national, provincial and local spheres of government, and develop an affordable, prioritised and phased approach to implementation.	Urgent	All departments	National Treasury, DPLG	
2.4.2	Provide financial support/mechanisms to municipalities to encourage conservation of biodiversity, with a particular focus on priority areas.	Urgent	DEAT/ National Treasury	Provinces, DPLG, SALGA	DEAT to apply performance based allocation system for priority areas
2.4.3	Allocate and use national and provincial public sector budgets more effectively to ensure and reward good biodiversity management practices.	Urgent	National Treasury and all Departments		DEAT to prepare performance based assessment system
2.4.4	Increase the pool of non-state resources available for conserving and managing biodiversity.	Urgent	National Treasury	ALL roleplayers	DEAT to liaise with National Treasury to ensure the establishment of non traditional funding mechanisms
2.5 Information management systems, research priorities, and monitoring and evaluation frameworks are in place and effectively supporting biodiversity management.					
2.5.1	Identify major gaps in knowledge and understanding of biodiversity through a collaborative process, design collaborative programmes that fill these gaps, and ensure that biodiversity inventories and atlases meet the requirements of bioregional planning and monitoring.	Medium	SANBI - co-ordination role	Scientific and relevant management community (conservation agencies, tertiary institutions, research institutions, museums)	
2.5.2	Update South African Red Data Lists and implement a co-ordinated long-term programme to update these data regularly.	High	SANBI co-ordination role	Relevant experts: SANBI (plants), EWT (mammals), Percy FitzPatrick Institute, Avian Demography Unit, UCT (birds, reptiles, frogs), SAIAB (aquatic)	

SO 2: Institutional Framework for Biodiversity Management	Activities to achieve outcomes	Priority	Lead agency	Support partner/s	Role of DEAT
2.5.3	Establish and maintain accessible data and information systems to inform policy, strategy, action and reporting.	Urgent	SANBI	Scientific and relevant management community (conservation agencies, tertiary institutions, research institutions, museums)	
2.5.4	Establish a monitoring and evaluation framework (including indicators and thresholds) for ecosystems and species, with a particular emphasis on threatened ecosystems and species.	High	SANBI	SAEON and lots of support institutions (scientific community, conservation agencies etc.)	List threatened species and ecosystems and update these lists
2.5.5	Establish a monitoring and evaluation framework (including indicators and thresholds) for invasive and alien species, GMOs, loss and degradation of natural habitat, climate change and other threatening processes on biodiversity.	High	SANBI	SAEON and lots of support institutions (scientific community, conservation agencies etc.)	List invasive and alien species and update these lists
2.5.6	Develop national norms and standards for monitoring management effectiveness in protected areas, with an emphasis on biodiversity objectives.	Medium	DEAT	SANBI, conservation agencies	
2.5.7	Develop and implement effective mechanisms for review and revision of research and monitoring programmes.	Urgent	SANBI	All institutions dealing with biodiversity research, DST, universities, museums	
2.6 A comprehensive and proactive national communication, awareness raising and advocacy strategy reaches targeted sectors and facilitates conservation and wise use of biodiversity.					
2.6.1	Develop and implement a co-ordinated and comprehensive communication, awareness and advocacy campaign to reach key decision-makers in parliament	Urgent	DEAT, SANBI, SANParks, Provinces and Local Government	NGOs, Universities, DoE, DoA, DWAF	DEAT to co-ordinate in conjunction with Portfolio Committee

SO 2: Institutional Framework for Biodiversity Management	Activities to achieve outcomes	Priority	Lead agency	Support partner/s	Role of DEAT
2.6.2	Design and implement a creative and innovative advocacy and communication strategy to make biodiversity concerns relevant to communities throughout South Africa.	Urgent	DEAT, SANBI, SANParks, Provinces and Local Government	NGOs, Universities, DoE, DoA, DWAF	DEAT to co-ordinate national awareness campaign
2.6.3	Design and implement focused awareness campaigns on threatening processes, including invasive alien species, GMOs and climate change that aim to change behaviour in the public and private sectors.	Urgent	DEAT, DoA, DWAF, SANBI	Provinces, SANParks, NGOs	
2.6.4	Design and implement biodiversity education programmes.	Urgent	SANBI	SANParks, Environmental Education Centres, NGOs, DEAT, DoE, Provinces	
2.7 Proactive engagement and co-operation with the international community enhances conservation and sustainable use of shared resources and globally important biodiversity in South Africa.					
2.7.1	Align policies, strategies and programmes of South Africa, the Southern African Development Community (SADC) and African Union, including the New Partnership for Africa's Development (NEPAD), where possible and strategic.	Urgent	DEAT	DFA, SADC, NEPAD, DoA, DWAF, SANParks	
2.7.2	Develop partnerships and co-operative arrangements with neighbouring countries regarding shared resources.	Urgent	DEAT	DFA, SADC, NEPAD, DoA, DWAF, SANParks	
2.7.3	Establish coalitions with groups of like minded countries to ensure that South Africa's biodiversity management objectives are not prejudiced by international trade agreements.	Urgent	DEAT	DFA, other countries	
2.7.4	Strengthen capacity for international negotiation by developing common positions with other countries where possible and strategic.	Urgent	DEAT	DFA, Other countries	
2.7.5	Implement a co-ordinated programme to build capacity across all relevant departments and institutions to engage with processes relating to multi-lateral agreements.	Urgent	DEAT	Relevant departments and institutions	

SO 2: Institutional Framework for Biodiversity Management	Activities to achieve outcomes	Priority	Lead agency	Support partner/s	Role of DEAT
2.7.6	Develop, implement and strengthen programmes for international scientific collaboration, sharing of information and technology transfer.	Urgent	SANBI	DST, CSIR, DFA, ARC, NRF, other research Institutions	
2.7.7	Play a proactive role in conservation and sustainable use of Antarctic species, ecosystems and resources.	Urgent	DEAT, MCM	DFA, scientific institutions	

5.6. SO 3: Integrated Management of Terrestrial and Aquatic Ecosystems: Outcomes, 5-year Targets and Indicators

SO 3: Integrated Management of Terrestrial and Aquatic Ecosystems	Integrated terrestrial and aquatic management minimises the impacts of threatening processes on biodiversity, enhances ecosystem services and improves social and economic security.	
Outcomes	5-year Targets	Indicators
3.1 National initiatives to manage terrestrial and aquatic ecosystems are co-ordinated, developed and implemented with full stakeholder participation to contribute to sustainable socio-economic development.	Capacity of ecosystems to deliver goods and services is maintained [CBD TARGET 8.1].	<ul style="list-style-type: none"> Listed threatened or protected ecosystems Protected environments Bioregional plans Biodiversity management plans
	Five priority Catchment Management Agencies are operational, and have integrated quantitative biodiversity targets into their Catchment Management Strategies, and this is reflected in the Water Resource Strategy.	<ul style="list-style-type: none"> Fitness for use; ecosystem integrity; water resource management [NSoER proposed indicators for inland water theme]
	The National LandCare Programme and the Comprehensive Agricultural Support Programme incorporate biodiversity targets, water allocation limitations and recommendations from the National Action Plan to Combat Desertification.	<ul style="list-style-type: none"> Loss and degradation of productive land; access to resources [NSoER proposed indicators for human vulnerability and land themes]
	The Ecological Reserve has been determined and implemented for priority river systems and estuaries.	<ul style="list-style-type: none"> Habitat integrity index [NSoER proposed indicator] Health index of estuaries Reserve determination reports and implementation plans
	Production activities in the coastal zone, especially housing, industry, transport, mining and agriculture, include biodiversity considerations in development plans and implement integrated environmental management (or integrated land, water and waste management) plans.	<ul style="list-style-type: none"> Coastal development/habitat integrity index; coastal and estuarine pollution; resource quality [NSoER proposed indicator: Coastal and marine environments theme]

SO 3: Integrated Management of Terrestrial and Aquatic Ecosystems	Integrated terrestrial and aquatic management minimises the impacts of threatening processes on biodiversity, enhances ecosystem services and improves social and economic security.	
Outcomes	5-year Targets	Indicators
	Advance implementation of the Global Plan of Action for the Protection of the Marine Environment from Land-based Activities with particular emphasis on in the period 2002 - 2006 on municipal waste water, physical alteration and destruction of habitats and nutrients [JPOI TARGET 4.32].	<ul style="list-style-type: none"> • Pollutant loading entering the seas from land-based sources [NSoER proposed indicator] • Integrated Development Plans of coastal municipalities
3.2 Key production sectors and industries integrate biodiversity into their production and service standards	Dialogue has been initiated and relationships established with at least five key industries, and biodiversity has been incorporated in their production and service standards.	<ul style="list-style-type: none"> • Memoranda of Understanding
	The forestry and tourism industries and selected agricultural sectors have integrated biodiversity considerations into their production and service standards.	<ul style="list-style-type: none"> • Standards contain biodiversity considerations • Management plans
	The forestry and mining industries and selected agricultural sectors actively avoid threatened ecosystems in their production planning and implementation, and invest in managing threatened ecosystems under their control.	<ul style="list-style-type: none"> • Environmental Management Plans
	Production lands in identified biodiversity priority areas managed consistent with the conservation of biodiversity [TARGET 6 of the Global Strategy for Plant Conservation; and TARGET 4.1 of the CBD].	<ul style="list-style-type: none"> • Percentage of production lands managed consistent with the conservation of biodiversity
	Rate of loss and degradation of natural habitats decreased [CBD TARGET 5.1].	<ul style="list-style-type: none"> • Extent of habitat loss per vegetation type (or biome) per unit time [NSoER proposed indicator] • Index of fragmentation per unit area for priority vegetation types [NSoER proposed indicator] • Areas of rapid land cover change (area or % of biome per province) [NSoER proposed indicator]
3.3 A multi-agency national programme deals with the full suite of impacts posed by invasive species across the landscape and seascape.	A co-ordinated national programme has been established for import control of the full suite of potentially invasive species.	<ul style="list-style-type: none"> • National invasive species programme
	Institutional capacity and structures are in place to audit, monitor and enforce invasive species legislation.	

SO 3: Integrated Management of Terrestrial and Aquatic Ecosystems	Integrated terrestrial and aquatic management minimises the impacts of threatening processes on biodiversity, enhances ecosystem services and improves social and economic security.	
Outcomes	5-year Targets	Indicators
	Control, monitoring and eradication plans in place for priority alien species that threaten ecosystems, habitats or species [CBD TARGET 6.2].	<ul style="list-style-type: none"> • Invasive species status reports • Invasive species monitoring, control and eradication plans • Number of invasive alien species per ecosystem or biome; area invaded per ecosystem or biome [NSoER proposed indicators] • Area (ha and %) of municipal land invaded by invasive alien species • Area (ha and %) of municipal land cleared of invasive alien species
	Pathways for major potential invasive species controlled [CBD TARGET 6.1].	<ul style="list-style-type: none"> • As above
3.4 An integrated national programme facilitates adaptation to the predicted impacts of climate change on biodiversity across the landscape and seascape.	The National Climate Change Response Strategy and Action Plan is incorporated into national, provincial and local land and resource use plans, policies, programmes and decision-making processes, and into protected area design.	<ul style="list-style-type: none"> • Environmental Management Plans • Environmental Implementation Plans • Integrated Development Plans
	Maintain and enhance resilience of the components of biodiversity to climate change [CBD TARGET 7.1].	<ul style="list-style-type: none"> • Ecosystem and species status reports
3.5 Effective management and control measures minimise the potential risks to biodiversity posed by Genetically Modified Organisms.	Institutional arrangements for monitoring and inspection of GMOs have been rationalised and strengthened.	<ul style="list-style-type: none"> • MoUs / Service Level Agreements
	Capacity for monitoring and reporting on GMOS has been created and is fully operational.	<ul style="list-style-type: none"> • Biosafety Clearing House
	Capacity for biosafety research is created.	<ul style="list-style-type: none"> • Numbers of people involved in biosafety research • Amount of funding allocated to biosafety research
3.6 Effective waste management and pollution control measures limit the impacts of pollution on biodiversity.	An early warning system and rapid response mechanism is in place to mitigate the impacts of pollution and waste disposal on biodiversity.	<ul style="list-style-type: none"> • Percentage reduction in hazardous pollutants and solid waste reaching sensitive environments
	The resource directed water quality management policy informs integrated decision making to reduce pollution and minimise the impacts of pollution on biodiversity [see CBD TARGET 7.2].	<ul style="list-style-type: none"> • Environmental Management Plans that include waste management plans
3.7 Research and monitoring programmes support integrated management of terrestrial and aquatic ecosystems.	Phase 1 of the National Monitoring and Evaluation Framework for integrated management of terrestrial and aquatic ecosystems has been implemented.	<ul style="list-style-type: none"> • National Monitoring and Evaluation Framework reports

5.7. SO 3: Integrated Management of Terrestrial and Aquatic Ecosystems: Activities, Lead Agents and Support Partners

SO 3: Integrated Management of Terrestrial and Aquatic Ecosystems	Activities to achieve outcomes	Priority	Lead agency	Support partner/s	Role of DEAT
3.1 National initiatives to manage terrestrial and aquatic ecosystems are co-ordinated, developed and implemented with full stakeholder participation to contribute to sustainable socio-economic development.					
3.1.1	Integrate biodiversity management objectives into national and provincial programmes to combat land degradation.	High	SANBI	DEAT, DWAF, DoA, DLA, LandCare Area-wide Forums, WfW, WfWet, Working on Fire, DME, Universities, NGOs	
3.1.2	Ensure that Catchment Management Agencies integrate terrestrial and aquatic biodiversity management in their operations.	Urgent	DWAF	Catchment Management Agencies, DEAT, SANBI, DoA, DLA, DME, Universities, NGOs, SALGA, DPLG, Town & Regional Planning, DoH, WRC, SAEON	
3.1.3	Determine, implement and monitor the ecological reserve for all priority rivers and estuaries.	Urgent	DWAF	CSIR, WRC, Universities, provincial conservation agencies, regional branches of DWAF	
3.1.4	Integrate biodiversity objectives into the national river classification system by linking the biodiversity status of rivers to guidelines for water management and to land practices and environmental management in the quaternary catchment.	Urgent	DWAF	SANBI, DoA, provinces	
3.1.5	Implement integrated coastal management programmes that address biodiversity management objectives in production activities in the coastal zone.	Urgent	DEAT (MCM)	Provinces, municipalities in the coastal zone	
3.1.6	Develop and implement integrated programmes to minimise impacts on marine biodiversity.	High	DEAT (MCM)	Fisheries, fishing industry, shipping, coastal provinces, Department of Transport	

SO 3: Integrated Management of Terrestrial and Aquatic Ecosystems	Activities to achieve outcomes	Priority	Lead agency	Support partner/s	Role of DEAT
3.2 Key production sectors and industries integrate biodiversity into their production and service standards.					
3.2.1	Include biodiversity considerations in guidelines and best practice codes of key agricultural industries, to mitigate negative impacts of agricultural production on biodiversity and encourage sustainable agricultural practices.	Urgent	DoA	DEAT, SANBI, Agricultural Unions, provincial government, non governmental organisations	CEC process, DG cluster
3.2.2	Include biodiversity considerations in forestry industry guidelines and best practice codes to mitigate negative impacts of commercial forests and harvesting of natural forests on biodiversity and encourage sustainable forestry practices.	Urgent	DWAf	DEAT, provincial government, forestry industry, LGA, non governmental organisations	CEC process, DG cluster
3.2.3	Include biodiversity considerations in mining guidelines and best practice codes to mitigate negative impacts on biodiversity and encourage sustainable mining practices.	Urgent	DME	DEAT, SANBI, Botanical Society, Chamber of Mines, IUCN Mining and Biodiversity Dialogue, Rio Tinto-BirdLife partnership	CEC process, DG cluster
3.2.4	Include biodiversity considerations in fishing industry guidelines and best practice codes, to mitigate negative impacts of fishing on biodiversity and encourage sustainable fishing practices.	High	DEAT (MCM)	Fishing industry, recreational fishermen, provinces, Department of Transport	
3.2.5	Include biodiversity considerations in property development and real estate guidelines and best practice codes.	Urgent	DLA	Estate agents and associations, DoH, provincial planners	
3.3 A multi-agency national programme deals with the full suite of impacts posed by invasive species across the landscape and seascape					
3.3.1	Ensure institutional co-operation and co-ordination at the operational level to deal with the full suite of impacts posed by invasive species.	Urgent	DEAT	DWAf, SANBI, SALGA, DoA, DLA, DoH, DTI, DoT, DPLG, Home Affairs, SARS, (link with and support programmes such as WfW, GISP and GLOBALLAST)	

SO 3: Integrated Management of Terrestrial and Aquatic Ecosystems	Activities to achieve outcomes	Priority	Lead agency	Support partner/s	Role of DEAT
3.3.2	Prevent the entry and spread of new invasive species into South Africa.	High	DEAT	DWAF, SANBI, SALGA, DoA, DLA, DoH, DTI, DoT, DPLG, Home Affairs, SARS, SADC, Basin Management Authorities, TFCAs, (link with and support programmes such as WfW, GISP and GLOBALLAST)	
3.3.3	Control and eradicate invasive species listed in terms of the National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004), with an emphasis on urgent action in biodiversity priority areas.	Medium	DEAT	WfW, SANBI, DWAF, SAN-PARKS, DoA, GISP, provinces, all other government departments	
3.3.4	Create economic opportunities linked to the control and management of invasive species.	Medium	DWAF (WfW)	WfW, DoA, National Treasury, DEAT, DST	
3.4 An integrated national programme facilitates adaptation to the predicted impacts of climate change on biodiversity across the landscape and seascape.					
3.4.1	Implement an integrated programme for climate change adaptation, with an emphasis on vulnerable ecosystems and sustainable livelihoods.	Urgent	DEAT / SANBI	DWAF, DoA, DLA, DME, Universities, NGOs, SALGA, DPLG, Town & Regional Planning, DoH, WRC, SAEON	
3.4.2	Ensure that the protected area network is designed to allow for long-term species and ecosystem responses to climate change.	Medium	DEAT / SANBI	SANParks, provincial conservation agencies, Development Bank of Southern Africa	

SO 3: Integrated Management of Terrestrial and Aquatic Ecosystems	Activities to achieve outcomes	Priority	Lead agency	Support partner/s	Role of DEAT
3.5 Effective management and control measures minimise the potential risks to biodiversity posed by Genetically Modified Organisms.					
3.5.1	Ensure institutional co-operation and co-ordination to deal with the potential risks posed by Genetically Modified Organisms.	Medium	DEAT	DoA, dti, DST, DoH, NGOs	
3.5.2	Develop and implement effective measures for management and control of potentially risky activities relating to Genetically Modified Organisms.	Urgent	DEAT	DoA, DST, DoH, NGOs, Private Sector	
3.5.3	Share information and provide support to ensure adoption and implementation of highest biosafety standards to minimise risks associated with Genetically Modified Organisms.	Medium	DEAT	DoA, dti, DST, DoH, NGOs, Private Sector	
3.6 Effective waste management and pollution control measures limit the impacts of pollution on biodiversity.					
3.6.1	Implement effective waste management and pollution control measures, with particular emphasis on aquatic ecosystems in biodiversity priority areas.	Urgent	DEAT & DWAF	Government at all levels, industries, mines, water utilities, municipalities	
3.7 Research and monitoring programmes support integrated management of terrestrial and aquatic ecosystems.					
3.7.1	Carry out research on the impact of all current and future threatening processes on biodiversity, and mechanisms for adaptation, management and mitigation of threatening processes, including alien invasive species, climate change, Genetically Modified Organisms, and production activities.	Medium	SANBI co-ordination role on developing national research strategy	DST, research institutions, research funders e.g. NRF, NGOs, DEAT, Provinces, SANParks, MCM	
3.7.2	Monitor and evaluate the impact on biodiversity of integrated management of terrestrial and aquatic ecosystems, to support adaptive management.	Medium	SANBI co-ordination role on developing national research strategy	DEAT, Provinces, DWAF, DoA, DLA, landowners	

SO 4: Sustainable Use of Biological Resources:

SO 4: Sustainable Use of Biological Resources	Human development and well-being is enhanced through sustainable use of biological resources and equitable sharing of the benefits.	
Outcomes	5-year Targets	Indicators
4.1 An equitable access, rights and responsibilities regime promotes sustainable use of biological resources.	Bioprospecting framework and regulations are developed and implemented.	<ul style="list-style-type: none"> • Benefit sharing agreements • Material transfer agreements • Permits • Regulations • R values • Bioprospecting Fund annual reports
	Implementation of land reform programmes takes access to biological resources into account.	<ul style="list-style-type: none"> • MoUs
	Equitable distribution of usufruct rights to previously disadvantaged groups for living marine resources.	<ul style="list-style-type: none"> • Percentage increase in allocation of fishing rights and other concessions to previously disadvantaged groups
	Programme to raise awareness about opportunities for access to and benefit sharing from biological resources developed and piloted among rural communities in priority areas.	<ul style="list-style-type: none"> • Public awareness programme • Customer/stakeholder satisfaction/perception index
	Genetic diversity of crops, livestock, and of harvested species of trees, fish and wildlife, and other valuable species is conserved, and associated indigenous and local knowledge is maintained [CBD TARGET 3.1].	<ul style="list-style-type: none"> • Number of genomes stored in DNA Banks • Number of accessions in gene banks • Percentage of the genetic diversity of priority species conserved
	The rights of indigenous and local communities over their traditional knowledge, innovations and practices, including their right to benefit-sharing, are protected [CBD TARGET 9.2].	<ul style="list-style-type: none"> • Bioprospecting regulations
	All transfers of genetic resources are in line with the CBD and the International Treaty on Plant Genetic Resources for Food and Agriculture [CBD TARGET 10.1].	<ul style="list-style-type: none"> • Material transfer agreements
	Benefits arising from the commercial and other utilisation of genetic resources are shared with the countries providing such resources [CBD TARGET 10.2].	<ul style="list-style-type: none"> • Benefit sharing agreements
4.2 Partnerships between government, the private sector, organised civil society and communities encourage entrepreneurship, innovation, investment and action at local level.	A clear and efficient process and procedures for public/private partnerships is developed, with a specific focus on communities.	<ul style="list-style-type: none"> • PPP guidelines
	Investment in natural product-based small businesses at local level shows demonstrable increase in benefits from the sustainable use of biological resources (e.g. 5% per year at the level of livelihoods, jobs created, enterprises established and in natural product sector as a whole).	<ul style="list-style-type: none"> • BEE scorecard • Number of jobs created in biodiversity-based sectors • Economic contribution of commercially utilised indigenous species (terrestrial; fresh-water; marine, coastal and estuarine species)

SO 4: Sustainable Use of Biological Resources	Human development and well-being is enhanced through sustainable use of biological resources and equitable sharing of the benefits.	
Outcomes	5-year Targets	Indicators
	Government programmes promote investment in resource use and management at local level and involve civil society.	<ul style="list-style-type: none"> • Investment values
4.3 The ecological and social sustainability of extractive use of biological resources is researched, assessed and monitored, and opportunities for improvement are identified and implemented.	A list of priority biological resources based on social, economic and ecological criteria, as well as indigenous knowledge, guides research, monitoring, management and recovery plans.	<ul style="list-style-type: none"> • Criteria • Guidelines • Planning instruments
	Research, monitoring and evaluation programmes are in place to assess the ecological and social sustainability of extractive use of key indigenous biological resources.	<ul style="list-style-type: none"> • Biodiversity management plans
4.4 Use of biological resources is well managed to optimise sustainable benefits.	Collaborative management plans for recovery of priority resources developed with key stakeholders and resource user groups, and implementation underway.	<ul style="list-style-type: none"> • Population trends of selected species • Biodiversity management plans
	Harvesting quotas and NEMBA lists of threatened and protected species are updated based on research and monitoring outcomes.	<ul style="list-style-type: none"> • Conservation status of species • Lists and regulations
	Recovery plans for key fish species are implemented. [JPOI TARGET 4.30 (a): Oceans and Fisheries: Maintain or restore stocks to levels that can produce maximum sustainable yield - for depleted stocks urgently, and where possible not later than 2015.]	<ul style="list-style-type: none"> • Population trends of selected species
	Management programmes for medicinal plants developed with key stakeholders and implementation underway; wild populations of medicinal plants show signs of recovery.	<ul style="list-style-type: none"> • Tonnage of top five species traded per year [NSoER proposed indicator] • Estimates of growth rate per year • Economic value of trade in species
	Community Based Natural Resource Management programmes developed and implemented.	
	Trade in threatened species and endemic species is sustainable.	<ul style="list-style-type: none"> • Estimates of growth rate per year • Economic value of trade in species
	No species of wild flora or fauna endangered by international trade [CBD TARGET 4.3].	<ul style="list-style-type: none"> • Percentage increase in provincial agency compliance with CITES regulations • CITES Management Authority reports
	Biodiversity-based products are derived from sources that are sustainably managed [CBD TARGET 4.1].	<ul style="list-style-type: none"> • Percentage of biodiversity-based products derived from sources that are sustainably managed • Certification
	Unsustainable consumption of biological resources, or that impacts on biodiversity, reduced [CBD TARGET 4.2].	<ul style="list-style-type: none"> • Species management plans

SO 4: Sustainable Use of Biological Resources	Human development and well-being is enhanced through sustainable use of biological resources and equitable sharing of the benefits.	
Outcomes	5-year Targets	Indicators
	Biological resources that support sustainable livelihoods, local food security and health care, especially for poor people, are maintained [CBD TARGET 8.2].	<ul style="list-style-type: none"> • Resource management plans • CBNRM agreements
	Develop and facilitate the use of diverse approaches and tools, including the ecosystem approach, elimination of harmful fishing practices ... and time/area closures for protection of nursery grounds [JPOI TARGET 4.31 (c): Oceans and Fisheries].	<ul style="list-style-type: none"> • Fisheries regulations • Management plans • Total Allowable Catch
Footnote: Biological resources refer to species and genes (not ecosystems as a whole).		

5.9. SO 4: Sustainable Use of Biological Resources: Activities, Lead Agents and Support Partners

SO 4: Sustainable Use of Biological Resources	Activities to achieve outcomes	Priority	Lead agency	Support partner/s	Role of DEAT
4.1 An equitable access, rights and responsibilities regime promotes sustainable use of biological resources.					
4.1.1	For priority biological resources, manage and where appropriate, clarify and promote rights to access/use the resources.	Urgent	DEAT	Provinces, DoA, DAC, DLA, Parks Boards, DWAF, SANBI, researchers, international agencies	
4.1.2	Develop and promote appropriate mechanisms for equitable and sustainable distribution of benefits derived from extractive resource use.	Medium	DEAT	Provinces, DoA, DLA, Parks Boards, DWAF, SANBI, Bioprospecting Trust Fund, National Treasury, NGOs, researchers	
4.1.3	Create an appropriate bioprospecting framework that encourages beneficiation of our indigenous biological resources and knowledge in a way that benefits South Africans.	High	DEAT	DST, NRF, the dti, CSIR, DoA, SANBI, DFA, MRC, DoH, Healers Council, San Council, industry, NGOs, researchers, SANCO, international agencies	
4.1.4	For priority biological resources, clarify and promote responsibilities for control and management of resources.				

SO 4: Sustainable Use of Biological Resources	Activities to achieve outcomes	Priority	Lead agency	Support partner/s	Role of DEAT
4.2 Partnerships between government, the private sector, organised civil society and communities encourage entrepreneurship, innovation, investment and action at local level.					
4.2.1	Streamline processes and procedures for small scale public-private-community partnerships to encourage partnerships at local level, with a particular emphasis on communal and state land.	Medium	DTI	DLA, Department of Public Works, private sector, international agencies	Initiate process
4.2.2	Develop and grow the natural products sector in a way that encourages value adding, sustainability, entrepreneurship and local economic development.	High	DTI, DST, DAC	DEAT, DoA, Industry, MRC, CSIR, Research Institutions, SALGA, Dept. of Health, traditional healers, NGOs, International agencies, ARC	Poverty relief funding
4.2.3	Provide financial, marketing and management support to biodiversity-based small businesses.	Medium	DTI	DEAT, CSIR, DoA, ARC, NGOs, Industry, DBSA, Banks, Land Bank, international agencies	Regulatory
4.2.4	Promote sustainable use of game mammals and birds as a conservation compatible land use that provides economic benefits.	Medium	DEAT	DoA, DLA, SANBI, PHASA, Conservancy Associations	
4.3 The ecological and social sustainability of extractive use of biological resources is researched, assessed and monitored, and opportunities for improvement are identified and implemented.					
4.3.1	Undertake research on sustainable use, including collating information on extractive use of biological resources, and assessing this use for sustainability, contribution to livelihoods, potential for improved benefits and/or management and identify priority resources.	High	SANBI	DEAT, DST, DoA, Parks Boards, Research Institutions, DWAF (Forestry), NGOs, CSIR, Department of Social Development, international agencies	Reporting, Identify funding
4.3.2	Incorporate indigenous knowledge and cultural considerations into research, management and monitoring of biological resources.	High	DAC, DST, SANBI	DoA, IKSSA (Indigenous Knowledge Systems SA), traditional healers, traditional leaders, universities	

SO 4: Sustainable Use of Biological Resources	Activities to achieve outcomes	Priority	Lead agency	Support partner/s	Role of DEAT
4.3.3	Assess the potential for appropriate sustainable resource use in protected areas and include this in park management plans.	High	SANBI	DEAT, SANParks, DST, DAC, Parks Boards, Research Institutions, DWAF (Forestry), NGOs, CSIR, Department of Social Development, international agencies	Reporting, Identify funding
4.3.4	Monitor the impact of trade in wildlife and wild plants on biodiversity.	Medium	SANBI, CITES Scientific Authority	Provincial conservation authorities; DEAT; MCM (marine)	Lead role through Working Group1
4.3.5	Implement programmes for ongoing research, assessment and monitoring to fill gaps and further inform policy, strategy and action.	Urgent	SANBI	DST, DoA, Parks Boards, Research Institutions, DWAF (Forestry), NGOs, Department of Social Development, international agencies Reporting, Identify funding	Reporting, Identify funding
4.4 Use of biological resources is well managed to optimise sustainable benefits.					
4.4.1	Prioritise management and/or recovery plans for resources that contribute significantly to livelihoods, are being severely impacted on, and/or are significant in terms of biodiversity, cultural or economic considerations.	High	SANBI	DEAT, Conservation agencies, DoA, DWAF, Provinces, NGOs, DME, international agencies, communities	Poverty relief funding, link to CCD,
4.4.2	Strengthen adaptive management systems for marine living resources to ensure sustainable off-take and recruitment.		DEAT (MCM)	Coastal provinces, communities	
4.4.3	Establish ex situ management programmes, including nurseries, to relieve pressure on harvesting of wild medicinal plants.	Urgent	SANBI, Provinces	DEAT, Conservation agencies, DoA, DWAF, Provinces, communities, traditional healers, IUCN/WWF/TRAFFIC (Guidelines on medicinal plants)	

SO 4: Sustainable Use of Biological Resources	Activities to achieve outcomes	Priority	Lead agency	Support partner/s	Role of DEAT
4.4.4	Establish community based natural resource management programmes for subsistence and artisanal use of wild resources, such as medicinal plants and fuel wood, by communities.	High	SANBI, Provinces	DEAT, Con- servation agen- cies, DoA, DWAf, Provinces, communities, tra- ditional healers/ leaders, CBOs	
4.4.5	Develop enforceable restrictions on unsustainable use and trade in species of national and international importance.	Urgent		DEAT (Resource Use & MCM)	Provinces, SAPS, Customs and Excise, DTI, DoA, DFA, Local authori- ties, international agencies

5.10. SO 5: Conservation Areas: Outcomes, 5-year Targets and Indicators

SO 5: Conservation Areas	A network of conservation areas conserves a representative sample of biodiversity and maintains key ecological processes across the landscape and seascape.	
Outcomes	5-year Targets	Indicators
5.1 Biodiversity priority areas identified in the National Spatial Biodiversity Assessment are refined in provincial, regional and local systematic biodiversity plans.	Bioregional plans are developed and published for all priority regions.	<ul style="list-style-type: none"> • Bioregional plans published
	At least 50% of municipalities in NBSAP priority areas reflect biodiversity priorities in their Spatial Development Frameworks, have at least two projects in their Integrated Development Plans that promote biodiversity, and have staff and budget dedicated to biodiversity management.	<ul style="list-style-type: none"> • Spatial Development Frameworks • Integrated Development Plans
5.2 The protected area network is secured, expanded and managed to ensure that a representative sample of biodiversity and key ecological processes are conserved.	Protected area network expanded to make progress towards meeting national biodiversity targets in NSBA, to avoid reinforcing existing biases in PA network, and to strengthen the functioning of key ecological corridors. [CBD TARGET 1.2: Areas of particular importance to biodiversity protected.]	<ul style="list-style-type: none"> • Register of Protected Areas • Protected Area proclamations • Ratio of area protected to maintain biological diversity to surface area [JPOI indicator (Goal 7; Target 9)] • Proportion of land covered by forest [JPOI indicator (Goal 7; Target 9)] • Percentage change per given time period [JPOI indicator (Goal 7; Target 9)] • Percentage of biodiversity target met in protected areas, for all ecosystems, including coastal and marine ecosystems • Protection level (types 1 - 3) of ecosystems as % area [NSoER proposed indicator] • Percentage of coastline under protection in Marine Protected Areas

SO 5: Conservation Areas	A network of conservation areas conserves a representative sample of biodiversity and maintains key ecological processes across the landscape and seascape.	
Outcomes	5-year Targets	Indicators
	Establishment of Marine Protected Areas, including representative networks, by 2012 [JPOI TARGET 4.31 (c)].	<ul style="list-style-type: none"> • Register of Protected Areas • Protected Area proclamations • Percentage of biodiversity target coastal and marine ecosystems met in protected areas • Percentage of coastline under protection in Marine Protected Areas
	Every protected area has a management plan.	<ul style="list-style-type: none"> • Protected Area Management Plans • Number of formalised co-management agreements with users
	National funding strategy for protected areas is developed and prioritised implementation is underway.	<ul style="list-style-type: none"> • Funding strategy • Business plans
	Land reform and programmes to expand the protected area network incorporate tenure, land redistribution and biodiversity considerations in a mutually beneficial way.	<ul style="list-style-type: none"> • MoUs
	Restore, maintain or reduce the decline of populations of species of selected taxonomic groups and improve the status of threatened species [CBD TARGETS 2.1 and 2.2]	<ul style="list-style-type: none"> • Numbers of threatened (CE, E, V, DD) species in selected taxonomic groups [NSoER Indicator] • Loss (extinction) of species of major taxonomic groups over time [NSoER Indicator] • Numbers of globally threatened species per biome [NSoER Indicator] • Numbers of regionally threatened species in various taxonomic groups (e.g. mammals, birds, frogs) per province [NSoER Indicator]
5.3 Biodiversity is effectively managed in key ecological corridors and in high priority fragments of natural habitat across the landscape and seascape.	Co-operative framework to improve extension for off-reserve biodiversity conservation is in place, including the use of tools such as incentives, with financial commitment from government and pilots in priority areas.	<ul style="list-style-type: none"> • Status of natural heritage resources; investment into natural heritage resources; visitors to natural heritage resources
	Biodiversity management plans have been developed, published and implemented for selected threatened ecosystems.	<ul style="list-style-type: none"> • Biodiversity Management Plans • Biodiversity Management Agreements
	Most useful spatial products and guidelines for provincial and local levels are determined, and a national programme to support provinces and municipalities is developed, with pilots underway in each national priority area.	<ul style="list-style-type: none"> • Guidelines • Capacity building programmes
	At least five key industries are actively avoiding threatened ecosystems in their production, planning and operations, and invest in managing threatened ecosystems under their control.	<ul style="list-style-type: none"> • Environmental Management Plans

SO 5: Conservation Areas	A network of conservation areas conserves a representative sample of biodiversity and maintains key ecological processes across the landscape and seascape.	
Outcomes	5-year Targets	Indicators
5.4 Management plans for species of special concern ensure their long term survival in the wild.	Management plans have been developed, published and implemented for priority species of special concern.	<ul style="list-style-type: none"> • Biodiversity Management Plans • Biodiversity Management Agreements
	Status of threatened species improved [CBD TARGET 2.2].	<ul style="list-style-type: none"> • Numbers of species of various taxonomic groups in various threat categories [NSoER Indicator]
5.5. Research and monitoring programmes support the establishment and effective management of the network of conservation areas.	National monitoring and evaluation framework for ecosystems and species is being piloted in priority areas, for threatened ecosystems and priority species of special concern.	<ul style="list-style-type: none"> • National monitoring and evaluation framework
Footnote: Biodiversity priority areas include threatened ecosystems, ecological corridors, special biodiversity features and under-protected ecosystems.		

5.11. SO 5: Conservation Areas: Activities, Lead Agents and Support Partners

SO 5: Conservation Areas	Activities to achieve outcomes	Priority	Lead agency	Support partner/s	Role of DEAT
5.1 Biodiversity priority areas identified in the National Spatial Biodiversity Assessment are refined in provincial, regional and local systematic biodiversity plans.					
5.1.1	Undertake systematic biodiversity plans in priority areas identified in the National Spatial Biodiversity Assessment and/or in regional biodiversity plans.	Urgent	SANBI	DEAT, provinces	
5.1.2	Publish bioregional plans in terms of the National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004).	Urgent	SANBI;	DEAT, conservation authorities, NGOs	DEAT to develop regulations for bioregional plans in terms of NEMBA, Minister to approve bioregional plans
5.2 The protected area network is secured, expanded and managed to ensure that a representative sample of biodiversity and key ecological processes are conserved.					
5.2.1	Expand, consolidate and/or rationalise the protected area network through a range of implementation tools, focusing on priority areas for representation and persistence of biodiversity.	Urgent	DEAT (co-ordination); Conservation agencies (implementation)	SANBI	DEAT should establish a national committee to develop and oversee a plan for expansion, consolidation and rationalisation of the protected area network to meet biodiversity targets and avoid reinforcing existing biases in the protected area network. SANBI to play an advisory role on this.

SO 5: Conservation Areas	Activities to achieve outcomes	Priority	Lead agency	Support partner/s	Role of DEAT
5.2.2	Build understanding among relevant protected area officials of the variety of implementation tools for expanding the protected area network, and build capacity for using these tools and for managing land consolidation for protected areas.	Urgent	DEAT / Conservation agencies	SANBI, NGOs	
5.2.3	Undertake focused engagement with land reform programmes, and explore opportunities for expanding the protected area network through land reform.	Urgent	DEAT, DLA	Conservation agencies	
5.2.4	Manage protected areas effectively and efficiently, including development of protected area management plans and engaging with surrounding communities and landowners.	Urgent	DEAT (norms & standards); Conservation agencies	SANBI	Develop and publish norms & standards and monitor implementation
5.2.5	Develop a national funding strategy, including cross-financing mechanisms, to ensure that the protected area network is well resourced.	High	DEAT	Conservation agencies, National Treasury	
5.3 Biodiversity is effectively managed in key ecological corridors and in high priority fragments of natural habitat across the landscape and seascape.					
5.3.1	Develop, publish and implement biodiversity management plans for threatened ecosystems in terms of the National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004), with private and communal landowners as key roleplayers.		SANBI; conservation authorities, landowners		
5.3.2	Build the extension services in conservation agencies, in collaboration with other departments that have extension services, to engage more widely with private and communal landowners.	Urgent	DEAT, conservation agencies	DWAF, provin- cial departments of agriculture, NGOs (especial- ly through biore- gional pro- grammes)	Put on CEC & WG 1 agenda; co-ordination
5.3.3	Ensure that threatened ecosystems, ecological corridors and other special biodiversity features (such as wetlands, coastal dunes and ridges) are given appropriate status in Spatial Development Frameworks, and are adequately weighed in decisions about changes in land-use.	Urgent	DEAT, SANBI, SALGA	DPLG, Municipalities, NGOs, Bioregional Programmes, provincial plan- ning and envi- ronmental departments	Provide funding, or facilitate contact with potential funders

SO 5: Conservation Areas	Activities to achieve outcomes	Priority	Lead agency	Support partner/s	Role of DEAT
5.3.4	Engage with major production sectors, such as agriculture, forestry, mining and fisheries, in order to implement biodiversity offsets and to enhance operational standards in areas of high biodiversity significance, with emphasis on long-term persistence of threatened ecosystems and key ecological processes.	High	DEAT	Farming unions, Chamber of Mines, Forestry, and other production sectors, NGOs, conservation agencies, Bioregional Programmes (CAPE, STEP, SKEP etc.)	Strengthen functioning of CEC
5.4 Management plans for species of special concern ensure their long-term survival in the wild.					
5.4.1	Develop, publish and implement management plans for species of special concern, including threatened species, endemic species and high-value useful species, with private and communal landowners as key role players.	Medium (but for some species is more urgent)	DEAT	Depends on species: Co-ordination role for SANBI?	
5.5 Research and monitoring programmes support the establishment and effective management of the network of conservation areas.					
5.5.1	Undertake applied research that addresses key management issues in protected areas.	Urgent	SANBI, SANParks	DEAT, provincial conservation agencies, universities, NGOs, DST, NRF	
5.5.2	Undertake research on key management questions related to biodiversity compatible land and resource use in priority areas outside the formal protected area network.	High	DEAT, SANBI	SANParks, provincial conservation agencies, universities, NGOs, DWAF, DoA, ARC, CSIR, DST, NRF	
5.5.3	Monitor management effectiveness in protected areas, with an emphasis on biodiversity objectives.	Medium	SANBI, SANParks	DEAT, provincial conservation agencies, universities, DST, NRF	
5.5.4	Monitor the effectiveness of interventions and programmes in priority areas outside formal protected areas, with an emphasis on biodiversity objectives.	Medium	DEAT, SANBI	SANParks, provincial conservation agencies, universities, DST, NRF, NGOs, DWAF, DoA, ARC, CSIR	

GLOSSARY OF TERMS

Alien species	a species that is not an indigenous species; or an indigenous species that is translocated or intended to be translocated outside its natural distribution range through human intervention (NEMBA).
Aquatic	relating to water (freshwater and marine)
Artisanal	subsistence or light commercial use of a resource using traditional methods and techniques
Benefit	any benefit arising from use of biodiversity, whether commercial or not, including both monetary and non-monetary returns [note that NEMBA limits the definition to such benefits in relation to bioprospecting]
Beneficiation	adding value to a product or biological resource
Access and benefit sharing	in the context of the CBD, access and benefit sharing (ABS) is a phrase used to describe the access granted by a Contracting Party to the CBD to its genetic resources (where the Party is the country of origin of those resources), to another Contracting Party to the CBD, where such access is on mutually agreed terms and subject to fair and equitable sharing of the results and benefits of any research carried out on the resources. The CBD does not define fair and equitable benefit-sharing. In the context of South Africa, the terms access and equitable sharing of benefits are also used in a broader context and include rights to use and benefit from a wide range of resources, such as species, land, water and protected areas
Biodiversity priority area	a spatial area which is considered a national priority for conservation and integrated planning, based on the National Spatial Biodiversity Assessment (NSBA)
Biodiversity management	see also Conservation below. The NBSAP refers to biodiversity management in the widest sense and includes conservation as a form of management to achieve certain goals and objectives
Biological diversity	the variability among living organisms from all sources, including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems (CBD) (also shortened to “biodiversity”). Biodiversity includes the number, abundance and composition of genotypes, species, populations, functional types and landscape units within a given system [Millennium Ecosystem Assessment]
Biological resources	includes genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential use or value for humanity [CBD]; the term therefore refers mainly to the use of species and genes
Biome	any major ecological community of organisms, usually characterised by a dominant vegetation type [White Paper on the Conservation and Sustainable Use of South Africa’s Biological Diversity, 1997]. Correlation of dominant plant life forms with climatic variations leads to the classification of ten biomes in South Africa: desert, succulent Karoo, fynbos, Nama Karoo, grassland, savanna, Albany thicket, forest, and the two island biomes, sub-Antarctic tundra and polar desert
Bioprospecting	research on, or development or application of, indigenous biological resources for commercial or industrial exploitation, including systematic search and collection of resources, and utilisation of traditional and indigenous knowledge

GLOSSARY OF TERMS

Bioregion	a geographical area that is spatially defined; contains whole or several nested ecosystems; is characterised by its landforms, vegetation, culture and history and contains biodiversity which needs to be managed [NEMBA provides for the publication of bioregional plans for such bioregions. Bioregional planning in South Africa has to date focused on biomes (such as Fynbos) and administrative areas (such as KwaZulu-Natal province)]
Biotechnology	any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use (CBD)
Capacity	the power of something (a system, organisation or person) to produce or to perform functions effectively, efficiently and sustainably - this implies that capacity is not a passive state, but part of a continuing process (UNDP)
Community	a community of people living or having rights or interests in a distinct geographical area (NEMBA); any group of persons, or a part of such a group, who share common interests and who regard themselves as a community (NEMA)
Conservation	management of human use of the biosphere to yield the greatest benefit to present generations while maintaining the potential to meet the needs and aspirations of future generations; this includes sustainable use, protection, maintenance and the enhancement of the natural environment [White Paper on the Conservation and Sustainable Use of South Africa's Biological Diversity, 1997]
Conservation areas	a geographically defined area where conservation of important biodiversity is needed in order to ensure sustainable benefits (note that this includes areas outside the formal protected area network)
Critically Endangered	species or ecosystem facing an extremely high risk of extinction in the wild in the near future
Ecosystem	a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit [CBD, NEMBA]
Ecosystem services	the services provided to society by well-functioning ecosystems, such as food, clean water, carbon storage and climate regulation, disease management, spiritual fulfillment and aesthetic enjoyment
Endangered	species or ecosystem facing a very high risk of extinction in the wild in the near future
Endemic	a plant or animal species confined to, or exclusive to, a particular specified geographic area
Environment	the surroundings within which humans exist, which is made up of the land, water and atmosphere of the earth; microorganisms, plant and animal life and the interrelationships amongst these; as well as the physical, chemical, aesthetic and cultural properties and conditions of these that influence human health and well-being (NEMA)
Ex-situ conservation	conservation of components of biodiversity outside their natural habitats (CBD)
Genetic resources	genetic material (material of plant, animal, microbial or other biological origin containing functional unity of heredity) of actual or potential value (CBD); and the genetic potential or characteristics of any species (NEMBA)

GLOSSARY OF TERMS

Genetically Modified Organism	(also referred to as living modified organism): any organism, or biological entity capable of transferring or replicating genetic material, that possesses a novel combination of genetic material, obtained through the use of modern biotechnology [CBD, Cartagena Protocol on Biosafety]
Habitat	a place where a species or ecological community naturally occurs [CBD, NEMBA]
Indigenous species	a species that occurs, or has occurred historically, naturally in a free state within the borders of the Republic of South Africa, but excludes any species that has been introduced into the Republic as a result of human activity [NEMBA, NEMPAA]
In-situ conservation	conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings (CBD)
Invasive species	any species whose establishment and spread outside its natural distribution range threatens (or has the potential to threaten) ecosystems, habitats or other species, and which may result in economic or environmental harm or harm to human health (NEMBA)
Least Concern	species that is widespread and abundant and does not qualify as threatened or near threatened in the near future
Near Threatened	species close to qualifying for, or likely to qualify as threatened (i.e. critically endangered, endangered or vulnerable) in the near future
Opportunity cost	the social and economic costs of the loss of the ability to use a resource for an alternative activity as a result of the chosen activity (EIA Regulations)
Protected area	a geographically defined area which is designated or regulated and managed to achieve specific conservation objectives (CBD) - ** note: NEMPAA defines protected areas as “a special nature reserve, a national park, a nature reserve, or a protected environment, being protected areas declared in terms of the NEMPAA, thereby excluding protected areas declared in terms of other legislation from most of the requirements of the Act, except the requirement to be listed in the Register of Protected Areas”
Red Data Lists	lists of species assessed in terms of a number of criteria and classified in terms of threatened status (critically endangered, endangered, vulnerable, least concern and data deficient)
Reserve	the quantity and quality of water required to satisfy basic human needs by securing a basic water supply; and to protect aquatic ecosystems in order to secure ecologically sustainable development and use of the relevant water resource [National Water Act, 1998 (Act 36 of 1998)]
Species	a kind of animal, plant or other organism that does not normally interbreed with individuals of another kind, and includes any sub-species, cultivar, variety, geographic race, strain, hybrid or geographically separate population (NEMBA)
Sustainable development	integration of social, economic and environmental factors into planning, implementation and decision making, so as to ensure that development serves present and future generations (NEMA)

GLOSSARY OF TERMS

Sustainable use

the use of components of biological diversity, or biological resources, in a way and at a rate that does not lead to long-term decline of the resource and does not disrupt the ecological integrity of the ecosystem in which it occurs, thereby maintaining its potential to meet the needs and aspirations of present and future generations [CBD/NEMBA]

Terrestrial

land-based

Threatened

species and ecosystems that are considered critically endangered, endangered and vulnerable are collectively regarded as threatened

Vulnerable

species or ecosystems facing a high risk of extinction in the wild in the near future

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Department:
Environmental Affairs and Tourism
REPUBLIC OF SOUTH AFRICA

PRIVATE BAG X447, PRETORIA, 0001
TEL: +27 12 310 3911
FAX: +27 12 322 2682
www.deat.gov.za
Fraud Hotline: 0800 116 110